## ALMANAC XXXVI TRANSITS OF EARTH IN CE

The almanac XXXVI contains a list of transits of Earth from the 1st millennium CE to the 125th millennium CE.

During the period of 250 000 years, the total number of transits of Earth is 120 546 transits of Earth (3 392 transits of Earth visible from Mars, 23 635 transits of Earth visible from Jupiter, 28 373 transits of Earth visible from Saturn, 29 404 transits of Earth visible from Uranus, 33 187 transits of Earth visible from Neptune, 5 744 transits of Earth visible from Pluto).

## 1ST MILLENNIUM CE

This is a list of transits of Earth in the 1st millennium CE.

FROM MAX- C START MAX END SUNRAD DEPTH S

TRANSIT

TIME

Saturn 3-01-03 14:38 J 1722156.07 1722156.11 1722156.18 0.0292 0.0284 **Uranus** 12-11-11 10:47 J 1725755.81 1725755.95 1725756.08 0.0138 0.0116 13-11-15 22:04 J 1726125.24 1726125.42 1726125.63 0.0139 0.0086 **Uranus** 14-11-20 10:33 J 1726494.71 1726494.94 1726495.17 0.0139 0.0055 **Uranus Jupiter** 15-06-07 15:50 J 1726694.03 1726694.16 1726694.29 0.0514 0.0433 **Uranus** 15-11-24 23:31 J 1726864.24 1726864.48 1726864.73 0.0140 0.0023 1727234.30 0.0140 0.0010 Uranus 16-11-28 12:57 J 1727233.80 1727234.04 **Uranus** 17-12-03 03:21 J 1727603.41 1727603.64 1727603.88 0.0141 0.0042 Saturn 18-07-06 15:50 J 1727819.07 1727819.16 1727819.28 0.0269 0.0242 **Uranus** 18-12-07 18:14 J 1727973.06 1727973.26 1727973.48 0.0141 0.0075 19-12-12 10:19 J 1728342.78 1728342.93 1728343.10 0.0142 0.0108 **Uranus** 20-12-16 03:07 J 1728712.60 1728712.63 1728712.66 0.0142 0.0141 **Uranus** 26-07-09 10:04 J 1730743.81 1730743.92 1730744.09 0.0089 0.0076 Neptune Jupiter 27-06-12 14:24 J 1731081.88 1731082.10 1731082.33 0.0515 0.0152 Neptune 27-07-12 00:00 J 1731111.28 1731111.50 1731111.72 0.0089 0.0049 Neptune 28-07-13 13:12 J 1731478.79 1731479.05 1731479.30 0.0089 0.0023 Neptune 29-07-16 02:09 J 1731846.34 1731846.59 1731846.86 0.0089 0.0004 30-07-18 14:52 J 1732213.89 1732214.12 1732214.38 0.0089 0.0030 Neptune 31-07-21 03:35 J 1732581.47 1732581.65 1732581.88 0.0089 0.0056 Neptune 31-12-28 22:19 J 1732742.20 1732742.43 1732742.67 0.0293 0.0045 Saturn 32-07-22 17:16 J 1732949.12 1732949.22 1732949.32 0.0089 0.0081 Neptune **Jupiter** 32-12-07 20:24 J 1733087.17 1733087.35 1733087.53 0.0513 0.0321 **Pluto** 38-06-17 18:28 J 1735105.20 1735105.27 1735105.41 0.0079 0.0073 **Jupiter** 39-06-17 09:35 J 1735469.68 1735469.90 1735470.14 0.0517 0.0124 **Jupiter** 44-12-12 08:52 J 1737474.64 1737474.87 1737475.10 0.0511 0.0059 47-07-01 20:38 J 1738406.11 1738406.36 1738406.61 0.0268 0.0008 Saturn

Jupiter	51-06-22 09:07 J 1739857.73	1739857.88	1739858.02 0.0519 0.0410
Uranus	52-05-11 03:07 J 1740181.51	1740181.63	1740181.76 0.0140 0.0122
Uranus	53-05-15 23:31 J 1740551.30	1740551.48	1740551.69 0.0140 0.0090
Uranus	54-05-20 19:26 J 1740921.08	1740921.31	1740921.55 0.0139 0.0057
Uranus	55-05-25 14:24 J 1741290.86	1741291.10	1741291.37 0.0139 0.0025
Uranus	56-05-29 09:07 J 1741660.62	1741660.88	1741661.14 0.0138 0.0008
Jupiter	56-12-16 20:52 J 1741862.16	1741862.37	1741862.58 0.0509 0.0200
Uranus	57-06-03 02:38 J 1742030.36	1742030.61	1742030.86 0.0138 0.0040
Uranus	58-06-07 19:26 J 1742400.10	1742400.31	1742400.54 0.0137 0.0071
Uranus	59-06-12 11:16 J 1742769.82	1742769.97	1742770.16 0.0137 0.0102
Uranus	60-06-16 02:52 J 1743139.58	1743139.62	1743139.71 0.0136 0.0132
Jupiter	68-12-21 08:09 J 1746249.75	1746249.84	1746249.94 0.0507 0.0455
Mars	75-04-29 16:04 J 1748570.02	1748570.17	1748570.31 0.1781 0.1178
Saturn	76-06-25 18:00 J 1748993.23	1748993.25	1748993.28 0.0267 0.0265
Saturn	90-12-30 13:55 J 1754293.84	1754294.08	1754294.32 0.0293 0.0055
Uranus	96-11-11 19:12 J 1756437.18	1756437.30	1756437.47 0.0138 0.0113
Uranus	97-11-16 06:57 J 1756806.60	1756806.79	1756807.00 0.0139 0.0082
Jupiter	98-06-06 12:57 J 1757008.98	1757009.04	1757009.12 0.0512 0.0491
Uranus	98-11-20 18:57 J 1757176.08	1757176.29	1757176.54 0.0139 0.0052
Uranus	99-11-25 08:24 J 1757545.60	1757545.85	1757546.10 0.0140 0.0019
Uranus	100-11-28 21:35 J 1757915.10	6 1757915.40	1757915.66 0.0140 0.0014
Uranus	101-12-03 12:14 J 1758284.7	8 1758285.01	1758285.25 0.0141 0.0046
Uranus	102-12-08 03:21 J 1758654.4	3 1758654.64	1758654.85 0.0141 0.0079
Uranus	103-12-12 18:57 J 1759024.1	5 1759024.29	1759024.46 0.0142 0.0112
Saturn	106-07-03 07:55 J 1759957.59	1759957.83	1759958.07 0.0268 0.0075
Neptune	108-01-06 15:21 J 1760509.9	9 1760510.14	1760510.31 0.0089 0.0069
Neptune	109-01-08 01:26 J 1760877.3	6 1760877.56	1760877.80 0.0089 0.0044
Neptune	110-01-10 11:45 J 1761244.7	6 1761244.99	1761245.25 0.0089 0.0019
Jupiter	110-06-11 09:35 J 1761396.69	1761396.90	1761397.12 0.0514 0.0216
Neptune	111-01-12 22:19 J 1761612.1	8 1761612.43	1761612.69 0.0089 0.0007

Neptune	112-01-15 08:09 J 1761979.6	2 1761979.84	1761980.09 0.0089 0.0033
Neptune	113-01-16 18:14 J 1762347.0	9 1762347.26	1762347.48 0.0089 0.0058
Neptune	114-01-19 04:47 J 1762714.6	3 1762714.70	1762714.80 0.0089 0.0083
Jupiter	115-12-07 21:50 J 1763402.25	1763402.41	1763402.56 0.0514 0.0377
Saturn	119-12-25 00:57 J 1764880.45	1764880.54	1764880.65 0.0294 0.0265
Jupiter	122-06-16 08:09 J 1765784.60	1765784.84	1765785.07 0.0517 0.0063
Jupiter	127-12-12 11:31 J 1767789.76	1767789.98	1767790.20 0.0511 0.0111
Jupiter	134-06-21 09:07 J 1770172.71	1770172.88	1770173.05 0.0519 0.0353
Saturn	135-06-28 05:16 J 1770544.54	1770544.72	1770544.90 0.0267 0.0184
Uranus	136-05-11 10:04 J 1770862.80	1770862.92	1770863.07 0.0140 0.0119
Uranus	137-05-16 06:57 J 1771232.58	3 1771232.79	1771232.99 0.0140 0.0086
Uranus	138-05-21 02:38 J 1771602.38	3 1771602.61	1771602.85 0.0139 0.0053
Uranus	139-05-25 21:35 J 1771972.15	1771972.40	1771972.66 0.0139 0.0021
Jupiter	139-12-16 21:35 J 1772177.18	1772177.40	1772177.62 0.0510 0.0145
Uranus	140-05-29 16:04 J 1772341.92	2 1772342.17	1772342.43 0.0138 0.0012
Uranus	141-06-03 09:35 J 1772711.67	1772711.90	1772712.16 0.0138 0.0044
Uranus	142-06-08 02:52 J 1773081.40	1773081.62	1773081.83 0.0137 0.0075
Uranus	143-06-12 18:57 J 1773451.13	3 1773451.29	1773451.46 0.0137 0.0105
Uranus	144-06-16 10:33 J 1773820.92	2 1773820.94	1773821.00 0.0136 0.0135
Saturn	150-01-01 06:43 J 1775845.58	1775845.78	1775845.98 0.0293 0.0158
Jupiter	151-12-21 08:24 J 1776564.72	1776564.85	1776565.00 0.0508 0.0400
Saturn	165-07-04 19:12 J 1781509.10	1781509.30	1781509.51 0.0269 0.0157
Mars	175-10-28 22:04 J 1785277.25	1785277.42	1785277.60 0.1759 0.0592
Saturn	178-12-26 19:55 J 1786432.13	1786432.33	1786432.54 0.0294 0.0156
Uranus	179-11-08 17:16 J 1786749.22	1786749.22	1786749.25 0.0138 0.0138
Uranus	180-11-12 04:04 J 1787118.53	1787118.67	1787118.84 0.0138 0.0109
Uranus	181-11-16 16:04 J 1787487.96	1787488.17	1787488.38 0.0139 0.0078
Uranus	182-11-21 04:04 J 1787857.44	1787857.67	1787857.91 0.0139 0.0047
Uranus	183-11-25 17:02 J 1788226.96	1788227.21	1788227.46 0.0140 0.0016
Uranus	184-11-29 06:28 J 1788596.53	1788596.77	1788597.03 0.0140 0.0017

Uranus	185-12-03 20:52 J	1788966.15	1788966.37	1788966.61 0.0141 0.0050
Uranus	186-12-08 11:45 J	1789335.80	1789335.99	1789336.21 0.0141 0.0083
Uranus	187-12-13 03:35 J	1789705.53	1789705.65	1789705.81 0.0142 0.0116
Neptune	190-07-08 19:12 J	1790644.29	1790644.30	1790644.37 0.0089 0.0088
Neptune	191-07-11 08:38 J	1791011.69	1791011.86	1791012.06 0.0089 0.0062
Neptune	192-07-12 22:04 J	1791379.19	1791379.42	1791379.66 0.0089 0.0036
Jupiter	193-06-10 08:52 J	1791711.67	1791711.87	1791712.07 0.0514 0.0273
Neptune	193-07-15 11:16 J	1791746.71	1791746.97	1791747.23 0.0089 0.0010
Saturn	194-06-29 17:02 J	1792095.98	1792096.21	1792096.44 0.0267 0.0102
Neptune	194-07-18 00:14 J	1792114.26	1792114.51	1792114.77 0.0089 0.0016
Neptune	195-07-20 13:26 J	1792481.84	1792482.06	1792482.30 0.0089 0.0042
Neptune	196-07-22 02:24 J	1792849.45	1792849.60	1792849.78 0.0089 0.0068
Pluto	197-12-17 15:07 J	1793362.91	1793363.13	1793363.39 0.0065 0.0020
Jupiter	198-12-06 22:19 J	1793717.32	1793717.43	1793717.56 0.0514 0.0431
Jupiter	205-06-15 08:24 J	1796099.61	1796099.85	1796100.08 0.0516 0.0013
Saturn	209-01-02 23:45 J	1797397.39	1797397.49	1797397.60 0.0292 0.0261
Jupiter	210-12-11 10:33 J	1798104.73	1798104.94	1798105.16 0.0512 0.0169
Jupiter	217-06-20 05:45 J	1800487.55	1800487.74	1800487.94 0.0517 0.0288
Uranus	220-05-11 16:19 J	1801544.05	1801544.18	1801544.34 0.0140 0.0115
Uranus	221-05-16 12:43 J	1801913.84	1801914.03	1801914.25 0.0140 0.0083
Uranus	222-05-21 08:38 J	1802283.63	1802283.86	1802284.11 0.0139 0.0050
Jupiter	222-12-15 21:35 J	1802492.18	1802492.40	1802492.63 0.0511 0.0086
Uranus	223-05-26 03:50 J	1802653.41	1802653.66	1802653.92 0.0139 0.0017
Uranus	224-05-29 22:33 J	1803023.19	1803023.44	1803023.70 0.0138 0.0015
Saturn	224-07-06 06:00 J	1803060.65	1803060.75	1803060.88 0.0269 0.0238
Uranus	225-06-03 16:19 J	1803392.94	1803393.18	1803393.42 0.0138 0.0047
Uranus	226-06-08 09:21 J	1803762.69	1803762.89	1803763.11 0.0137 0.0078
Uranus	227-06-13 01:40 J	1804132.43	1804132.57	1804132.74 0.0137 0.0109
Jupiter	234-12-20 09:21 J	1806879.73	1806879.89	1806880.07 0.0509 0.0342
Saturn	237-12-28 13:12 J	1807983.81	1807984.05	1807984.29 0.0293 0.0051

Saturn	253-07-01 03:35 J	1813647.41	1813647.65	1813647.90 0.0267 0.0022
Mars	254-10-31 10:47 J	1814134.81	1814134.95	1814135.10 0.1753 0.1090
Uranus	263-11-09 02:24 J	1817430.56	1817430.60	1817430.68 0.0138 0.0134
Uranus	264-11-12 13:26 J	1817799.91	1817800.06	1817800.24 0.0138 0.0105
Uranus	265-11-17 01:26 J	1818169.35	1818169.56	1818169.77 0.0139 0.0074
Uranus	266-11-21 13:26 J	1818538.83	1818539.06	1818539.30 0.0139 0.0043
Uranus	267-11-26 02:38 J	1818908.36	1818908.61	1818908.86 0.0140 0.0011
Uranus	268-11-29 16:04 J	1819277.93	1819278.17	1819278.42 0.0140 0.0021
Uranus	269-12-04 06:43 J	1819647.55	1819647.78	1819648.01 0.0141 0.0054
Uranus	270-12-08 21:50 J	1820017.21	1820017.41	1820017.61 0.0141 0.0087
Uranus	271-12-13 13:12 J	1820386.94	1820387.05	1820387.20 0.0142 0.0120
Neptune	272-01-06 03:21 J	1820410.56	1820410.64	1820410.76 0.0089 0.0081
Neptune	273-01-07 13:55 J	1820777.89	1820778.08	1820778.29 0.0089 0.0056
Neptune	274-01-10 00:14 J	1821145.28	1821145.51	1821145.76 0.0089 0.0031
Neptune	275-01-12 10:33 J	1821512.69	1821512.94	1821513.20 0.0089 0.0006
Neptune	276-01-14 20:38 J	1821880.12	1821880.36	1821880.62 0.0089 0.0020
Jupiter	276-06-09 08:24 J	1822026.68	1822026.85	1822027.04 0.0513 0.0327
Neptune	277-01-16 06:57 J	1822247.58	1822247.79	1822248.02 0.0089 0.0045
Neptune	278-01-18 17:02 J	1822615.07	1822615.21	1822615.38 0.0089 0.0070
Mars	280-04-26 00:28 J	1823443.34	1823443.52	1823443.70 0.1767 0.0694
Jupiter	281-12-05 21:35 J	1824032.34	1824032.40	1824032.47 0.0515 0.0491
Jupiter	288-06-14 05:45 J	1826414.50	1826414.74	1826414.97 0.0515 0.0052
Jupiter	293-12-10 12:14 J	1828419.81	1828420.01	1828420.22 0.0513 0.0226
Saturn	296-12-30 04:04 J	1829535.44	1829535.67	1829535.91 0.0293 0.0049
Jupiter	300-06-19 01:55 J	1830802.37	1830802.58	1830802.80 0.0517 0.0222
Uranus	304-05-11 22:47 J	1832225.31	1832225.45	1832225.61 0.0140 0.0111
Uranus	305-05-16 18:57 J	1832595.09	1832595.29	1832595.52 0.0140 0.0079
Jupiter	305-12-15 02:52 J	1832807.39	1832807.62	1832807.85 0.0511 0.0040
Uranus	306-05-21 14:52 J	1832964.89	1832965.12	1832965.38 0.0139 0.0046
Uranus	307-05-26 10:19 J	1833334.67	1833334.93	1833335.19 0.0139 0.0013

Uranus	308-05-30 04:47 J	1833704.45	1833704.70	1833704.96 0.0138 0.0020
Uranus	309-06-03 22:33 J	1834074.21	1834074.44	1834074.69 0.0138 0.0051
Uranus	310-06-08 15:35 J	1834443.96	1834444.15	1834444.37 0.0137 0.0082
Uranus	311-06-13 08:24 J	1834813.71	1834813.85	1834814.00 0.0137 0.0112
Jupiter	312-06-24 03:50 J	1835190.64	1835190.66	1835190.70 0.0519 0.0513
Saturn	312-07-02 12:28 J	1835198.78	1835199.02	1835199.27 0.0267 0.0055
Jupiter	317-12-19 13:40 J	1837194.89	1837195.07	1837195.26 0.0509 0.0295
Saturn	341-06-27 13:55 J	1845785.92	1845786.08	1845786.25 0.0267 0.0196
Uranus	347-11-09 12:00 J	1848111.93	1848112.00	1848112.10 0.0138 0.0129
Uranus	348-11-12 23:16 J	1848481.30	1848481.47	1848481.65 0.0138 0.0100
Uranus	349-11-17 11:02 J	1848850.75	1848850.96	1848851.18 0.0139 0.0069
Uranus	350-11-21 23:16 J	1849220.24	1849220.47	1849220.72 0.0139 0.0039
Uranus	351-11-26 12:28 J	1849589.78	1849590.02	1849590.28 0.0140 0.0007
Uranus	352-11-30 02:24 J	1849959.35	1849959.60	1849959.85 0.0140 0.0026
Uranus	353-12-04 16:47 J	1850328.98	1850329.20	1850329.44 0.0141 0.0059
Uranus	354-12-09 07:55 J	1850698.64	1850698.83	1850699.02 0.0141 0.0091
Neptune	355-07-10 18:43 J	1850912.15	1850912.28	1850912.43 0.0089 0.0074
Uranus	355-12-13 23:45 J	1851068.38	1851068.49	1851068.61 0.0142 0.0124
Saturn	356-01-01 14:09 J	1851086.89	1851087.09	1851087.32 0.0293 0.0138
Neptune	356-07-12 07:26 J	1851279.61	1851279.81	1851280.05 0.0089 0.0049
Neptune	357-07-14 20:38 J	1851647.12	1851647.36	1851647.62 0.0089 0.0023
Neptune	358-07-17 10:04 J	1852014.66	1852014.92	1852015.18 0.0089 0.0003
Mars	359-04-29 19:40 J	1852301.19	1852301.32	1852301.46 0.1773 0.1275
Jupiter	359-06-09 05:31 J	1852341.58	1852341.73	1852341.89 0.0513 0.0386
Neptune	359-07-19 23:02 J	1852382.22	1852382.46	1852382.71 0.0089 0.0029
Neptune	360-07-21 12:00 J	1852749.81	1852750.00	1852750.22 0.0089 0.0055
Neptune	361-07-24 01:12 J	1853117.44	1853117.55	1853117.66 0.0089 0.0080
Jupiter	371-06-14 05:31 J	1856729.50	1856729.73	1856729.96 0.0515 0.0106
Saturn	371-07-04 18:57 J	1856750.07	1856750.29	1856750.51 0.0267 0.0126
Jupiter	376-12-09 18:43 J	1858735.08	1858735.28	1858735.47 0.0513 0.0265

Jupiter	383-06-19 06:57 J	1861117.56	1861117.79	1861118.01 0.0517 0.0181
Saturn	384-12-25 11:45 J	1861672.84	1861672.99	1861673.17 0.0295 0.0218
Uranus	387-05-08 09:07 J	1862536.87	1862536.88	1862536.93 0.0141 0.0140
Uranus	388-05-12 06:14 J	1862906.61	1862906.76	1862906.95 0.0140 0.0107
Jupiter	388-12-14 06:57 J	1863122.56	1863122.79	1863123.02 0.0511 0.0008
Uranus	389-05-17 03:07 J	1863276.41	1863276.63	1863276.85 0.0140 0.0074
Uranus	390-05-21 22:47 J	1863646.21	1863646.45	1863646.70 0.0139 0.0041
Uranus	391-05-26 18:00 J	1864015.99	1864016.25	1864016.51 0.0139 0.0009
Uranus	392-05-30 12:43 J	1864385.78	1864386.03	1864386.29 0.0138 0.0023
Uranus	393-06-04 06:14 J	1864755.53	1864755.76	1864756.00 0.0138 0.0056
Uranus	394-06-08 23:31 J	1865125.29	1865125.48	1865125.69 0.0137 0.0087
Uranus	395-06-13 15:50 J	1865495.05	1865495.16	1865495.32 0.0137 0.0117
Jupiter	395-06-24 07:12 J	1865505.70	1865505.80	1865505.91 0.0519 0.0462
Saturn	400-06-28 18:00 J	1867337.05	1867337.25	1867337.48 0.0267 0.0130
Jupiter	400-12-18 17:16 J	1867510.02	1867510.22	1867510.43 0.0510 0.0246
Jupiter	412-12-23 06:00 J	1871897.72	1871897.75	1871897.80 0.0508 0.0499
Saturn	415-01-02 20:09 J	1872638.18	1872638.34	1872638.51 0.0293 0.0214
Saturn	430-07-05 22:47 J	1878301.28	1878301.45	1878301.63 0.0267 0.0191
Uranus	431-11-09 21:21 J	1878793.31	1878793.39	1878793.52 0.0138 0.0125
Uranus	432-11-13 09:07 J	1879162.70	1879162.88	1879163.06 0.0138 0.0095
Uranus	433-11-17 20:38 J	1879532.16	1879532.36	1879532.60 0.0139 0.0065
Uranus	434-11-22 09:21 J	1879901.65	1879901.89	1879902.14 0.0139 0.0033
Uranus	435-11-26 22:47 J	1880271.20	1880271.45	1880271.70 0.0140 0.0001
Uranus	436-11-30 12:28 J	1880640.78	1880641.02	1880641.27 0.0140 0.0031
Neptune	437-01-07 01:55 J	1880678.43	1880678.58	1880678.75 0.0089 0.0068
Uranus	437-12-05 02:52 J	1881010.41	1881010.62	1881010.85 0.0141 0.0064
Neptune	438-01-09 12:14 J	1881045.80	1881046.01	1881046.24 0.0089 0.0043
Uranus	438-12-09 18:00 J	1881380.08	1881380.25	1881380.44 0.0141 0.0096
Neptune	439-01-11 22:47 J	1881413.20	1881413.45	1881413.70 0.0089 0.0018
Uranus	439-12-14 09:50 J	1881749.81	1881749.91	1881750.02 0.0142 0.0129

Neptune	440-01-14 09:07 J	1881780.63	1881780.88	1881781.14 0.0089 0.0007
Neptune	441-01-15 19:26 J	1882148.07	1882148.31	1882148.55 0.0089 0.0032
Neptune	442-01-18 05:31 J	1882515.55	1882515.73	1882515.94 0.0089 0.0057
Jupiter	442-06-08 12:14 J	1882656.89	1882657.01	1882657.15 0.0513 0.0420
Neptune	443-01-20 15:21 J	1882883.07	1882883.14	1882883.26 0.0089 0.0082
Saturn	443-12-27 15:35 J	1883223.94	1883224.15	1883224.36 0.0295 0.0145
Pluto	444-12-18 15:21 J	1883580.96	1883581.14	1883581.38 0.0065 0.0037
Pluto	445-12-20 02:38 J	1883947.54	1883947.61	1883947.75 0.0065 0.0060
Jupiter	454-06-13 12:00 J	1887044.77	1887045.00	1887045.23 0.0515 0.0144
Saturn	459-06-30 19:40 J	1888888.08	1888888.32	1888888.57 0.0267 0.0069
Mars	459-10-29 12:28 J	1889008.84	1889009.02	1889009.21 0.1766 0.0296
Jupiter	459-12-09 23:16 J	1889050.29	1889050.47	1889050.66 0.0514 0.0311
Jupiter	466-06-18 10:33 J	1891432.71	1891432.94	1891433.17 0.0516 0.0134
Uranus	471-05-08 18:28 J	1893218.22	1893218.27	1893218.37 0.0140 0.0135
Jupiter	471-12-14 14:09 J	1893437.86	1893438.09	1893438.32 0.0512 0.0047
Uranus	472-05-12 15:35 J	1893587.99	1893588.15	1893588.34 0.0140 0.0102
Uranus	473-05-17 12:00 J	1893957.78	1893958.00	1893958.23 0.0140 0.0069
Saturn	474-01-03 22:19 J	1894189.37	1894189.43	1894189.50 0.0293 0.0282
Uranus	474-05-22 07:55 J	1894327.58	1894327.83	1894328.08 0.0139 0.0036
Uranus	475-05-27 03:07 J	1894697.37	1894697.63	1894697.89 0.0139 0.0004
Uranus	476-05-30 21:21 J	1895067.14	1895067.39	1895067.65 0.0138 0.0029
Uranus	477-06-04 15:21 J	1895436.91	1895437.14	1895437.37 0.0138 0.0060
Uranus	478-06-09 08:24 J	1895806.67	1895806.85	1895807.05 0.0137 0.0091
Jupiter	478-06-23 06:00 J	1895820.62	1895820.75	1895820.91 0.0518 0.0407
Uranus	479-06-14 00:57 J	1896176.43	1896176.54	1896176.66 0.0137 0.0121
Jupiter	483-12-19 05:31 J	1897825.53	1897825.73	1897825.94 0.0510 0.0218
Saturn	489-07-07 00:00 J	1899852.43	1899852.50	1899852.59 0.0267 0.0251
Jupiter	495-12-23 17:16 J	1902213.14	1902213.22	1902213.30 0.0508 0.0470
Saturn	502-12-28 15:35 J	1904774.93	1904775.15	1904775.39 0.0295 0.0081
Uranus	515-11-10 06:43 J	1909474.67	1909474.78	1909474.91 0.0138 0.0120

Uranus	516-11-13 18:00 J	1909844.07	1909844.25	1909844.45 0.0138 0.0091
Uranus	517-11-18 06:00 J	1910213.53	1910213.75	1910213.98 0.0139 0.0060
Saturn	518-07-01 19:40 J	1910439.07	1910439.32	1910439.57 0.0267 0.0012
Uranus	518-11-22 18:43 J	1910583.04	1910583.28	1910583.53 0.0139 0.0029
Neptune	519-07-10 04:19 J	1910812.64	1910812.68	1910812.77 0.0089 0.0086
Uranus	519-11-27 08:09 J	1910952.59	1910952.84	1910953.09 0.0140 0.0004
Neptune	520-07-11 17:02 J	1911180.05	1911180.21	1911180.43 0.0089 0.0061
Uranus	520-11-30 21:35 J	1911322.17	1911322.40	1911322.65 0.0140 0.0037
Neptune	521-07-14 06:43 J	1911547.54	1911547.78	1911548.03 0.0089 0.0035
Uranus	521-12-05 12:00 J	1911691.80	1911692.00	1911692.24 0.0141 0.0069
Neptune	522-07-16 19:40 J	1911915.07	1911915.32	1911915.59 0.0089 0.0010
Uranus	522-12-10 03:07 J	1912061.47	1912061.63	1912061.82 0.0141 0.0101
Neptune	523-07-19 08:52 J	1912282.62	1912282.87	1912283.14 0.0089 0.0016
Uranus	523-12-14 18:43 J	1912431.22	1912431.28	1912431.39 0.0142 0.0134
Neptune	524-07-20 21:50 J	1912650.19	1912650.41	1912650.64 0.0089 0.0042
Jupiter	525-06-07 19:12 J	1912972.19	1912972.30	1912972.40 0.0512 0.0455
Neptune	525-07-23 10:33 J	1913017.80	1913017.94	1913018.13 0.0089 0.0068
Pluto	533-06-21 14:24 J	1915907.87	1915908.10	1915908.33 0.0079 0.0039
Jupiter	537-06-12 12:28 J	1917359.80	1917360.02	1917360.24 0.0514 0.0193
Mars	538-11-01 01:55 J	1917866.47	1917866.58	1917866.69 0.1760 0.1424
Jupiter	542-12-09 12:57 J	1919365.87	1919366.04	1919366.22 0.0514 0.0332
Saturn	547-06-26 18:28 J	1921026.27	1921026.27	1921026.28 0.0265 0.0265
Jupiter	549-06-17 13:26 J	1921747.82	1921748.06	1921748.29 0.0516 0.0089
Jupiter	554-12-14 02:52 J	1923753.40	1923753.62	1923753.85 0.0512 0.0070
Uranus	555-05-09 04:47 J	1923899.61	1923899.70	1923899.80 0.0140 0.0130
Uranus	556-05-13 01:26 J	1924269.39	1924269.56	1924269.76 0.0140 0.0097
Uranus	557-05-17 21:50 J	1924639.19	1924639.41	1924639.65 0.0139 0.0064
Uranus	558-05-22 18:00 J	1925009.00	1925009.25	1925009.50 0.0139 0.0031
Uranus	559-05-27 12:57 J	1925378.78	1925379.04	1925379.30 0.0139 0.0002
Uranus	560-05-31 07:40 J	1925748.57	1925748.82	1925749.07 0.0138 0.0033

Uranus	561-06-05 00:57 J	1926118.32	1926118.54	1926118.78 0.0138 0.0065
Jupiter	561-06-22 16:33 J	1926136.03	1926136.19	1926136.35 0.0518 0.0378
Saturn	561-12-29 13:26 J	1926325.82	1926326.06	1926326.30 0.0295 0.0023
Uranus	562-06-09 18:00 J	1926488.09	1926488.25	1926488.46 0.0137 0.0097
Uranus	563-06-14 10:33 J	1926857.85	1926857.94	1926858.05 0.0137 0.0126
Mars	564-04-26 05:45 J	1927174.55	1927174.74	1927174.93 0.1759 0.0523
Jupiter	566-12-18 15:35 J	1928140.94	1928141.15	1928141.36 0.0510 0.0187
Saturn	577-07-02 18:00 J	1931990.01	1931990.25	1931990.50 0.0267 0.0043
Jupiter	578-12-23 01:40 J	1932528.46	1932528.57	1932528.70 0.0508 0.0434
Uranus	599-11-10 14:52 J	1940156.01	1940156.12	1940156.27 0.0138 0.0117
Uranus	600-11-14 02:24 J	1940525.42	1940525.60	1940525.81 0.0138 0.0087
Neptune	601-01-06 14:52 J	1940579.01	1940579.12	1940579.23 0.0089 0.0079
Uranus	601-11-18 14:38 J	1940894.89	1940895.11	1940895.35 0.0139 0.0056
Neptune	602-01-09 00:43 J	1940946.35	1940946.53	1940946.74 0.0089 0.0055
Uranus	602-11-23 03:07 J	1941264.39	1941264.63	1941264.88 0.0139 0.0025
Neptune	603-01-11 11:16 J	1941313.74	1941313.97	1941314.22 0.0089 0.0030
Uranus	603-11-27 16:33 J	1941633.94	1941634.19	1941634.44 0.0140 0.0007
Neptune	604-01-13 21:50 J	1941681.15	1941681.41	1941681.66 0.0089 0.0005
Uranus	604-12-01 06:00 J	1942003.52	1942003.75	1942004.00 0.0140 0.0040
Neptune	605-01-15 08:09 J	1942048.60	1942048.84	1942049.09 0.0089 0.0020
Uranus	605-12-05 20:24 J	1942373.15	1942373.35	1942373.58 0.0141 0.0073
Neptune	606-01-17 18:00 J	1942416.05	1942416.25	1942416.49 0.0089 0.0045
Saturn	606-06-27 17:16 J	1942577.09	1942577.22	1942577.39 0.0265 0.0212
Uranus	606-12-10 11:16 J	1942742.82	1942742.97	1942743.15 0.0141 0.0105
Neptune	607-01-20 04:33 J	1942783.54	1942783.69	1942783.85 0.0089 0.0069
Uranus	607-12-15 02:52 J	1943112.59	1943112.62	1943112.70 0.0142 0.0138
Jupiter	608-06-06 22:33 J	1943287.39	1943287.44	1943287.51 0.0512 0.0494
Jupiter	620-06-11 23:16 J	1947675.26	1947675.47	1947675.69 0.0514 0.0218
Saturn	620-12-30 09:21 J	1947876.65	1947876.89	1947877.13 0.0295 0.0032
Jupiter	625-12-08 23:45 J	1949681.33	1949681.49	1949681.66 0.0514 0.0360

Jupiter	632-06-17 00:28 J	1952063.29	1952063.52	1952063.76 0.0516 0.0062
Saturn	636-07-03 16:19 J	1953540.95	1953541.18	1953541.41 0.0267 0.0095
Jupiter	637-12-13 11:45 J	1954068.77	1954068.99	1954069.22 0.0512 0.0105
Uranus	639-05-09 13:40 J	1954580.96	1954581.07	1954581.18 0.0140 0.0126
Uranus	640-05-13 10:33 J	1954950.76	1954950.94	1954951.14 0.0140 0.0093
Uranus	641-05-18 06:43 J	1955320.56	1955320.78	1955321.03 0.0139 0.0061
Uranus	642-05-23 02:52 J	1955690.37	1955690.62	1955690.88 0.0139 0.0027
Mars	643-04-30 00:14 J	1956032.39	1956032.51	1956032.63 0.1765 0.1391
Uranus	643-05-27 22:19 J	1956060.17	1956060.43	1956060.68 0.0139 0.0006
Uranus	644-05-31 16:19 J	1956429.94	1956430.18	1956430.44 0.0138 0.0038
Jupiter	644-06-22 00:14 J	1956451.33	1956451.51	1956451.69 0.0518 0.0342
Uranus	645-06-05 09:50 J	1956799.71	1956799.91	1956800.16 0.0138 0.0070
Uranus	646-06-10 03:07 J	1957169.47	1957169.63	1957169.82 0.0137 0.0101
Uranus	647-06-14 19:12 J	1957539.24	1957539.30	1957539.40 0.0137 0.0130
Jupiter	649-12-18 02:09 J	1958456.38	1958456.59	1958456.81 0.0511 0.0157
Jupiter	661-12-22 17:02 J	1962844.08	1962844.21	1962844.35 0.0509 0.0415
Saturn	665-06-28 16:04 J	1964127.99	1964128.17	1964128.39 0.0265 0.0158
Saturn	680-01-01 06:00 J	1969427.52	1969427.75	1969427.98 0.0294 0.0087
Uranus	683-11-10 23:02 J	1970837.33	1970837.46	1970837.61 0.0138 0.0113
Neptune	684-07-11 03:35 J	1971080.50	1971080.65	1971080.80 0.0089 0.0072
Uranus	684-11-14 10:33 J	1971206.75	1971206.94	1971207.15 0.0138 0.0084
Neptune	685-07-13 16:19 J	1971447.97	1971448.18	1971448.42 0.0089 0.0047
Uranus	685-11-18 22:19 J	1971576.22	1971576.43	1971576.68 0.0139 0.0053
Neptune	686-07-16 05:31 J	1971815.49	1971815.73	1971816.00 0.0089 0.0022
Uranus	686-11-23 11:02 J	1971945.72	1971945.96	1971946.22 0.0139 0.0022
Neptune	687-07-18 18:43 J	1972183.01	1972183.28	1972183.54 0.0089 0.0004
Uranus	687-11-28 00:14 J	1972315.27	1972315.51	1972315.76 0.0140 0.0011
Neptune	688-07-20 07:26 J	1972550.57	1972550.81	1972551.07 0.0089 0.0029
Uranus	688-12-01 13:55 J	1972684.84	1972685.08	1972685.32 0.0140 0.0043
Neptune	689-07-22 20:09 J	1972918.16	1972918.34	1972918.57 0.0089 0.0055

689-12-06 04:04 J 1973054.47 1973054.67 1973054.89 0.0141 0.0076 **Uranus** 690-07-25 09:07 J 1973285.80 1973285.88 1973286.02 0.0089 0.0080 Neptune **Uranus** 690-12-10 18:57 J 1973424.14 1973424.29 1973424.46 0.0141 0.0109 691-12-15 10:33 J 1973793.93 1973793.94 1973793.99 0.0142 0.0141 **Uranus** Pluto 692-12-20 23:16 J 1974165.25 1974165.47 1974165.71 0.0065 0.0027 Saturn 695-07-05 15:21 J 1975091.94 1975092.14 1975092.35 0.0267 0.0149 703-06-12 08:09 J 1977990.63 1977990.84 1977991.05 0.0513 0.0248 Jupiter 708-12-08 09:21 J 1979996.74 1979996.89 1979997.04 0.0515 0.0392 Jupiter Saturn 708-12-25 07:40 J 1980013.70 1980013.82 1980013.94 0.0295 0.0254 715-06-17 01:55 J 1982378.35 1982378.58 1982378.82 0.0515 0.0016 Jupiter Jupiter 720-12-13 01:26 J 1984384.34 1984384.56 1984384.78 0.0513 0.0125 **Uranus** 723-05-09 20:38 J 1985262.25 1985262.36 1985262.49 0.0140 0.0123 Uranus 724-05-13 17:16 J 1985632.05 1985632.22 1985632.44 0.0140 0.0090 Saturn 724-06-29 16:19 J 1985678.95 1985679.18 1985679.41 0.0266 0.0101 **Uranus** 725-05-18 14:09 J 1986001.87 1986002.09 1986002.34 0.0139 0.0057 **Uranus** 726-05-23 10:19 J 1986371.68 1986371.93 1986372.19 0.0139 0.0024 **Uranus** 727-05-28 05:31 J 1986741.48 1986741.73 1986741.99 0.0139 0.0010 727-06-22 02:24 J 1986766.41 1986766.60 1986766.80 0.0517 0.0296 **Jupiter Uranus** 728-06-01 00:14 J 1987111.26 1987111.51 1987111.76 0.0138 0.0041 **Uranus** 729-06-05 18:00 J 1987481.03 1987481.25 1987481.47 0.0138 0.0073 **Uranus** 730-06-10 11:16 J 1987850.80 1987850.97 1987851.14 0.0137 0.0104 731-06-15 02:52 J 1988220.59 1988220.62 1988220.70 0.0137 0.0134 **Uranus** 732-12-17 15:21 J 1988771.92 1988772.14 1988772.36 0.0511 0.0133 Jupiter Saturn 739-01-02 03:50 J 1990978.45 1990978.66 1990978.87 0.0294 0.0146 Mars 743-10-30 00:57 J 1992740.35 1992740.54 1992740.73 0.1773 0.0038 Jupiter 744-12-22 03:21 J 1993159.50 1993159.64 1993159.79 0.0509 0.0385 754-07-06 15:50 J 1996643.01 1996643.16 1996643.32 0.0267 0.0206 Saturn Neptune 766-01-08 12:43 J 2000846.89 2000847.03 2000847.22 0.0089 0.0067 Neptune 767-01-10 23:16 J 2001214.26 2001214.47 2001214.71 0.0089 0.0042 767-11-11 07:40 J 2001518.68 2001518.82 2001518.98 0.0138 0.0110 Uranus

767-12-27 06:28 J 2001564.60 2001564.77 2001564.96 0.0295 0.0194 Saturn 768-01-13 09:50 J 2001581.67 2001581.91 2001582.17 0.0089 0.0018 Neptune **Uranus** 768-11-14 19:12 J 2001888.10 2001888.30 2001888.51 0.0138 0.0079 769-01-14 20:09 J 2001949.09 2001949.34 2001949.60 0.0089 0.0008 Neptune **Uranus** 769-11-19 07:12 J 2002257.57 2002257.80 2002258.04 0.0139 0.0049 Neptune 770-01-17 06:28 J 2002316.54 2002316.77 2002317.02 0.0089 0.0032 770-11-23 19:26 J 2002627.07 2002627.31 2002627.56 0.0139 0.0017 **Uranus** 771-01-19 16:33 J 2002684.02 2002684.19 2002684.41 0.0089 0.0057 Neptune **Uranus** 771-11-28 08:38 J 2002996.61 2002996.86 2002997.11 0.0140 0.0015 772-01-22 03:07 J 2003051.54 2003051.63 2003051.74 0.0089 0.0081 Neptune Uranus 772-12-01 21:50 J 2003366.19 2003366.41 2003366.66 0.0140 0.0048 **Uranus** 773-12-06 12:00 J 2003735.81 2003736.00 2003736.22 0.0141 0.0080 **Uranus** 774-12-11 03:07 J 2004105.49 2004105.63 2004105.79 0.0141 0.0112 780-06-22 02:09 J 2006125.35 2006125.59 2006125.85 0.0079 0.0023 Pluto Saturn 783-07-01 18:00 J 2007230.01 2007230.25 2007230.50 0.0266 0.0042 **Jupiter** 786-06-11 09:50 J 2008305.72 2008305.91 2008306.11 0.0513 0.0293 **Jupiter** 791-12-08 20:09 J 2010312.22 2010312.34 2010312.48 0.0515 0.0421 798-01-03 05:16 J 2012529.55 2012529.72 2012529.88 0.0294 0.0211 Saturn **Jupiter** 798-06-16 10:19 J 2012693.70 2012693.93 2012694.17 0.0515 0.0020 803-12-13 10:47 J 2014699.73 2014699.95 2014700.17 0.0513 0.0158 **Jupiter Uranus** 807-05-10 03:21 J 2015943.51 2015943.64 2015943.78 0.0140 0.0119 808-05-14 00:28 J 2016313.33 2016313.52 2016313.73 0.0140 0.0086 **Uranus** 809-05-18 21:07 J 2016683.15 2016683.38 2016683.63 0.0139 0.0053 **Uranus Uranus** 810-05-23 17:16 J 2017052.97 2017053.22 2017053.48 0.0139 0.0020 Jupiter 810-06-21 11:31 J 2017081.78 2017081.98 2017082.18 0.0517 0.0262 **Uranus** 811-05-28 12:28 J 2017422.77 2017423.02 2017423.28 0.0139 0.0013 **Uranus** 812-06-01 06:57 J 2017792.55 2017792.79 2017793.04 0.0138 0.0045 **Uranus** 813-06-06 00:28 J 2018162.32 2018162.52 2018162.75 0.0138 0.0077 Uranus 814-06-10 17:31 J 2018532.09 2018532.23 2018532.41 0.0137 0.0108 815-06-15 09:50 J 2018901.91 2018901.91 2018901.93 0.0137 0.0137 **Uranus** 

Jupiter	815-12-17 22:04 J	2019087.19	2019087.42	2019087.64 0.0511 0.0094
Mars	822-11-01 15:35 J	2021598.12	2021598.15	2021598.18 0.1768 0.1735
Saturn	826-12-28 08:38 J	2023115.64	2023115.86	2023116.08 0.0295 0.0126
Jupiter	827-12-22 11:02 J	2023474.80	2023474.96	2023475.13 0.0510 0.0349
Saturn	842-07-02 21:50 J	2028781.17	2028781.41	2028781.66 0.0266 0.0022
Mars	848-04-26 12:14 J	2030905.82	2030906.01	2030906.21 0.1751 0.0329
Neptune	848-07-10 12:57 J	2030980.98	2030981.04	2030981.15 0.0089 0.0084
Neptune	849-07-13 02:09 J	2031348.42	2031348.59	2031348.81 0.0089 0.0059
Neptune	850-07-15 15:21 J	2031715.91	2031716.14	2031716.40 0.0089 0.0034
Uranus	850-11-07 05:45 J	2031830.70	2031830.74	2031830.80 0.0137 0.0135
Neptune	851-07-18 04:33 J	2032083.44	2032083.69	2032083.96 0.0089 0.0009
Uranus	851-11-11 16:19 J	2032200.04	2032200.18	2032200.36 0.0138 0.0106
Neptune	852-07-19 17:31 J	2032450.98	2032451.23	2032451.50 0.0089 0.0017
Uranus	852-11-15 04:04 J	2032569.46	2032569.67	2032569.88 0.0138 0.0076
Neptune	853-07-22 06:28 J	2032818.55	2032818.77	2032819.01 0.0089 0.0042
Uranus	853-11-19 15:35 J	2032938.93	2032939.15	2032939.40 0.0139 0.0045
Neptune	854-07-24 19:26 J	2033186.16	2033186.31	2033186.50 0.0089 0.0067
Uranus	854-11-24 04:19 J	2033308.43	2033308.68	2033308.93 0.0139 0.0013
Uranus	855-11-28 17:16 J	2033677.98	2033678.22	2033678.47 0.0140 0.0019
Uranus	856-12-02 06:28 J	2034047.55	2034047.77	2034048.02 0.0140 0.0052
Saturn	857-01-04 09:50 J	2034080.87	2034080.91	2034080.98 0.0294 0.0286
Uranus	857-12-06 21:07 J	2034417.18	2034417.38	2034417.58 0.0141 0.0083
Uranus	858-12-11 12:00 J	2034786.86	2034787.00	2034787.15 0.0141 0.0116
Jupiter	869-06-10 17:16 J	2038621.04	2038621.22	2038621.40 0.0512 0.0328
Saturn	871-06-27 17:02 J	2039368.11	2039368.21	2039368.32 0.0266 0.0238
Jupiter	874-12-08 00:57 J	2040627.44	2040627.54	2040627.64 0.0516 0.0463
Jupiter	881-06-15 15:21 J	2043008.91	2043009.14	2043009.38 0.0514 0.0058
Saturn	885-12-29 14:52 J	2044666.89	2044667.12	2044667.36 0.0294 0.0048
Jupiter	886-12-12 15:07 J	2045014.93	2045015.13	2045015.35 0.0514 0.0202
Uranus	891-05-10 10:47 J	2046624.81	2046624.95	2046625.10 0.0140 0.0115

**Uranus** 892-05-14 08:09 J 2046994.63 2046994.84 2046995.05 0.0140 0.0081 **Uranus** 893-05-19 04:33 J 2047364.46 2047364.69 2047364.94 0.0140 0.0049 **Jupiter** 893-06-20 09:50 J 2047396.70 2047396.91 2047397.14 0.0516 0.0207 894-05-24 00:43 J 2047734.28 2047734.53 2047734.79 0.0139 0.0015 **Uranus Uranus** 895-05-28 19:40 J 2048104.07 2048104.32 2048104.58 0.0139 0.0017 **Uranus** 896-06-01 14:09 J 2048473.85 2048474.09 2048474.34 0.0138 0.0049 897-06-06 07:40 J 2048843.63 2048843.82 2048844.04 0.0138 0.0081 **Uranus Uranus** 898-06-11 00:28 J 2049213.39 2049213.52 2049213.69 0.0137 0.0112 **Jupiter** 898-12-17 05:02 J 2049402.49 2049402.71 2049402.94 0.0512 0.0057 901-07-04 03:50 J 2050332.43 2050332.66 2050332.90 0.0267 0.0091 Saturn **Jupiter** 905-06-25 09:07 J 2051784.81 2051784.88 2051784.97 0.0518 0.0483 910-12-21 18:00 J 2053790.07 2053790.25 2053790.44 0.0510 0.0307 Jupiter Mars 927-04-30 05:31 J 2059763.64 2059763.73 2059763.82 0.1757 0.1533 Neptune 930-01-08 01:26 J 2060747.46 2060747.56 2060747.70 0.0089 0.0078 Saturn 930-06-28 23:45 J 2060919.31 2060919.49 2060919.70 0.0266 0.0168 Neptune 931-01-10 11:45 J 2061114.81 2061114.99 2061115.21 0.0089 0.0054 Neptune 932-01-12 21:50 J 2061482.19 2061482.41 2061482.66 0.0089 0.0030 933-01-14 08:24 J 2061849.60 2061849.85 2061850.11 0.0089 0.0005 Neptune Neptune 934-01-16 18:28 J 2062217.03 2062217.27 2062217.53 0.0089 0.0020 **Uranus** 934-11-07 14:52 J 2062512.07 2062512.12 2062512.22 0.0137 0.0131 Neptune 935-01-19 04:47 J 2062584.49 2062584.70 2062584.93 0.0089 0.0044 935-11-12 01:55 J 2062881.43 2062881.58 2062881.77 0.0138 0.0101 **Uranus** 936-01-21 14:52 J 2062951.98 2062952.12 2062952.31 0.0089 0.0069 Neptune **Uranus** 936-11-15 13:26 J 2063250.85 2063251.06 2063251.28 0.0138 0.0071 Uranus 937-11-20 01:12 J 2063620.32 2063620.55 2063620.80 0.0139 0.0040 Uranus 938-11-24 13:40 J 2063989.82 2063990.07 2063990.32 0.0139 0.0009 939-11-29 02:38 J 2064359.37 2064359.61 2064359.86 0.0140 0.0023 **Uranus** Pluto 939-12-22 17:31 J 2064382.98 2064383.23 2064383.49 0.0065 0.0009 Uranus 940-12-02 16:19 J 2064728.95 2064729.18 2064729.41 0.0140 0.0056 Uranus 941-12-07 06:28 J 2065098.58 2065098.77 2065098.97 0.0141 0.0088

942-12-11 21:21 J 2065468.28 2065468.39 2065468.54 0.0141 0.0120 Uranus 944-12-31 00:57 J 2066218.31 2066218.54 2066218.79 0.0294 0.0039 Saturn Mars 948-10-26 21:35 J 2067614.32 2067614.40 2067614.49 0.1787 0.1599 952-06-09 16:04 J 2068936.01 2068936.17 2068936.33 0.0511 0.0380 Jupiter **Jupiter** 957-12-07 03:35 J 2070942.63 2070942.65 2070942.69 0.0517 0.0512 Saturn 960-07-05 11:45 J 2071883.80 2071883.99 2071884.20 0.0267 0.0164 964-06-14 12:28 J 2073323.79 2073324.02 2073324.26 0.0513 0.0116 Jupiter 969-12-11 18:57 J 2075330.09 2075330.29 2075330.49 0.0515 0.0251 Jupiter Saturn 973-12-25 08:38 J 2076804.82 2076804.86 2076804.93 0.0295 0.0287 975-05-10 19:40 J 2077306.17 2077306.32 2077306.49 0.0140 0.0110 Uranus **Uranus** 976-05-14 16:33 J 2077675.99 2077676.19 2077676.42 0.0140 0.0077 976-06-19 11:02 J 2077711.73 2077711.96 2077712.18 0.0516 0.0154 **Jupiter Uranus** 977-05-19 13:26 J 2078045.82 2078046.06 2078046.31 0.0140 0.0044 **Uranus** 978-05-24 09:07 J 2078415.63 2078415.88 2078416.14 0.0139 0.0011 **Uranus** 979-05-29 04:19 J 2078785.42 2078785.68 2078785.93 0.0139 0.0022 Uranus 980-06-01 22:19 J 2079155.20 2079155.43 2079155.68 0.0138 0.0054 Uranus 981-06-06 16:04 J 2079524.97 2079525.17 2079525.38 0.0138 0.0085 981-12-16 09:21 J 2079717.66 2079717.89 2079718.12 0.0513 0.0010 **Jupiter Uranus** 982-06-11 08:52 J 2079894.74 2079894.87 2079895.02 0.0137 0.0116 988-06-24 11:45 J 2082099.86 2082099.99 2082100.12 0.0518 0.0433 Jupiter Saturn 989-06-30 08:52 J 2082470.65 2082470.87 2082471.11 0.0266 0.0093 993-12-20 19:55 J 2084105.14 2084105.33 2084105.53 0.0511 0.0257 Jupiter

## 2ND MILLENNIUM CE

This is a list of transits of Earth in the 2nd millennium CE.

FROM MAX- C START MAX END SUNRAD DEPTH S

TRANSIT

TIME

Saturn 1004-01-02 14:38 J 2087769.90 2087770.11 2087770.33 0.0294 0.0134 1005-12-25 07:40 J 2088492.79 2088492.82 2088492.85 0.0509 0.0503 **Jupiter** 1013-07-12 11:02 J 2091248.83 2091248.96 2091249.14 0.0089 0.0071 Neptune 1014-07-15 00:28 J 2091616.31 2091616.52 2091616.76 0.0089 0.0046 Neptune 1015-07-17 13:55 J 2091983.83 2091984.08 2091984.34 0.0089 0.0021 Neptune Neptune 1016-07-19 03:07 J 2092351.37 2092351.63 2092351.89 0.0089 0.0004 Neptune 1017-07-21 16:19 J 2092718.93 2092719.18 2092719.43 0.0089 0.0029 Neptune 1018-07-24 05:02 J 2093086.51 2093086.71 2093086.92 0.0089 0.0054 1018-11-08 00:14 J 2093193.42 2093193.51 2093193.62 0.0138 0.0126 **Uranus** 1019-07-07 21:35 J 2093435.31 2093435.40 2093435.52 0.0268 0.0242 Saturn 1019-07-26 17:45 J 2093454.15 2093454.24 2093454.38 0.0089 0.0079 Neptune 1019-11-12 10:47 J 2093562.79 2093563.14 0.0138 0.0097 **Uranus** 2093562.95 **Uranus** 1020-11-15 22:19 J 2093932.22 2093932.43 2093932.66 0.0138 0.0067 1021-11-20 10:19 J 2094301.69 2094302.17 0.0139 0.0035 Uranus 2094301.93 **Uranus** 1022-11-24 22:47 J 2094671.20 2094671.45 2094671.70 0.0139 0.0004 **Uranus** 1023-11-29 11:45 J 2095040.75 2095040.99 2095041.24 0.0140 0.0028 **Uranus** 1024-12-03 01:12 J 2095410.34 2095410.55 2095410.79 0.0140 0.0061 1025-12-07 16:04 J 2095779.98 2095780.17 2095780.36 0.0141 0.0092 **Uranus** 1026-12-12 07:12 J 2096149.69 2096149.80 2096149.92 0.0141 0.0125 **Uranus** Mars 1027-10-30 12:43 J 2096471.84 2096472.03 2096472.22 0.1781 0.0229 2096710.06 2096710.17 0.0079 0.0075 Pluto 1028-06-24 13:26 J 2096710.01 1032-12-27 01:26 J 2098356.38 2098356.56 2098356.75 0.0294 0.0184 Saturn **Jupiter** 1035-06-09 14:52 J 2099251.00 2099251.12 2099251.25 0.0511 0.0434 **Jupiter** 1047-06-14 13:11 J 2103638.83 2103639.05 2103639.28 0.0513 0.0167 Saturn 1048-07-01 19:26 J 2104022.06 2104022.31 2104022.56 0.0266 0.0015 **Jupiter** 1052-12-10 19:55 J 2105645.15 2105645.33 2105645.52 0.0515 0.0303 1058-05-06 08:38 J 2107617.81 2107617.86 2107617.92 0.0141 0.0137 Uranus

Uranus	1059-05-11 06:14 J	2107987.60	2107987.76	2107987.94 0.0140 0.0105
Jupiter	1059-06-19 11:45 J	2108026.76	2108026.99	2108027.22 0.0515 0.0104
Uranus	1060-05-15 03:21 J	2108357.42	2108357.64	2108357.87 0.0140 0.0071
Uranus	1061-05-19 23:31 J	2108727.25	2108727.48	2108727.74 0.0140 0.0039
Uranus	1062-05-24 19:26 J	2109097.05	2109097.31	2109097.57 0.0139 0.0005
Saturn	1063-01-04 07:26 J	2109321.67	2109321.81	2109321.95 0.0293 0.0235
Uranus	1063-05-29 13:55 J	2109466.84	2109467.08	2109467.35 0.0139 0.0028
Uranus	1064-06-02 08:09 J	2109836.62	2109836.84	2109837.09 0.0138 0.0059
Jupiter	1064-12-15 08:38 J	2110032.64	2110032.86	2110033.09 0.0513 0.0048
Uranus	1065-06-07 01:55 J	2110206.39	2110206.58	2110206.78 0.0138 0.0090
Uranus	1066-06-11 18:14 J	2110576.16	2110576.26	2110576.40 0.0137 0.0120
Jupiter	1071-06-24 08:09 J	2112414.68	2112414.84	2112415.01 0.0516 0.0369
Jupiter	1076-12-19 20:24 J	2114420.14	2114420.35	2114420.56 0.0512 0.0201
Saturn	1077-06-27 01:11 J	2114609.49	2114609.55	2114609.64 0.0266 0.0252
Jupiter	1088-12-24 08:52 J	2118807.76	2118807.87	2118807.97 0.0510 0.0447
Saturn	1091-12-29 19:55 J	2119908.10	2119908.33	2119908.56 0.0294 0.0077
Neptune	1095-01-10 00:00 J	2121015.34	2121015.50	2121015.68 0.0089 0.0065
Neptune	1096-01-12 10:19 J	2121382.71	2121382.93	2121383.16 0.0089 0.0041
Neptune	1097-01-13 20:38 J	2121750.11	2121750.36	2121750.61 0.0089 0.0017
Neptune	1098-01-16 06:43 J	2122117.53	2122117.78	2122118.04 0.0089 0.0008
Neptune	1099-01-18 16:48 J	2122484.98	2122485.20	2122485.45 0.0089 0.0032
Neptune	1100-01-21 02:52 J	2122852.44	2122852.62	2122852.83 0.0089 0.0056
Neptune	1101-01-22 13:11 J	2123219.96	2123220.05	2123220.18 0.0089 0.0080
Uranus	1102-11-08 09:21 J	2123874.78	2123874.89	2123875.01 0.0138 0.0122
Uranus	1103-11-12 20:09 J	2124244.16	2124244.34	2124244.53 0.0138 0.0092
Uranus	1104-11-16 07:11 J	2124613.59	2124613.80	2124614.04 0.0138 0.0062
Uranus	1105-11-20 19:11 J	2124983.06	2124983.30	2124983.55 0.0139 0.0031
Uranus	1106-11-25 07:55 J	2125352.58	2125352.83	2125353.08 0.0139 0.0001
Saturn	1107-07-04 06:14 J	2125573.53	2125573.76	2125574.01 0.0267 0.0066
Uranus	1107-11-29 20:52 J	2125722.13	2125722.37	2125722.61 0.0140 0.0032

Uranus	1108-12-03 10:33 J	2126091.73	2126091.94	2126092.17 0.0140 0.0065
Uranus	1109-12-08 00:57 J	2126461.37	2126461.54	2126461.73 0.0141 0.0097
Uranus	1110-12-12 16:04 J	2126831.09	2126831.17	2126831.29 0.0141 0.0129
Jupiter	1118-06-08 16:04 J	2129566.10	2129566.17	2129566.26 0.0511 0.0480
Jupiter	1130-06-13 11:45 J	2133953.78	2133953.99	2133954.20 0.0512 0.0223
Mars	1132-04-26 20:24 J	2134637.15	2134637.35	2134637.54 0.1744 0.0106
Jupiter	1135-12-10 18:00 J	2135960.09	2135960.25	2135960.42 0.0516 0.0364
Saturn	1136-06-28 11:31 J	2136160.80	2136160.98	2136161.18 0.0266 0.0174
Uranus	1142-05-06 19:11 J	2138299.24	2138299.30	2138299.40 0.0141 0.0133
Jupiter	1142-06-18 07:55 J	2138341.60	2138341.83	2138342.07 0.0514 0.0042
Uranus	1143-05-11 17:02 J	2138669.04	2138669.21	2138669.40 0.0140 0.0100
Uranus	1144-05-15 13:55 J	2139038.87	2139039.08	2139039.32 0.0140 0.0067
Uranus	1145-05-20 10:19 J	2139408.69	2139408.93	2139409.19 0.0140 0.0034
Uranus	1146-05-25 05:45 J	2139778.48	2139778.74	2139779.00 0.0139 0.0002
Uranus	1147-05-30 00:43 J	2140148.28	2140148.53	2140148.78 0.0139 0.0032
Jupiter	1147-12-15 08:52 J	2140347.65	2140347.87	2140348.10 0.0514 0.0106
Uranus	1148-06-02 18:28 J	2140518.06	2140518.27	2140518.52 0.0138 0.0064
Uranus	1149-06-07 11:45 J	2140887.82	2140887.99	2140888.20 0.0138 0.0095
Uranus	1150-06-12 04:19 J	2141257.60	2141257.68	2141257.81 0.0137 0.0126
Saturn	1150-12-31 13:55 J	2141459.84	2141460.08	2141460.32 0.0294 0.0029
Jupiter	1154-06-23 03:50 J	2142729.48	2142729.66	2142729.86 0.0516 0.0306
Jupiter	1159-12-19 23:45 J	2144735.27	2144735.49	2144735.71 0.0512 0.0152
Saturn	1166-07-05 16:48 J	2147125.00	2147125.20	2147125.42 0.0267 0.0145
Jupiter	1171-12-24 10:48 J	2149122.81	2149122.95	2149123.09 0.0510 0.0397
Neptune	1177-07-11 20:38 J	2151149.26	2151149.36	2151149.46 0.0089 0.0082
Neptune	1178-07-14 09:21 J	2151516.71	2151516.89	2151517.11 0.0089 0.0058
Neptune	1179-07-16 22:48 J	2151884.22	2151884.45	2151884.70 0.0089 0.0033
Neptune	1180-07-18 12:14 J	2152251.76	2152252.01	2152252.28 0.0089 0.0008
Neptune	1181-07-21 01:11 J	2152619.30	2152619.55	2152619.81 0.0089 0.0017
Neptune	1182-07-23 13:55 J	2152986.87	2152987.08	2152987.33 0.0089 0.0042

Neptune 1183-07-26 03:07 J 2153354.47 2153354.63 2153354.82 0.0089 0.0066 Uranus 1186-11-08 17:02 J 2154556.10 2154556.21 2154556.35 0.0138 0.0119 1186-12-23 07:40 J 2154600.74 2154600.82 2154600.97 0.0065 0.0058 Pluto 1187-11-13 03:50 J 2154925.48 2154925.66 2154925.86 0.0138 0.0089 Uranus Pluto 1187-12-24 19:26 J 2154967.12 2154967.31 2154967.54 0.0065 0.0037 Uranus 1188-11-16 15:21 J 2155294.92 2155295.14 2155295.37 0.0138 0.0059 1189-11-21 03:07 J 2155664.39 2155664.63 2155664.88 0.0139 0.0028 Uranus 1190-11-25 15:35 J 2156033.90 2156034.15 2156034.41 0.0139 0.0005 Uranus Uranus 1191-11-30 04:48 J 2156403.46 2156403.70 2156403.94 0.0140 0.0036 1192-12-03 18:28 J 2156773.06 2156773.27 2156773.50 0.0140 0.0068 Uranus 1193-12-08 08:52 J 2157142.71 2157142.87 2157143.06 0.0141 0.0101 Uranus **Uranus** 1194-12-13 00:43 J 2157512.45 2157512.53 2157512.62 0.0141 0.0133 Saturn 1195-06-30 21:07 J 2157712.15 2157712.38 2157712.62 0.0267 0.0098 1210-01-02 05:02 J 2163011.51 2163011.71 2163011.94 0.0294 0.0129 Saturn Mars 1211-04-30 12:57 J 2163495.02 2163495.04 2163495.07 0.1749 0.1726 Jupiter 1213-06-12 07:40 J 2164268.62 2164268.82 2164269.02 0.0512 0.0283 Jupiter 1218-12-09 22:48 J 2166275.32 2166275.45 2166275.60 0.0516 0.0408 Jupiter 1225-06-17 06:28 J 2168656.53 2168656.77 2168657.01 0.0514 0.0014 Saturn 1225-07-07 02:38 J 2168676.47 2168676.61 2168676.75 0.0267 0.0221 Uranus 1226-05-07 04:48 J 2168980.62 2168980.70 2168980.82 0.0141 0.0129 Uranus 1227-05-12 02:52 J 2169350.44 2169350.62 2169350.81 0.0140 0.0096 Uranus 1228-05-15 23:45 J 2169720.26 2169720.49 2169720.73 0.0140 0.0062 1229-05-20 19:55 J 2170090.08 2170090.33 2170090.59 0.0140 0.0029 Uranus Uranus 1230-05-25 15:35 J 2170459.89 2170460.15 2170460.40 0.0139 0.0004 Jupiter 1230-12-14 12:14 J 2170662.80 2170663.01 2170663.24 0.0514 0.0152 Uranus 1231-05-30 10:04 J 2170829.68 2170829.92 2170830.18 0.0139 0.0037 1232-06-03 04:19 J 2171199.47 2171199.68 2171199.92 0.0138 0.0068 Uranus Mars 1232-10-27 07:11 J 2171345.68 2171345.80 2171345.92 0.1795 0.1407 Uranus 1233-06-07 22:04 J 2171569.24 2171569.42 2171569.60 0.0138 0.0099 Uranus 1234-06-12 14:24 J 2171939.04 2171939.10 2171939.21 0.0137 0.0129

Jupiter 1237-06-22 06:28 J 2173044.57 2173044.77 2173044.98 0.0516 0.0259 1238-12-27 05:02 J 2173597.56 2173597.71 2173597.88 0.0295 0.0217 Saturn Jupiter 1242-12-19 00:57 J 2175050.32 2175050.54 2175050.77 0.0512 0.0101 1254-07-02 04:48 J 2179263.45 2179263.70 2179263.95 0.0266 0.0025 Saturn Jupiter 1254-12-23 11:31 J 2179437.81 2179437.98 2179438.15 0.0511 0.0342 Neptune 1259-01-09 11:16 J 2180915.87 2180915.97 2180916.12 0.0089 0.0077 Neptune 1260-01-11 21:35 J 2181283.21 2181283.40 2181283.62 0.0089 0.0053 Neptune 1261-01-13 07:55 J 2181650.60 2181650.83 2181651.08 0.0089 0.0029 Neptune 1262-01-15 18:28 J 2182018.01 2182018.27 2182018.52 0.0089 0.0005 Neptune 1263-01-18 04:19 J 2182385.44 2182385.68 2182385.93 0.0089 0.0019 Neptune 1264-01-20 14:24 J 2182752.89 2182753.10 2182753.33 0.0089 0.0043 Neptune 1265-01-22 00:28 J 2183120.37 2183120.52 2183120.70 0.0089 0.0067 Saturn 1269-01-03 17:45 J 2184563.08 2184563.24 2184563.40 0.0294 0.0220 1270-11-09 01:40 J 2185237.45 2185237.57 2185237.72 0.0137 0.0115 **Uranus** Uranus 1271-11-13 12:14 J 2185606.83 2185607.01 2185607.23 0.0138 0.0086 **Uranus** 1272-11-16 23:45 J 2185976.27 2185976.49 2185976.73 0.0138 0.0055 Uranus 1273-11-21 11:45 J 2186345.74 2186345.99 2186346.24 0.0139 0.0024 1274-11-26 00:14 J 2186715.26 2186715.51 2186715.76 0.0139 0.0008 Uranus Pluto 1275-06-25 17:16 J 2186926.98 2186927.22 2186927.49 0.0079 0.0020 1275-11-30 13:11 J 2187084.82 2187085.05 2187085.30 0.0140 0.0040 Uranus Uranus 1276-12-04 02:52 J 2187454.42 2187454.62 2187454.85 0.0140 0.0073 Uranus 1277-12-08 17:45 J 2187824.08 2187824.24 2187824.41 0.0141 0.0104 1278-12-13 08:52 J 2188193.82 2188193.87 2188193.95 0.0141 0.0136 Uranus Jupiter 1296-06-11 12:00 J 2194583.82 2194584.00 2194584.19 0.0511 0.0321 Saturn 1297-12-28 15:07 J 2195148.92 2195149.13 2195149.35 0.0295 0.0130 Jupiter 1301-12-09 01:40 J 2196590.47 2196590.57 2196590.68 0.0517 0.0453 Jupiter 1308-06-16 10:19 J 2198971.70 2198971.93 2198972.17 0.0513 0.0059 Uranus 1310-05-07 13:11 J 2199661.94 2199662.05 2199662.18 0.0141 0.0125 Uranus 1311-05-12 11:02 J 2200031.77 2200031.96 2200032.16 0.0141 0.0092 1311-10-31 00:14 J 2200203.32 2200203.51 2200203.69 0.1789 0.0488 Mars

Uranus	1312-05-16 07:40 J	2200401.60	2200401.82	2200402.07 0.0140 0.0059
Uranus	1313-05-21 04:04 J	2200771.43	2200771.67	2200771.93 0.0140 0.0026
Saturn	1313-07-03 10:33 J	2200814.69	2200814.94	2200815.18 0.0266 0.0044
Jupiter	1313-12-13 13:55 J	2200977.87	2200978.08	2200978.29 0.0515 0.0203
Uranus	1314-05-25 23:45 J	2201141.23	2201141.49	2201141.75 0.0139 0.0007
Uranus	1315-05-30 18:43 J	2201511.04	2201511.28	2201511.53 0.0139 0.0040
Uranus	1316-06-03 12:43 J	2201880.83	2201881.03	2201881.27 0.0138 0.0072
Uranus	1317-06-08 06:14 J	2202250.61	2202250.76	2202250.95 0.0138 0.0103
Uranus	1318-06-12 23:02 J	2202620.43	2202620.46	2202620.55 0.0137 0.0134
Jupiter	1320-06-21 07:40 J	2203359.60	2203359.82	2203360.03 0.0515 0.0207
Jupiter	1325-12-18 05:02 J	2205365.49	2205365.71	2205365.94 0.0513 0.0053
Jupiter	1332-06-26 02:38 J	2207747.52	2207747.61	2207747.71 0.0517 0.0467
Mars	1337-04-24 16:19 J	2209511.09	2209511.18	2209511.27 0.1731 0.1533
Jupiter	1337-12-22 20:38 J	2209753.19	2209753.36	2209753.55 0.0511 0.0309
Saturn	1342-06-28 10:19 J	2211401.79	2211401.93	2211402.10 0.0265 0.0204
Neptune	1342-07-13 17:16 J	2211417.09	2211417.22	2211417.41 0.0089 0.0070
Neptune	1343-07-16 07:11 J	2211784.58	2211784.80	2211785.03 0.0089 0.0045
Neptune	1344-07-17 20:09 J	2212152.09	2212152.34	2212152.60 0.0089 0.0021
Neptune	1345-07-20 09:35 J	2212519.64	2212519.90	2212520.17 0.0089 0.0004
Neptune	1346-07-22 22:33 J	2212887.21	2212887.44	2212887.70 0.0089 0.0029
Neptune	1347-07-25 12:14 J	2213254.80	2213255.01	2213255.22 0.0089 0.0053
Neptune	1348-07-27 00:43 J	2213622.43	2213622.53	2213622.68 0.0089 0.0078
Uranus	1354-11-09 10:19 J	2215918.80	2215918.93	2215919.09 0.0137 0.0112
Uranus	1355-11-13 20:52 J	2216288.18	2216288.37	2216288.58 0.0138 0.0082
Uranus	1356-11-17 08:24 J	2216657.62	2216657.85	2216658.08 0.0138 0.0052
Saturn	1356-12-29 20:52 J	2216700.14	2216700.37	2216700.61 0.0295 0.0053
Uranus	1357-11-21 20:09 J	2217027.10	2217027.34	2217027.59 0.0139 0.0021
Uranus	1358-11-26 08:38 J	2217396.62	2217396.86	2217397.12 0.0139 0.0012
Uranus	1359-11-30 21:35 J	2217766.18	2217766.40	2217766.65 0.0140 0.0044
Uranus	1360-12-04 11:45 J	2218135.79	2218135.99	2218136.21 0.0140 0.0076

Uranus 1361-12-09 02:09 J 2218505.45 2218505.59 2218505.77 0.0141 0.0108
Uranus 1362-12-13 17:16 J 2218875.22 2218875.22 2218875.28 0.0141 0.0141
Saturn 1372-07-04 13:55 J 2222365.85 2222366.08 2222366.31 0.0266 0.0108
Jupiter 1379-06-11 16:19 J 2224899.02 2224899.18 2224899.35 0.0511 0.0361
Jupiter 1384-12-08 06:43 J 2226905.73 2226905.78 2226905.85 0.0517 0.0496
Jupiter 1391-06-16 08:52 J 2229286.64 2229286.87 2229287.10 0.0513 0.0111
Uranus 1394-05-07 21:07 J 2230343.27 2230343.38 2230343.53 0.0141 0.0121
Uranus 1395-05-12 19:11 J 2230713.11 2230713.30 2230713.51 0.0141 0.0088
Uranus 1396-05-16 16:04 J 2231082.94 2231083.17 2231083.41 0.0140 0.0054
Jupiter 1396-12-13 00:57 J 2231293.34 2231293.54 2231293.75 0.0515 0.0231
Uranus 1397-05-21 12:14 J 2231452.76 2231453.01 2231453.27 0.0140 0.0022
Uranus 1398-05-26 07:55 J 2231822.58 2231822.83 2231823.09 0.0139 0.0012
Uranus 1399-05-31 03:07 J 2232192.39 2232192.63 2232192.88 0.0139 0.0044
Uranus 1400-06-03 21:07 J 2232562.18 2232562.38 2232562.61 0.0138 0.0076
Uranus 1401-06-08 15:07 J 2232931.98 2232932.13 2232932.30 0.0138 0.0107
Saturn 1401-06-29 13:55 J 2232952.87 2232953.08 2232953.30 0.0265 0.0141
Uranus 1402-06-13 07:55 J 2233301.83 2233301.83 2233301.86 0.0137 0.0137
Jupiter 1403-06-21 08:38 J 2233674.64 2233674.86 2233675.09 0.0515 0.0160
Jupiter 1408-12-17 15:35 J 2235680.92 2235681.15 2235681.38 0.0513 0.0025
Jupiter 1415-06-26 10:33 J 2238062.82 2238062.94 2238063.08 0.0517 0.0434
Saturn 1415-12-31 22:33 J 2238251.20 2238251.44 2238251.68 0.0295 0.0014
Mars 1416-04-27 06:43 J 2238368.59 2238368.78 2238368.98 0.1736 0.0186
Jupiter 1420-12-22 04:19 J 2240068.49 2240068.68 2240068.88 0.0511 0.0273
Neptune 1423-01-08 22:48 J 2240816.44 2240816.45 2240816.49 0.0089 0.0088
Neptune 1424-01-11 08:52 J 2241183.72 2241183.87 2241184.06 0.0089 0.0065
Neptune 1425-01-12 19:26 J 2241551.10 2241551.31 2241551.55 0.0089 0.0041
Neptune 1426-01-15 05:31 J 2241918.49 2241918.73 2241918.99 0.0089 0.0017
Neptune 1427-01-17 15:50 J 2242285.91 2242286.16 2242286.42 0.0089 0.0007
Neptune 1428-01-20 01:40 J 2242653.34 2242653.57 2242653.82 0.0089 0.0031
Neptune 1429-01-21 12:00 J 2243020.81 2243021.00 2243021.21 0.0089 0.0054

Neptune	1430-01-23 21:50 J	2243388.31	2243388.41	2243388.55 0.0089 0.0078
Saturn	1431-07-06 15:07 J	2243916.95	2243917.13	2243917.33 0.0266 0.0167
Pluto	1434-12-25 08:24 J	2245184.62	2245184.85	2245185.11 0.0065 0.0018
Uranus	1437-11-05 09:50 J	2246230.90	2246230.91	2246230.96 0.0137 0.0136
Uranus	1438-11-09 20:09 J	2246600.20	2246600.34	2246600.51 0.0137 0.0107
Uranus	1439-11-14 06:43 J	2246969.59	2246969.78	2246970.01 0.0138 0.0078
Uranus	1440-11-17 18:14 J	2247339.04	2247339.26	2247339.51 0.0138 0.0047
Uranus	1441-11-22 06:14 J	2247708.52	2247708.76	2247709.01 0.0139 0.0016
Uranus	1442-11-26 18:57 J	2248078.05	2248078.29	2248078.54 0.0139 0.0016
Uranus	1443-12-01 08:09 J	2248447.61	2248447.84	2248448.08 0.0140 0.0048
Uranus	1444-12-04 22:04 J	2248817.23	2248817.42	2248817.63 0.0140 0.0080
Uranus	1445-12-09 12:14 J	2249186.89	2249187.01	2249187.19 0.0141 0.0113
Saturn	1460-06-30 15:07 J	2254503.90	2254504.13	2254504.37 0.0265 0.0083
Jupiter	1462-06-10 18:28 J	2255214.14	2255214.27	2255214.42 0.0510 0.0403
Jupiter	1474-06-15 18:28 J	2259602.04	2259602.27	2259602.50 0.0513 0.0138
Saturn	1475-01-01 21:35 J	2259802.17	2259802.40	2259802.64 0.0295 0.0074
Uranus	1478-05-08 06:14 J	2261024.63	2261024.76	2261024.91 0.0141 0.0116
Uranus	1479-05-13 04:04 J	2261394.47	2261394.67	2261394.88 0.0141 0.0083
Jupiter	1479-12-13 10:19 J	2261608.73	2261608.93	2261609.13 0.0516 0.0262
Uranus	1480-05-17 00:43 J	2261764.30	2261764.53	2261764.78 0.0140 0.0050
Uranus	1481-05-21 21:07 J	2262134.13	2262134.38	2262134.64 0.0140 0.0017
Uranus	1482-05-26 16:48 J	2262503.95	2262504.20	2262504.46 0.0139 0.0016
Uranus	1483-05-31 12:00 J	2262873.76	2262874.00	2262874.25 0.0139 0.0049
Uranus	1484-06-04 06:28 J	2263243.56	2263243.77	2263243.98 0.0138 0.0081
Uranus	1485-06-08 23:45 J	2263613.37	2263613.49	2263613.67 0.0138 0.0112
Jupiter	1486-06-20 18:43 J	2263990.05	2263990.28	2263990.51 0.0514 0.0130
Saturn	1490-07-07 14:38 J	2265467.99	2265468.11	2265468.26 0.0266 0.0222
Jupiter	1491-12-17 22:33 J	2265996.21	2265996.44	2265996.67 0.0514 0.0014
Jupiter	1498-06-25 17:16 J	2268378.08	2268378.22	2268378.38 0.0516 0.0397
Jupiter	1503-12-22 13:40 J	2270383.87	2270384.07	2270384.27 0.0512 0.0240

1503-12-26 23:45 J 2270388.39 2270388.49 2270388.61 0.0295 0.0263 Saturn Neptune 1506-07-13 01:11 J 2271317.48 2271317.55 2271317.68 0.0089 0.0082 Neptune 1507-07-15 14:09 J 2271684.92 2271685.09 2271685.32 0.0089 0.0058 1508-07-17 03:35 J 2272052.43 2272052.65 2272052.91 0.0089 0.0034 Neptune 1509-07-19 17:02 J 2272419.95 2272420.21 2272420.47 0.0089 0.0009 Neptune Neptune 1510-07-22 06:14 J 2272787.51 2272787.76 2272788.03 0.0089 0.0016 1511-07-24 19:26 J 2273155.09 2273155.31 2273155.55 0.0089 0.0040 Neptune 1512-07-26 08:38 J 2273522.69 2273522.86 2273523.05 0.0089 0.0064 Neptune Neptune 1513-07-28 21:35 J 2273890.40 2273890.40 2273890.44 0.0089 0.0089 Jupiter 1515-12-27 05:16 J 2274771.67 2274771.72 2274771.78 0.0510 0.0491 1516-10-27 16:33 J 2275077.05 2275077.19 2275077.33 0.1802 0.1220 Mars 1519-07-02 15:07 J 2276054.89 2276055.13 2276055.38 0.0265 0.0028 Saturn Uranus 1521-11-05 19:40 J 2276912.26 2276912.32 2276912.40 0.0137 0.0131 1522-11-10 05:45 J 2277281.59 2277281.74 2277281.92 0.0137 0.0103 Uranus Pluto 1523-06-27 20:24 J 2277511.16 2277511.35 2277511.59 0.0079 0.0046 Uranus 1523-11-14 16:33 J 2277650.99 2277651.19 2277651.41 0.0138 0.0073 Uranus 1524-11-18 04:04 J 2278020.44 2278020.67 2278020.92 0.0138 0.0043 1525-11-22 16:19 J 2278389.93 2278390.18 2278390.43 0.0139 0.0011 Uranus Uranus 1526-11-27 05:02 J 2278759.47 2278759.71 2278759.96 0.0139 0.0021 Uranus 1527-12-01 18:14 J 2279129.04 2279129.26 2279129.50 0.0140 0.0053 Uranus 1528-12-05 08:09 J 2279498.66 2279498.84 2279499.06 0.0140 0.0085 1529-12-09 22:48 J 2279868.32 2279868.45 2279868.60 0.0141 0.0117 Uranus 1534-01-02 18:14 J 2281353.05 2281353.26 2281353.48 0.0295 0.0130 Saturn Jupiter 1545-06-10 06:00 J 2285529.62 2285529.75 2285529.88 0.0510 0.0426 Jupiter 1557-06-15 03:07 J 2289917.41 2289917.63 2289917.86 0.0512 0.0167 Uranus 1562-05-08 17:02 J 2291706.07 2291706.21 2291706.39 0.0141 0.0111 Jupiter 1562-12-12 19:11 J 2291924.12 2291924.30 2291924.49 0.0516 0.0294 Saturn 1562-12-27 20:09 J 2291939.18 2291939.34 2291939.52 0.0295 0.0209 Uranus 1563-05-13 14:52 J 2292075.91 2292076.12 2292076.34 0.0141 0.0078 Uranus 1564-05-17 11:45 J 2292445.75 2292445.99 2292446.24 0.0140 0.0044

Uranus 1565-05-22 08:09 J 2292815.58 2292815.84 2292816.10 0.0140 0.0011
Uranus 1566-05-27 03:50 J 2293185.41 2293185.66 2293185.92 0.0139 0.0022
Uranus 1567-05-31 22:48 J 2293555.23 2293555.45 2293555.70 0.0139 0.0055
Uranus 1568-06-04 17:02 J 2293925.02 2293925.21 2293925.43 0.0138 0.0086
Uranus 1569-06-09 11:02 J 2294294.84 2294294.96 2294295.11 0.0138 0.0117
Jupiter 1569-06-19 20:09 J 2294305.11 2294305.34 2294305.58 0.0514 0.0084
Jupiter 1574-12-17 12:28 J 2296311.79 2296312.02 2296312.25 0.0515 0.0034
Saturn 1578-07-03 14:24 J 2297605.85 2297606.10 2297606.35 0.0265 0.0026
Jupiter 1581-06-24 20:09 J 2298693.17 2298693.34 2298693.52 0.0516 0.0354
Jupiter 1587-01-01 03:21 G 2300699.43 2300699.64 2300699.85 0.0512 0.0218
Neptune 1588-01-20 18:57 G 2301084.20 2301084.29 2301084.45 0.0089 0.0077
Neptune 1589-01-22 05:31 G 2301451.54 2301451.73 2301451.95 0.0089 0.0053
Neptune 1590-01-24 15:50 G 2301818.94 2301819.16 2301819.41 0.0089 0.0030
Neptune 1591-01-27 02:24 G 2302186.34 2302186.60 2302186.85 0.0089 0.0006
Neptune 1592-01-29 12:28 G 2302553.77 2302554.02 2302554.27 0.0089 0.0018
Saturn 1593-01-13 14:52 G 2302903.94 2302904.12 2302904.31 0.0295 0.0184
Neptune 1593-01-30 22:19 G 2302921.22 2302921.43 2302921.67 0.0089 0.0042
Neptune 1594-02-02 08:24 G 2303288.69 2303288.85 2303289.04 0.0089 0.0065
Neptune 1595-02-04 18:43 G 2303656.27 2303656.28 2303656.32 0.0089 0.0088
Mars 1595-11-10 10:33 G 2303934.77 2303934.94 2303935.12 0.1796 0.0737
Jupiter 1599-01-05 16:04 G 2305087.09 2305087.17 2305087.27 0.0510 0.0463
Uranus 1605-11-16 06:14 G 2307593.69 2307593.76 2307593.87 0.0137 0.0127
Uranus 1606-11-20 16:48 G 2307963.03 2307963.20 2307963.38 0.0137 0.0098
Saturn 1607-07-08 08:09 G 2308192.73 2308192.84 2308192.96 0.0265 0.0234
Uranus 1607-11-25 03:35 G 2308332.44 2308332.65 2308332.88 0.0138 0.0068
Uranus 1608-11-28 15:21 G 2308701.91 2308702.14 2308702.39 0.0138 0.0037
Uranus 1609-12-03 03:35 G 2309071.40 2309071.65 2309071.90 0.0139 0.0006
Uranus 1610-12-07 16:19 G 2309440.94 2309441.18 2309441.43 0.0139 0.0026
Uranus 1611-12-12 05:31 G 2309810.51 2309810.73 2309810.96 0.0140 0.0058
Uranus 1612-12-15 19:26 G 2310180.13 2310180.31 2310180.51 0.0140 0.0090

Uranus	1613-12-20 10:04 G	2310549.80	2310549.92	2310550.04 0.0141 0.0122
Mars	1621-05-05 05:16 G	2313242.58	2313242.72	2313242.86 0.1724 0.1167
Saturn	1622-01-07 16:19 G	2313489.99	2313490.18	2313490.40 0.0295 0.0155
Jupiter	1628-06-19 08:52 G	2315844.78	2315844.87	2315844.97 0.0509 0.0464
Saturn	1637-07-14 13:40 G	2319156.84	2319157.07	2319157.31 0.0266 0.0080
Jupiter	1640-06-24 06:14 G	2320232.54	2320232.76	2320232.98 0.0511 0.0207
Uranus	1645-05-14 07:26 G	2322017.77	2322017.81	2322017.87 0.0142 0.0139
Jupiter	1645-12-22 07:55 G	2322239.65	2322239.83	2322240.01 0.0517 0.0318
Uranus	1646-05-19 05:31 G	2322387.57	2322387.73	2322387.91 0.0141 0.0106
Uranus	1647-05-24 03:21 G	2322757.42	2322757.64	2322757.86 0.0141 0.0072
Uranus	1648-05-27 23:45 G	2323127.25	2323127.49	2323127.75 0.0140 0.0039
Uranus	1649-06-01 20:24 G	2323497.09	2323497.35	2323497.61 0.0140 0.0005
Uranus	1650-06-06 16:04 G	2323866.92	2323867.17	2323867.42 0.0139 0.0028
Uranus	1651-06-11 11:16 G	2324236.73	2324236.97	2324237.20 0.0139 0.0060
Saturn	1652-01-15 12:57 G	2324454.91	2324455.04	2324455.18 0.0294 0.0242
Uranus	1652-06-15 05:31 G	2324606.54	2324606.73	2324606.92 0.0138 0.0092
Jupiter	1652-06-29 06:14 G	2324620.52	2324620.76	2324620.99 0.0514 0.0056
Uranus	1653-06-19 22:48 G	2324976.36	2324976.45	2324976.59 0.0138 0.0123
Jupiter	1657-12-26 23:16 G	2326627.24	2326627.47	2326627.70 0.0515 0.0063
Jupiter	1664-07-04 06:43 G	2329008.60	2329008.78	2329008.97 0.0515 0.0325
Saturn	1666-07-09 07:26 G	2329743.63	2329743.81	2329743.99 0.0265 0.0180
Jupiter	1669-12-31 11:16 G	2331014.76	2331014.97	2331015.19 0.0513 0.0183
Neptune	1671-07-24 21:35 G	2331585.26	2331585.40	2331585.58 0.0089 0.0070
Neptune	1672-07-26 10:33 G	2331952.74	2331952.94	2331953.18 0.0089 0.0046
Neptune	1673-07-29 00:00 G	2332320.26	2332320.50	2332320.76 0.0089 0.0022
Neptune	e 1674-07-31 13:26 G	2332687.80	2332688.06	2332688.32 0.0089 0.0003
Neptune	1675-08-03 02:24 G	2333055.35	2333055.60	2333055.85 0.0089 0.0027
Neptune	1676-08-04 15:35 G	2333422.95	2333423.15	2333423.37 0.0089 0.0051
Neptune	1677-08-07 04:48 G	2333790.57	2333790.70	2333790.85 0.0089 0.0075
Saturn	1681-01-08 14:52 G	2335040.89	2335041.12	2335041.35 0.0295 0.0096

Jupiter	1682-01-05 01:26 G	2335402.44	2335402.56	2335402.68 0.0511 0.0431
Pluto	1683-01-06 05:16 G	2335768.48	2335768.72	2335768.98 0.0065 0.0011
Uranus	1689-11-16 15:35 G	2338275.06	2338275.15	2338275.28 0.0137 0.0123
Uranus	1690-11-21 02:24 G	2338644.43	2338644.60	2338644.79 0.0137 0.0094
Uranus	1691-11-25 13:11 G	2339013.84	2339014.05	2339014.29 0.0138 0.0064
Uranus	1692-11-29 01:11 G	2339383.30	2339383.55	2339383.79 0.0138 0.0033
Uranus	1693-12-03 13:11 G	2339752.80	2339753.05	2339753.30 0.0139 0.0002
Uranus	1694-12-08 01:55 G	2340122.34	2340122.58	2340122.83 0.0139 0.0031
Uranus	1695-12-12 14:52 G	2340491.91	2340492.12	2340492.36 0.0140 0.0063
Saturn	1696-07-15 14:24 G	2340707.89	2340708.10	2340708.32 0.0266 0.0137
Uranus	1696-12-16 05:02 G	2340861.53	2340861.71	2340861.90 0.0140 0.0095
Uranus	1697-12-20 19:11 G	2341231.21	2341231.30	2341231.42 0.0141 0.0127
Mars	1700-05-08 19:26 G	2342100.12	2342100.31	2342100.49 0.1729 0.0511
Jupiter	1711-06-20 17:45 G	2346160.18	2346160.24	2346160.30 0.0509 0.0492
Jupiter	1723-06-25 15:50 G	2350547.96	2350548.16	2350548.38 0.0511 0.0236
Saturn	1725-07-11 08:09 G	2351294.63	2351294.84	2351295.07 0.0265 0.0123
Jupiter	1728-12-22 14:24 G	2352554.94	2352555.10	2352555.28 0.0517 0.0355
Uranus	1729-05-15 19:55 G	2352699.27	2352699.33	2352699.43 0.0142 0.0134
Uranus	1730-05-20 18:14 G	2353069.09	2353069.26	2353069.45 0.0141 0.0101
Uranus	1731-05-25 15:50 G	2353438.94	2353439.16	2353439.39 0.0141 0.0067
Uranus	1732-05-29 12:43 G	2353808.79	2353809.03	2353809.29 0.0140 0.0033
Uranus	1733-06-03 09:21 G	2354178.63	2354178.89	2354179.15 0.0140 0.0001
Uranus	1734-06-08 05:02 G	2354548.46	2354548.71	2354548.96 0.0139 0.0033
Uranus	1735-06-13 00:00 G	2354918.29	2354918.50	2354918.74 0.0139 0.0066
Jupiter	1735-06-30 13:40 G	2354935.83	2354936.07	2354936.31 0.0513 0.0024
Uranus	1736-06-16 18:14 G	2355288.09	2355288.26	2355288.45 0.0138 0.0097
Uranus	1737-06-21 12:00 G	2355657.92	2355658.00	2355658.11 0.0138 0.0128
Saturn	1740-01-11 16:04 G	2356591.94	2356592.17	2356592.42 0.0295 0.0031
Jupiter	1740-12-27 06:00 G	2356942.53	2356942.75	2356942.98 0.0515 0.0099
Jupiter	1747-07-05 07:40 G	2359323.62	2359323.82	2359324.02 0.0514 0.0275

Neptune 1752-01-21 05:31 G 2360984.71 2360984.73 2360984.76 0.0089 0.0088 Jupiter 1752-12-31 21:21 G 2361330.17 2361330.39 2361330.61 0.0514 0.0153 Neptune 1753-01-22 15:50 G 2361351.99 2361352.16 2361352.33 0.0089 0.0065 Neptune 1754-01-25 01:40 G 2361719.36 2361719.57 2361719.81 0.0089 0.0042 1755-01-27 12:14 G 2362086.77 2362087.01 2362087.27 0.0089 0.0019 Neptune Saturn 1755-07-18 16:33 G 2362259.04 2362259.19 2362259.37 0.0266 0.0198 Neptune 1756-01-29 22:33 G 2362454.19 2362454.44 2362454.70 0.0089 0.0005 1757-01-31 08:09 G 2362821.62 2362821.84 2362822.10 0.0089 0.0029 Neptune Neptune 1758-02-02 18:28 G 2363189.08 2363189.27 2363189.49 0.0089 0.0052 1759-02-05 04:33 G 2363556.57 2363556.69 2363556.84 0.0089 0.0075 Neptune Jupiter 1765-01-05 11:16 G 2365717.83 2365717.97 2365718.11 0.0511 0.0398 **Uranus** 1773-11-18 02:24 G 2368956.50 2368956.60 2368956.75 0.0137 0.0119 Uranus 1774-11-22 12:57 G 2369325.87 2369326.04 2369326.25 0.0137 0.0090 Uranus 1775-11-27 00:14 G 2369695.29 2369695.51 2369695.74 0.0138 0.0059 Uranus 1776-11-30 11:45 G 2370064.75 2370064.99 2370065.24 0.0138 0.0029 **Uranus** 1777-12-04 23:45 G 2370434.24 2370434.49 2370434.74 0.0139 0.0004 1778-12-09 12:14 G 2370803.78 2370804.01 2370804.26 0.0139 0.0036 Uranus Uranus 1779-12-14 01:26 G 2371173.35 2371173.56 2371173.79 0.0140 0.0067 Uranus 1780-12-17 15:07 G 2371542.97 2371543.13 2371543.32 0.0140 0.0099 1781-12-22 05:31 G 2371912.65 2371912.73 2371912.83 0.0141 0.0131 **Uranus** Saturn 1784-07-12 11:31 G 2372845.74 2372845.98 2372846.23 0.0265 0.0060 1799-01-12 21:07 G 2378143.15 2378143.38 2378143.62 0.0295 0.0044 Saturn 1800-11-09 00:57 G 2378808.38 2378808.54 2378808.69 0.1810 0.1050 Mars Jupiter 1806-06-25 17:02 G 2380863.02 2380863.21 2380863.42 0.0510 0.0282 Jupiter 1811-12-23 20:24 G 2382870.21 2382870.35 2382870.50 0.0518 0.0396 Uranus 1813-05-17 06:57 G 2383380.70 2383380.79 2383380.90 0.0142 0.0130 1814-05-22 05:02 G 2383750.54 2383750.71 2383750.92 0.0141 0.0096 Uranus Saturn 1814-07-20 21:35 G 2383810.37 2383810.40 2383810.43 0.0267 0.0264 Uranus 1815-05-27 02:52 G 2384120.40 2384120.62 2384120.86 0.0141 0.0063 1816-05-31 00:14 G 2384490.26 2384490.51 2384490.76 0.0140 0.0029 Uranus

Uranus 1817-06-04 20:52 G 2384860	0.11 2384860.37 2384860.63 0.0140 0.0005
Uranus 1818-06-09 16:33 G 2385229	0.95 2385230.19 2385230.45 0.0139 0.0038
Jupiter 1818-06-30 13:40 G 2385250	83 2385251.07 2385251.31 0.0512 0.0027
Uranus 1819-06-14 11:31 G 2385599	0.78 2385599.98 2385600.22 0.0139 0.0071
Uranus 1820-06-18 05:45 G 2385969	0.59 2385969.74 2385969.94 0.0138 0.0103
Uranus 1821-06-22 23:31 G 2386339	0.44 2386339.48 2386339.57 0.0138 0.0133
Jupiter 1823-12-28 12:57 G 2387257	82 2387258.04 2387258.26 0.0516 0.0140
Saturn 1828-01-08 00:43 G 2388729	.49 2388729.53 2388729.59 0.0295 0.0287
Jupiter 1830-07-05 11:45 G 2389638	78 2389638.99 2389639.20 0.0514 0.0232
Neptune 1835-07-26 03:07 G 239148	5.57 2391485.63 2391485.76 0.0089 0.0083
Jupiter 1836-01-02 04:04 G 2391645	44 2391645.67 2391645.89 0.0514 0.0113
Neptune 1836-07-27 16:33 G 239185	3.02 2391853.19 2391853.41 0.0089 0.0059
Neptune 1837-07-30 06:00 G 239222	0.52 2392220.75 2392221.00 0.0089 0.0035
Neptune 1838-08-01 19:11 G 239258	8.04 2392588.30 2392588.56 0.0089 0.0011
Neptune 1839-08-04 08:24 G 239295	5.59 2392955.85 2392956.11 0.0089 0.0013
Neptune 1840-08-05 21:07 G 239332	3.16 2393323.38 2393323.64 0.0089 0.0038
Neptune 1841-08-08 10:33 G 239369	0.76 2393690.94 2393691.14 0.0089 0.0061
Jupiter 1842-07-10 12:28 G 2394026	96 2394027.02 2394027.07 0.0516 0.0500
Neptune 1842-08-10 23:31 G 239405	8.43 2394058.48 2394058.58 0.0089 0.0085
Saturn 1843-07-15 17:16 G 2394396	.97 2394397.22 2394397.47 0.0266 0.0007
Jupiter 1848-01-06 15:21 G 2396032	98 2396033.14 2396033.31 0.0512 0.0354
Uranus 1857-11-19 12:28 G 2399637	7.90 2399638.02 2399638.17 0.0137 0.0115
Saturn 1858-01-15 06:14 G 2399694	.55 2399694.76 2399694.99 0.0294 0.0129
Uranus 1858-11-23 23:02 G 2400007	7.28 2400007.46 2400007.67 0.0137 0.0085
Uranus 1859-11-28 10:04 G 2400376	5.70 2400376.92 2400377.15 0.0138 0.0055
Uranus 1860-12-01 21:21 G 2400740	5.15 2400746.39 2400746.65 0.0138 0.0025
Uranus 1861-12-06 09:21 G 2401115	6.64 2401115.89 2401116.14 0.0139 0.0007
Uranus 1862-12-10 21:35 G 240148	5.17 2401485.40 2401485.65 0.0139 0.0039
Uranus 1863-12-15 10:48 G 2401854	1.74 2401854.95 2401855.17 0.0140 0.0071
Uranus 1864-12-19 00:14 G 2402224	1.36 2402224.51 2402224.69 0.0140 0.0103

1865-12-23 14:24 G 2402594.05 2402594.10 2402594.19 0.0141 0.0135 Uranus 1872-07-09 23:02 G 2404984.34 2404984.46 2404984.60 0.0266 0.0227 Saturn Mars 1879-11-12 19:55 G 2407666.17 2407666.33 2407666.49 0.1804 0.0963 1887-01-09 13:40 G 2410280.90 2410281.07 2410281.26 0.0295 0.0194 Saturn Jupiter 1889-06-24 19:11 G 2411178.12 2411178.30 2411178.48 0.0510 0.0327 Jupiter 1894-12-23 01:26 G 2413185.45 2413185.56 2413185.69 0.0519 0.0438 1897-05-17 17:31 G 2414062.12 2414062.23 2414062.36 0.0142 0.0125 **Uranus** 1898-05-22 15:50 G 2414431.98 2414432.16 2414432.37 0.0141 0.0092 Uranus 1899-05-27 13:40 G 2414801.85 2414802.07 2414802.32 0.0141 0.0058 Uranus 1900-06-01 11:16 G 2415171.71 2415171.97 2415172.22 0.0140 0.0024 Uranus Uranus 1901-06-06 07:55 G 2415541.58 2415541.83 2415542.09 0.0140 0.0010 1901-06-30 17:02 G 2415565.97 2415566.21 2415566.44 0.0512 0.0072 Jupiter Uranus 1902-06-11 03:35 G 2415911.41 2415911.65 2415911.90 0.0139 0.0043 1902-07-18 01:11 G 2415948.32 2415948.55 2415948.79 0.0266 0.0081 Saturn Uranus 1903-06-15 22:33 G 2416281.24 2416281.44 2416281.68 0.0139 0.0076 **Uranus** 1904-06-19 17:02 G 2416651.06 2416651.21 2416651.39 0.0138 0.0107 Mars 1905-05-08 20:09 G 2416974.16 2416974.34 2416974.51 0.1717 0.0774 Uranus 1905-06-24 10:48 G 2417020.95 2417020.95 2417020.98 0.0138 0.0138 Jupiter 1906-12-28 15:07 G 2417572.92 2417573.13 2417573.35 0.0516 0.0187 Jupiter 1913-07-05 14:38 G 2419953.90 2419954.11 2419954.34 0.0514 0.0189 Saturn 1917-01-17 18:43 G 2421246.14 2421246.28 2421246.45 0.0294 0.0220 Neptune 1917-01-24 00:14 G 2421252.42 2421252.51 2421252.66 0.0089 0.0078 Neptune 1918-01-26 10:33 G 2421619.77 2421619.94 2421620.17 0.0089 0.0055 Jupiter 1919-01-02 05:02 G 2421960.49 2421960.71 2421960.94 0.0515 0.0063 Neptune 1919-01-28 21:21 G 2421987.16 2421987.39 2421987.64 0.0089 0.0031 Neptune 1920-01-31 07:40 G 2422354.57 2422354.82 2422355.07 0.0089 0.0008 Neptune 1921-02-01 17:45 G 2422722.00 2422722.24 2422722.50 0.0089 0.0016 Neptune 1922-02-04 03:50 G 2423089.45 2423089.66 2423089.90 0.0089 0.0039 Neptune 1923-02-06 13:55 G 2423456.92 2423457.08 2423457.28 0.0089 0.0062 Neptune 1924-02-08 23:45 G 2423824.45 2423824.49 2423824.59 0.0089 0.0085

Jupiter 1925-07-10 10:04 G 2424341.80 2424341.92 2424342.05 0.0515 0.0440 Pluto 1930-01-09 11:31 G 2425985.94 2425985.98 2425986.08 0.0065 0.0062 Jupiter 1931-01-06 17:45 G 2426348.05 2426348.24 2426348.42 0.0513 0.0304 1931-01-10 23:16 G 2426352.27 2426352.47 2426352.71 0.0065 0.0032 Pluto Saturn 1931-07-13 07:40 G 2426535.62 2426535.82 2426536.03 0.0266 0.0153 **Uranus** 1941-11-21 00:28 G 2430319.39 2430319.52 2430319.68 0.0137 0.0110 1942-11-25 11:02 G 2430688.76 2430688.96 2430689.17 0.0137 0.0081 Uranus 1943-11-29 21:50 G 2431058.18 2431058.41 2431058.65 0.0138 0.0050 Uranus Uranus 1944-12-03 09:07 G 2431427.64 2431427.88 2431428.13 0.0138 0.0020 1945-12-07 20:52 G 2431797.12 2431797.37 2431797.62 0.0139 0.0012 Uranus 1946-01-12 05:31 G 2431832.51 2431832.73 2431832.96 0.0294 0.0093 Saturn **Uranus** 1946-12-12 09:07 G 2432166.65 2432166.88 2432167.13 0.0139 0.0044 Uranus 1947-12-16 22:04 G 2432536.22 2432536.42 2432536.64 0.0140 0.0076 1948-12-20 11:45 G 2432905.84 2432905.99 2432906.16 0.0140 0.0108 Uranus Uranus 1949-12-25 02:09 G 2433275.56 2433275.59 2433275.63 0.0141 0.0139 Saturn 1961-07-19 11:02 G 2437499.77 2437499.96 2437500.17 0.0266 0.0157 1972-06-24 21:21 G 2441493.24 2441493.39 2441493.56 0.0509 0.0369 Jupiter Jupiter 1977-12-23 00:14 G 2443500.45 2443500.51 2443500.59 0.0519 0.0493 Uranus 1981-05-19 03:35 G 2444743.54 2444743.65 2444743.81 0.0142 0.0121 1982-05-24 02:24 G 2445113.40 2445113.60 2445113.81 0.0141 0.0086 Uranus Uranus 1983-05-29 00:14 G 2445483.28 2445483.51 2445483.76 0.0141 0.0053 1984-05-11 08:38 G 2445831.69 2445831.86 2445832.03 0.1722 0.0851 Mars Uranus 1984-06-01 21:50 G 2445853.16 2445853.41 2445853.67 0.0140 0.0018 Jupiter 1984-06-29 16:04 G 2445880.94 2445881.17 2445881.40 0.0510 0.0125 Uranus 1985-06-06 18:28 G 2446223.02 2446223.27 2446223.53 0.0140 0.0016 Uranus 1986-06-11 14:09 G 2446592.86 2446593.09 2446593.34 0.0139 0.0049 1987-06-16 09:07 G 2446962.69 2446962.88 2446963.11 0.0139 0.0081 Uranus Uranus 1988-06-20 03:21 G 2447332.52 2447332.64 2447332.82 0.0138 0.0113 Jupiter 1989-12-27 13:55 G 2447887.89 2447888.08 2447888.29 0.0518 0.0247 Saturn 1990-07-14 17:31 G 2448086.99 2448087.23 2448087.47 0.0266 0.0077

## 3RD MILLENNIUM CE

This is a list of transits of Earth in the 3rd millennium CE.

FROM MAX- C START MAX END SUNRAD DEPTH S

TRANSIT

TIME

2001-07-30 11:16 G 2452120.76 2452120.97 2452121.20 0.0089 0.0048 2002-01-01 05:45 G 2452275.51 2452275.74 2452275.97 0.0516 0.0007 Neptune 2002-08-02 00:43 G 2452488.28 2452488.53 2452488.78 0.0089 0.0024 2003-08-04 13:40 G 2452855.81 2452856.07 2452856.33 0.0089 0.0000 Neptune 2004-08-06 02:38 G 2453223.37 2453223.61 2453223.87 0.0089 0.0024 Neptune Saturn 2005-01-13 22:48 G 2453384.21 2453384.45 2453384.70 0.0294 0.0012 Neptune 2005-08-08 15:35 G 2453590.94 2453591.15 2453591.39 0.0089 0.0047 2006-08-11 04:33 G 2453958.55 2453958.69 2453958.87 0.0089 0.0071 Neptune 2008-07-09 07:26 G 2454656.65 2454656.81 2454656.97 0.0515 0.0382 Jupiter 2014-01-05 20:52 G 2456663.18 2456663.37 2456663.57 0.0513 0.0256 Pluto 2018-07-12 09:50 G 2458311.71 2458311.91 2458312.11 0.0079 0.0051 2020-07-20 22:19 G 2459051.31 2459051.43 2459051.54 0.0266 0.0236 Saturn **Uranus** 2024-11-17 02:09 G 2460631.56 2460631.59 2460631.65 0.0136 0.0133 2025-11-21 12:00 G 2461000.85 2461001.00 2461001.17 0.0137 0.0105 **Uranus** Jupiter 2026-01-10 08:24 G 2461050.80 2461050.85 2461050.91 0.0511 0.0493 **Uranus** 2026-11-25 22:04 G 2461370.23 2461370.42 2461370.65 0.0137 0.0076 Uranus 2027-11-30 09:07 G 2461739.64 2461739.88 2461740.12 0.0138 0.0045

Uranus	2028-12-03 20:09 G	2462109.09	2462109.34	2462109.59 0.0138 0.0014
Uranus	2029-12-08 07:55 G	2462478.58	2462478.83	2462479.08 0.0139 0.0017
Uranus	2030-12-12 20:09 G	2462848.11	2462848.34	2462848.58 0.0139 0.0049
Uranus	2031-12-17 08:52 G	2463217.68	2463217.87	2463218.09 0.0140 0.0081
Uranus	2032-12-20 22:33 G	2463587.31	2463587.44	2463587.60 0.0140 0.0113
Saturn	2049-07-16 03:35 G	2469638.40	2469638.65	2469638.90 0.0266 0.0003
Jupiter	2055-06-24 19:26 G	2471808.19	2471808.31	2471808.45 0.0508 0.0422
Saturn	2064-01-16 17:02 G	2474935.98	2474936.21	2474936.43 0.0294 0.0115
Uranus	2065-05-19 16:04 G	2475425.02	2475425.17	2475425.32 0.0142 0.0114
Uranus	2066-05-24 14:24 G	2475794.90	2475795.10	2475795.32 0.0141 0.0081
Uranus	2067-05-29 12:14 G	2476164.78	2476165.01	2476165.26 0.0141 0.0047
Jupiter	2067-06-29 12:14 G	2476195.79	2476196.01	2476196.23 0.0510 0.0182
Uranus	2068-06-02 09:50 G	2476534.65	2476534.91	2476535.17 0.0140 0.0012
Uranus	2069-06-07 06:28 G	2476904.52	2476904.77	2476905.03 0.0140 0.0021
Uranus	2070-06-12 01:55 G	2477274.36	2477274.58	2477274.83 0.0139 0.0055
Uranus	2071-06-16 21:21 G	2477644.19	2477644.39	2477644.60 0.0139 0.0086
Uranus	2072-06-20 15:35 G	2478014.03	2478014.15	2478014.30 0.0138 0.0118
Jupiter	2072-12-26 17:31 G	2478203.04	2478203.23	2478203.42 0.0518 0.0292
Saturn	2078-07-11 03:21 G	2480225.56	2480225.64	2480225.75 0.0265 0.0245
Jupiter	2079-07-04 09:50 G	2480583.68	2480583.91	2480584.15 0.0512 0.0074
Neptune	2082-01-25 19:40 G	2481520.17	2481520.32	2481520.50 0.0089 0.0067
Neptune	2083-01-28 05:45 G	2481887.53	2481887.74	2481887.97 0.0089 0.0044
Neptune	2084-01-30 16:04 G	2482254.93	2482255.17	2482255.42 0.0089 0.0021
Mars	2084-11-10 06:00 G	2482539.59	2482539.75	2482539.92 0.1818 0.0951
Jupiter	2084-12-31 07:26 G	2482590.58	2482590.81	2482591.04 0.0516 0.0042
Neptune	2085-02-01 02:09 G	2482622.34	2482622.59	2482622.85 0.0089 0.0003
Neptune	2086-02-03 12:28 G	i 2482989.78	2482990.02	2482990.27 0.0089 0.0025
Neptune	2087-02-05 22:33 G	2483357.24	2483357.44	2483357.66 0.0089 0.0048
Neptune	2088-02-08 08:24 G	i 2483724.72	2483724.85	2483725.02 0.0089 0.0071
Jupiter	2091-07-09 08:52 G	2484971.69	2484971.87	2484972.05 0.0514 0.0335

Saturn	2093-01-09 17:45 G	2485522.10	2485522.24	2485522.41 0.0295 0.0224
Jupiter	2097-01-04 20:38 G	2486978.15	2486978.36	2486978.57 0.0514 0.0203
Saturn	2108-07-18 13:26 G	2491189.82	2491190.06	2491190.30 0.0266 0.0077
Uranus	2108-11-18 15:07 G	2491313.07	2491313.13	2491313.23 0.0136 0.0129
Jupiter	2109-01-10 07:26 G	2491365.70	2491365.81	2491365.93 0.0512 0.0436
Uranus	2109-11-23 01:11 G	2491682.39	2491682.55	2491682.73 0.0137 0.0099
Uranus	2110-11-27 11:16 G	2492051.77	2492051.97	2492052.20 0.0137 0.0070
Uranus	2111-12-01 21:50 G	2492421.18	2492421.41	2492421.66 0.0138 0.0040
Uranus	2112-12-05 09:21 G	2492790.64	2492790.89	2492791.14 0.0138 0.0008
Uranus	2113-12-09 21:07 G	2493160.13	2493160.38	2493160.62 0.0139 0.0023
Uranus	2114-12-14 09:07 G	2493529.66	2493529.88	2493530.12 0.0139 0.0055
Uranus	2115-12-18 22:04 G	2493899.24	2493899.42	2493899.63 0.0140 0.0087
Uranus	2116-12-22 11:45 G	2494268.87	2494268.99	2494269.14 0.0140 0.0118
Saturn	2123-01-19 08:38 G	2496487.70	2496487.86	2496488.03 0.0294 0.0213
Saturn	2137-07-13 13:26 G	2501776.88	2501777.06	2501777.26 0.0265 0.0169
Jupiter	2138-06-24 17:45 G	2502123.16	2502123.24	2502123.33 0.0508 0.0472
Uranus	2148-05-16 06:14 G	2505736.76	2505736.76	2505736.78 0.0142 0.0142
Uranus	2149-05-21 05:02 G	2506106.57	2506106.71	2506106.90 0.0142 0.0109
Uranus	2150-05-26 03:35 G	2506476.45	2506476.65	2506476.88 0.0141 0.0075
Jupiter	2150-06-29 14:38 G	2506510.90	2506511.11	2506511.33 0.0510 0.0224
Uranus	2151-05-31 01:55 G	2506846.33	2506846.58	2506846.83 0.0141 0.0040
Saturn	2152-01-13 08:38 G	2507073.64	2507073.86	2507074.07 0.0295 0.0127
Uranus	2152-06-03 23:16 G	2507216.21	2507216.47	2507216.72 0.0140 0.0007
Uranus	2153-06-08 19:26 G	2507586.07	2507586.31	2507586.57 0.0140 0.0028
Uranus	2154-06-13 15:07 G	2507955.91	2507956.13	2507956.37 0.0139 0.0060
Uranus	2155-06-18 10:04 G	2508325.74	2508325.92	2508326.13 0.0139 0.0093
Jupiter	2155-12-27 17:45 G	2508518.07	2508518.24	2508518.41 0.0518 0.0342
Uranus	2156-06-22 04:19 G	2508695.58	2508695.68	2508695.81 0.0138 0.0124
Jupiter	2162-07-04 11:31 G	2510898.75	2510898.98	2510899.22 0.0511 0.0027
Mars	2163-11-15 03:21 G	2511397.49	2511397.64	2511397.78 0.1812 0.1140

Neptune 2164-07-28 01:40 G 2511653.52 2511653.57 2511653.67 0.0088 0.0085 Neptune 2165-07-30 15:35 G 2512020.96 2512021.15 2512021.34 0.0089 0.0061 Neptune 2166-08-02 04:19 G 2512388.45 2512388.68 2512388.93 0.0089 0.0038 2167-07-20 21:07 G 2512741.19 2512741.38 2512741.60 0.0266 0.0150 Saturn Neptune 2167-08-04 17:45 G 2512755.99 2512756.24 2512756.50 0.0089 0.0014 Jupiter 2168-01-01 06:14 G 2512905.54 2512905.76 2512905.99 0.0517 0.0100 Neptune 2168-08-06 06:57 G 2513123.53 2513123.79 2513124.05 0.0089 0.0009 Neptune 2169-08-08 19:55 G 2513491.09 2513491.33 2513491.58 0.0089 0.0033 Neptune 2170-08-11 09:07 G 2513858.68 2513858.88 2513859.09 0.0089 0.0056 Neptune 2171-08-13 21:50 G 2514226.32 2514226.41 2514226.55 0.0089 0.0080 Jupiter 2174-07-09 07:26 G 2515286.62 2515286.81 2515287.01 0.0513 0.0279 Pluto 2178-01-12 02:24 G 2516569.48 2516569.60 2516569.77 0.0065 0.0053 Pluto 2179-01-13 13:26 G 2516935.89 2516936.06 2516936.28 0.0065 0.0041 Jupiter 2180-01-05 21:50 G 2517293.19 2517293.41 2517293.63 0.0515 0.0149 Mars 2189-05-10 11:16 G 2520705.78 2520705.97 2520706.16 0.1711 0.0380 Jupiter 2192-01-10 13:55 G 2521680.94 2521681.08 2521681.23 0.0512 0.0397 Uranus 2192-11-19 03:07 G 2521994.55 2521994.63 2521994.76 0.0136 0.0124 Uranus 2193-11-23 13:11 G 2522363.88 2522364.05 2522364.24 0.0137 0.0094 Uranus 2194-11-27 23:02 G 2522733.25 2522733.46 2522733.70 0.0137 0.0065 Uranus 2195-12-02 09:50 G 2523102.67 2523102.91 2523103.16 0.0138 0.0034 Saturn 2196-07-14 21:50 G 2523328.19 2523328.41 2523328.66 0.0265 0.0097 Uranus 2196-12-05 20:52 G 2523472.12 2523472.37 2523472.62 0.0138 0.0003 Uranus 2197-12-10 08:24 G 2523841.62 2523841.85 2523842.11 0.0139 0.0029 Uranus 2198-12-14 20:52 G 2524211.15 2524211.37 2524211.61 0.0139 0.0060 Uranus 2199-12-19 09:50 G 2524580.73 2524580.91 2524581.11 0.0140 0.0092 Uranus 2200-12-23 23:31 G 2524950.38 2524950.48 2524950.61 0.0140 0.0123 2211-01-15 19:11 G 2528625.06 2528625.30 2528625.54 0.0295 0.0040 Saturn Saturn 2226-07-23 03:21 G 2534292.51 2534292.64 2534292.79 0.0266 0.0217 Uranus 2232-05-17 20:52 G 2536418.31 2536418.37 2536418.45 0.0142 0.0137 Uranus 2233-05-22 20:09 G 2536788.16 2536788.34 2536788.52 0.0142 0.0102

Jupiter 2233-06-29 16:48 G 2536826.00 2536826.20 2536826.40 0.0509 0.0268
Uranus 2234-05-27 18:28 G 2537158.06 2537158.27 2537158.51 0.0141 0.0068
Uranus 2235-06-01 16:19 G 2537527.94 2537528.18 2537528.44 0.0141 0.0034
Uranus 2236-06-05 13:40 G 2537897.82 2537898.07 2537898.33 0.0140 0.0002
Uranus 2237-06-10 10:04 G 2538267.68 2538267.92 2538268.18 0.0140 0.0034
Uranus 2238-06-15 05:45 G 2538637.52 2538637.74 2538637.97 0.0139 0.0067
Jupiter 2238-12-27 19:40 G 2538833.17 2538833.32 2538833.47 0.0519 0.0392
Uranus 2239-06-20 00:28 G 2539007.36 2539007.52 2539007.72 0.0139 0.0099
Uranus 2240-06-23 18:57 G 2539377.22 2539377.29 2539377.39 0.0138 0.0130
Jupiter 2245-07-04 08:24 G 2541213.62 2541213.85 2541214.09 0.0511 0.0029
Neptune 2246-01-27 04:04 G 2541420.56 2541420.67 2541420.79 0.0089 0.0079
Neptune 2247-01-29 13:55 G 2541787.91 2541788.08 2541788.30 0.0089 0.0057
Neptune 2248-02-01 00:14 G 2542155.28 2542155.51 2542155.75 0.0089 0.0034
Neptune 2249-02-02 10:33 G 2542522.69 2542522.94 2542523.19 0.0089 0.0011
Neptune 2250-02-04 20:38 G 2542890.11 2542890.36 2542890.61 0.0089 0.0012
Jupiter 2251-01-01 14:24 G 2543220.88 2543221.10 2543221.32 0.0517 0.0133
Neptune 2251-02-07 06:28 G 2543257.55 2543257.77 2543258.02 0.0089 0.0035
Neptune 2252-02-09 17:02 G 2543625.02 2543625.21 2543625.40 0.0089 0.0057
Neptune 2253-02-11 02:38 G 2543992.53 2543992.61 2543992.74 0.0089 0.0080
Saturn 2255-07-18 04:19 G 2544879.43 2544879.68 2544879.93 0.0265 0.0028
Jupiter 2257-07-09 06:57 G 2545601.58 2545601.79 2545602.00 0.0513 0.0229
Jupiter 2263-01-06 05:31 G 2547608.50 2547608.73 2547608.95 0.0515 0.0115
Pluto 2266-07-16 00:00 G 2548895.28 2548895.50 2548895.75 0.0079 0.0035
Mars 2268-05-13 22:48 G 2549563.32 2549563.45 2549563.59 0.1716 0.1204
Jupiter 2269-07-14 07:26 G 2549989.75 2549989.81 2549989.89 0.0515 0.0491
Saturn 2270-01-17 02:38 G 2550176.37 2550176.61 2550176.85 0.0295 0.0039
Jupiter 2275-01-10 18:28 G 2551996.12 2551996.27 2551996.44 0.0513 0.0356
Uranus 2276-11-20 16:19 G 2552676.08 2552676.18 2552676.32 0.0136 0.0119
Uranus 2277-11-25 02:09 G 2553045.41 2553045.59 2553045.79 0.0137 0.0089
Uranus 2278-11-29 12:14 G 2553414.79 2553415.01 2553415.24 0.0137 0.0059

Uranus	2279-12-03 22:48 G	2553784.21	2553784.45	2553784.70 0.0138 0.0029
Uranus	2280-12-07 09:50 G	2554153.66	2554153.91	2554154.16 0.0138 0.0003
Uranus	2281-12-11 21:35 G	2554523.16	2554523.40	2554523.65 0.0139 0.0034
Uranus	2282-12-16 09:50 G	2554892.70	2554892.91	2554893.14 0.0139 0.0065
Uranus	2283-12-20 22:48 G	2555262.28	2555262.45	2555262.64 0.0140 0.0097
Uranus	2284-12-24 12:28 G	2555631.94	2555632.02	2555632.13 0.0140 0.0129
Saturn	2299-01-11 09:35 G	2560762.84	2560762.90	2560762.97 0.0295 0.0282
Saturn	2314-07-20 08:24 G	2566430.60	2566430.85	2566431.10 0.0265 0.0035
Uranus	2316-05-19 10:48 G	2567099.88	2567099.95	2567100.07 0.0142 0.0132
Jupiter	2316-06-29 17:16 G	2567141.04	2567141.22	2567141.42 0.0509 0.0312
Uranus	2317-05-24 10:19 G	2567469.75	2567469.93	2567470.12 0.0142 0.0097
Uranus	2318-05-29 08:38 G	2567839.64	2567839.86	2567840.10 0.0141 0.0063
Uranus	2319-06-03 06:43 G	2568209.53	2568209.78	2568210.03 0.0141 0.0028
Uranus	2320-06-07 04:04 G	2568579.41	2568579.67	2568579.92 0.0140 0.0006
Uranus	2321-06-12 00:00 G	2568949.27	2568949.50	2568949.76 0.0140 0.0040
Jupiter	2321-12-28 05:02 G	2569148.59	2569148.71	2569148.85 0.0519 0.0420
Uranus	2322-06-16 19:40 G	2569319.12	2569319.32	2569319.56 0.0139 0.0073
Uranus	2323-06-21 14:38 G	2569688.97	2569689.11	2569689.30 0.0139 0.0105
Uranus	2324-06-25 09:07 G	2570058.85	2570058.88	2570058.95 0.0138 0.0136
Jupiter	2328-07-04 16:04 G	2571528.94	2571529.17	2571529.41 0.0511 0.0060
Saturn	2329-01-19 05:45 G	2571727.52	2571727.74	2571727.97 0.0295 0.0109
Neptune	2329-07-31 18:00 G	2571921.13	2571921.25	2571921.41 0.0088 0.0075
Neptune	2330-08-03 07:26 G	2572288.62	2572288.81	2572289.04 0.0089 0.0052
Neptune	2331-08-05 20:38 G	2572656.13	2572656.36	2572656.63 0.0089 0.0029
Neptune	2332-08-07 10:04 G	2573023.66	2573023.92	2573024.19 0.0089 0.0005
Neptune	2333-08-09 23:02 G	2573391.22	2573391.46	2573391.73 0.0089 0.0019
Jupiter	2334-01-01 21:07 G	2573536.16	2573536.38	2573536.60 0.0517 0.0168
Neptune	2334-08-12 12:00 G	2573758.79	2573759.00	2573759.25 0.0089 0.0042
Neptune	2335-08-15 01:11 G	2574126.39	2574126.55	2574126.74 0.0089 0.0065
Neptune	2336-08-16 14:09 G	2574494.08	2574494.09	2574494.14 0.0089 0.0088

Jupiter	2340-07-09 14:38 G	2575916.90	2575917.11	2575917.34 0.0513 0.0196
Saturn	2343-07-15 05:31 G	2577017.59	2577017.73	2577017.88 0.0265 0.0215
Jupiter	2346-01-06 09:50 G	2577923.68	2577923.91	2577924.14 0.0515 0.0072
Jupiter	2352-07-14 12:14 G	2580304.91	2580305.01	2580305.13 0.0515 0.0450
Jupiter	2358-01-11 01:11 G	2582311.38	2582311.55	2582311.74 0.0514 0.0318
Saturn	2358-01-13 11:16 G	2582313.80	2582313.97	2582314.13 0.0295 0.0216
Uranus	2360-11-22 04:48 G	2583357.56	2583357.70	2583357.83 0.0136 0.0114
Uranus	2361-11-26 13:55 G	2583726.89	2583727.08	2583727.29 0.0137 0.0085
Uranus	2362-11-30 23:31 G	2584096.27	2584096.48	2584096.73 0.0137 0.0056
Uranus	2363-12-05 10:19 G	2584465.69	2584465.93	2584466.18 0.0138 0.0024
Uranus	2364-12-08 21:21 G	2584835.14	2584835.39	2584835.64 0.0138 0.0007
Uranus	2365-12-13 08:38 G	2585204.63	2585204.86	2585205.11 0.0139 0.0039
Uranus	2366-12-17 20:52 G	2585574.17	2585574.37	2585574.60 0.0139 0.0070
Uranus	2367-12-22 10:04 G	2585943.76	2585943.92	2585944.10 0.0140 0.0102
Mars	2368-11-13 09:21 G	2586270.72	2586270.89	2586271.06 0.1826 0.0902
Uranus	2368-12-25 23:45 G	2586313.43	2586313.49	2586313.58 0.0140 0.0133
Saturn	2373-07-21 10:33 G	2587981.71	2587981.94	2587982.18 0.0265 0.0095
Saturn	2388-01-21 05:45 G	2593278.55	2593278.74	2593278.94 0.0295 0.0171
Mars	2394-05-10 14:38 G	2595580.04	2595580.11	2595580.19 0.1699 0.1547
Jupiter	2399-06-30 03:21 G	2597456.47	2597456.64	2597456.82 0.0508 0.0337
Uranus	2400-05-19 23:16 G	2597781.37	2597781.47	2597781.59 0.0142 0.0127
Uranus	2401-05-24 22:19 G	2598151.24	2598151.43	2598151.63 0.0142 0.0092
Uranus	2402-05-29 21:07 G	2598521.15	2598521.38	2598521.62 0.0141 0.0058
Saturn	2402-07-16 06:00 G	2598568.56	2598568.75	2598568.95 0.0265 0.0159
Uranus	2403-06-03 19:11 G	2598891.05	2598891.30	2598891.56 0.0141 0.0023
Uranus	2404-06-07 16:33 G	2599260.93	2599261.19	2599261.45 0.0140 0.0011
Jupiter	2404-12-27 10:33 G	2599463.84	2599463.94	2599464.05 0.0520 0.0459
Uranus	2405-06-12 12:57 G	2599630.80	2599631.04	2599631.29 0.0140 0.0045
Uranus	2406-06-17 08:52 G	2600000.66	2600000.87	2600001.09 0.0139 0.0078
Uranus	2407-06-22 03:50 G	2600370.53	2600370.66	2600370.84 0.0139 0.0110

Neptune 2411-01-29 21:07 G 2601688.25 2601688.38 2601688.56 0.0089 0.0070 Jupiter 2411-07-04 23:31 G 2601844.24 2601844.48 2601844.71 0.0510 0.0091 Neptune 2412-02-01 07:40 G 2602055.61 2602055.82 2602056.04 0.0089 0.0047 Neptune 2413-02-02 17:45 G 2602423.00 2602423.24 2602423.49 0.0089 0.0025 Neptune 2414-02-05 03:50 G 2602790.41 2602790.66 2602790.92 0.0089 0.0003 Neptune 2415-02-07 13:55 G 2603157.84 2603158.08 2603158.33 0.0089 0.0021 Neptune 2416-02-09 23:45 G 2603525.28 2603525.49 2603525.73 0.0089 0.0044 Jupiter 2417-01-01 04:04 G 2603851.46 2603851.67 2603851.89 0.0518 0.0204 Saturn 2417-01-14 09:35 G 2603864.70 2603864.90 2603865.10 0.0295 0.0158 Neptune 2417-02-11 09:50 G 2603892.76 2603892.91 2603893.10 0.0089 0.0066 Neptune 2418-02-13 19:55 G 2604260.33 2604260.33 2604260.38 0.0089 0.0088 Jupiter 2423-07-09 15:21 G 2606231.92 2606232.14 2606232.37 0.0512 0.0150 Pluto 2426-01-15 13:40 G 2607152.96 2607153.07 2607153.25 0.0064 0.0054 2427-01-17 01:26 G 2607519.37 2607519.56 2607519.77 0.0065 0.0040 Pluto Jupiter 2429-01-05 22:48 G 2608239.22 2608239.45 2608239.68 0.0516 0.0050 Saturn 2432-07-22 11:16 G 2609532.77 2609532.97 2609533.18 0.0265 0.0151 Jupiter 2435-07-14 14:38 G 2610619.97 2610620.11 2610620.26 0.0514 0.0407 Jupiter 2441-01-10 14:09 G 2612626.91 2612627.09 2612627.28 0.0514 0.0294 Uranus 2444-11-22 17:31 G 2614039.10 2614039.23 2614039.40 0.0136 0.0110 Uranus 2445-11-27 03:07 G 2614408.44 2614408.63 2614408.84 0.0137 0.0080 Uranus 2446-12-01 12:57 G 2614777.81 2614778.04 2614778.28 0.0137 0.0050 Saturn 2447-01-22 04:04 G 2614829.53 2614829.67 2614829.83 0.0295 0.0229 2447-11-17 07:26 G 2615128.67 2615128.81 2615128.95 0.1820 0.1248 Mars Uranus 2447-12-05 23:16 G 2615147.23 2615147.47 2615147.73 0.0138 0.0020 Uranus 2448-12-09 10:19 G 2615516.69 2615516.93 2615517.19 0.0138 0.0012 Uranus 2449-12-13 21:50 G 2615886.19 2615886.41 2615886.66 0.0138 0.0044 Uranus 2450-12-18 10:04 G 2616255.72 2616255.92 2616256.14 0.0139 0.0075 Uranus 2451-12-22 23:02 G 2616625.32 2616625.46 2616625.64 0.0139 0.0107 Uranus 2452-12-26 12:57 G 2616995.02 2616995.04 2616995.09 0.0140 0.0138 2461-07-17 05:31 G 2620119.50 2620119.73 2620119.96 0.0265 0.0105 Saturn

Mars	2473-05-13 01:55 G	2624437.39	2624437.58	2624437.77 0.1704 0.0003
Saturn	2476-01-16 06:43 G	2625415.56	2625415.78	2625416.01 0.0295 0.0103
Jupiter	2482-06-29 06:00 G	2627771.60	2627771.75	2627771.91 0.0508 0.0376
Uranus	2484-05-20 11:02 G	2628462.84	2628462.96	2628463.11 0.0142 0.0122
Uranus	2485-05-25 10:19 G	2628832.74	2628832.93	2628833.14 0.0142 0.0087
Uranus	2486-05-30 08:52 G	2629202.64	2629202.87	2629203.12 0.0142 0.0053
Uranus	2487-06-04 06:57 G	2629572.54	2629572.79	2629573.05 0.0141 0.0018
Jupiter	2487-12-27 22:48 G	2629779.37	2629779.45	2629779.54 0.0521 0.0481
Uranus	2488-06-08 04:19 G	2629942.43	2629942.68	2629942.94 0.0141 0.0017
Uranus	2489-06-13 00:57 G	2630312.30	2630312.54	2630312.79 0.0140 0.0050
Uranus	2490-06-17 21:07 G	2630682.18	2630682.38	2630682.59 0.0139 0.0083
Uranus	2491-06-22 16:19 G	2631052.05	2631052.18	2631052.34 0.0139 0.0115
Saturn	2491-07-24 11:16 G	2631083.82	2631083.97	2631084.13 0.0265 0.0206
Neptune	2493-07-30 20:24 G	2631821.35	2631821.35	2631821.39 0.0088 0.0088
Jupiter	2494-07-04 02:38 G	2632159.38	2632159.61	2632159.84 0.0510 0.0130
Neptune	2494-08-02 09:35 G	2632188.75	2632188.90	2632189.10 0.0088 0.0066
Neptune	2495-08-04 22:48 G	2632556.24	2632556.45	2632556.70 0.0089 0.0043
Neptune	2496-08-06 12:28 G	2632923.77	2632924.02	2632924.29 0.0089 0.0019
Neptune	2497-08-09 01:55 G	2633291.32	2633291.58	2633291.84 0.0089 0.0004
Neptune	2498-08-11 14:52 G	2633658.89	2633659.12	2633659.39 0.0089 0.0028
Neptune	2499-08-14 04:19 G	2634026.47	2634026.68	2634026.90 0.0089 0.0050
Jupiter	2500-01-01 17:16 G	2634167.01	2634167.22	2634167.43 0.0518 0.0227
Neptune	2500-08-16 17:31 G	2634394.08	2634394.23	2634394.38 0.0089 0.0073
Saturn	2506-01-24 01:11 G	2636380.50	2636380.55	2636380.62 0.0295 0.0284
Jupiter	2506-07-10 01:40 G	2636547.35	2636547.57	2636547.81 0.0512 0.0124
Jupiter	2512-01-07 09:21 G	2638554.67	2638554.89	2638555.13 0.0516 0.0025
Pluto	2514-07-19 06:28 G	2639478.59	2639478.77	2639479.01 0.0079 0.0048
Jupiter	2518-07-15 01:55 G	2640935.42	2640935.58	2640935.74 0.0514 0.0379
Saturn	2520-07-19 04:33 G	2641670.45	2641670.69	2641670.94 0.0265 0.0052
Jupiter	2524-01-11 22:04 G	2642942.23	2642942.42	2642942.62 0.0514 0.0261

Uranus	2527-11-20 22:04 G	2644351.37	2644351.42	2644351.48 0.0136 0.0132
Uranus	2528-11-24 06:28 G	2644720.63	2644720.77	2644720.95 0.0136 0.0104
Uranus	2529-11-28 16:04 G	2645089.97	2645090.17	2645090.39 0.0136 0.0075
Uranus	2530-12-03 01:40 G	2645459.34	2645459.57	2645459.82 0.0137 0.0045
Uranus	2531-12-07 12:14 G	2645828.76	2645829.01	2645829.26 0.0137 0.0014
Uranus	2532-12-10 23:16 G	2646198.22	2646198.47	2646198.72 0.0138 0.0017
Uranus	2533-12-15 10:33 G	2646567.72	2646567.94	2646568.19 0.0138 0.0049
Uranus	2534-12-19 22:48 G	2646937.26	2646937.45	2646937.67 0.0139 0.0080
Saturn	2535-01-18 03:07 G	2646966.40	2646966.63	2646966.87 0.0295 0.0049
Uranus	2535-12-24 12:00 G	2647306.85	2647307.00	2647307.15 0.0139 0.0112
Jupiter	2536-01-16 13:11 G	2647330.01	2647330.05	2647330.10 0.0512 0.0500
Saturn	2550-07-26 11:02 G	2652634.92	2652634.96	2652635.01 0.0266 0.0260
Mars	2552-05-16 13:26 G	2653294.99	2653295.06	2653295.14 0.1709 0.1558
Jupiter	2565-06-29 16:04 G	2658087.03	2658087.17	2658087.31 0.0507 0.0401
Uranus	2568-05-21 22:04 G	2659144.28	2659144.42	2659144.58 0.0143 0.0117
Uranus	2569-05-26 21:07 G	2659514.18	2659514.38	2659514.60 0.0142 0.0082
Uranus	2570-05-31 19:55 G	2659884.10	2659884.33	2659884.59 0.0142 0.0048
Jupiter	2570-12-28 09:21 G	2660094.85	2660094.89	2660094.95 0.0521 0.0508
Uranus	2571-06-05 18:14 G	2660254.01	2660254.26	2660254.52 0.0141 0.0013
Uranus	2572-06-09 15:35 G	2660623.90	2660624.15	2660624.41 0.0141 0.0022
Uranus	2573-06-14 12:28 G	2660993.79	2660994.02	2660994.26 0.0140 0.0055
Uranus	2574-06-19 08:38 G	2661363.68	2661363.86	2661364.07 0.0140 0.0089
Neptune	2575-01-30 04:33 G	2661588.62	2661588.69	2661588.81 0.0089 0.0082
Uranus	2575-06-24 04:19 G	2661733.56	2661733.68	2661733.82 0.0139 0.0120
Neptune	2576-02-01 14:38 G	2661955.95	2661956.11	2661956.32 0.0089 0.0060
Neptune	2577-02-03 00:43 G	2662323.32	2662323.53	2662323.78 0.0089 0.0038
Jupiter	2577-07-04 13:40 G	2662474.85	2662475.07	2662475.30 0.0509 0.0154
Neptune	2578-02-05 11:16 G	2662690.72	2662690.97	2662691.22 0.0089 0.0015
Neptune	2579-02-07 21:07 G	2663058.13	2663058.38	2663058.64 0.0089 0.0008
Saturn	2579-07-21 04:19 G	2663221.43	2663221.68	2663221.93 0.0265 0.0003

Neptune	2580-02-10 07:11 G	2663425.57	2663425.80	2663426.05 0.0089 0.0030
Neptune	2581-02-11 17:02 G	2663793.02	2663793.21	2663793.43 0.0089 0.0052
Neptune	2582-02-14 03:21 G	2664160.51	2664160.64	2664160.78 0.0089 0.0074
Jupiter	2583-01-02 00:43 G	2664482.33	2664482.53	2664482.73 0.0519 0.0261
Jupiter	2589-07-09 10:33 G	2666862.71	2666862.94	2666863.17 0.0511 0.0094
Saturn	2594-01-19 00:57 G	2668517.30	2668517.54	2668517.78 0.0295 0.0009
Jupiter	2595-01-06 17:02 G	2668869.98	2668870.21	2668870.44 0.0517 0.0015
Jupiter	2601-07-15 03:35 G	2671250.48	2671250.65	2671250.83 0.0513 0.0334
Jupiter	2607-01-12 09:50 G	2673257.71	2673257.91	2673258.12 0.0515 0.0234
Saturn	2608-07-16 07:11 G	2673808.70	2673808.80	2673808.93 0.0265 0.0235
Uranus	2611-11-22 12:00 G	2675032.93	2675033.00	2675033.11 0.0136 0.0127
Uranus	2612-11-25 21:07 G	2675402.22	2675402.38	2675402.56 0.0136 0.0098
Uranus	2613-11-30 06:28 G	2675771.56	2675771.77	2675771.99 0.0137 0.0069
Uranus	2614-12-04 16:19 G	2676140.94	2676141.18	2676141.42 0.0137 0.0039
Uranus	2615-12-09 02:52 G	2676510.37	2676510.62	2676510.87 0.0137 0.0008
Uranus	2616-12-12 13:40 G	2676879.83	2676880.07	2676880.32 0.0138 0.0023
Uranus	2617-12-17 01:26 G	2677249.34	2677249.56	2677249.80 0.0138 0.0055
Uranus	2618-12-21 13:40 G	2677618.88	2677619.07	2677619.27 0.0139 0.0086
Jupiter	2619-01-17 00:57 G	2677645.46	2677645.54	2677645.63 0.0513 0.0473
Uranus	2619-12-26 02:38 G	2677988.48	2677988.61	2677988.75 0.0139 0.0118
Saturn	2638-07-23 04:48 G	2684772.45	2684772.70	2684772.94 0.0265 0.0059
Jupiter	2648-06-30 00:57 G	2688402.42	2688402.54	2688402.67 0.0507 0.0426
Uranus	2652-05-23 11:02 G	2689825.82	2689825.96	2689826.14 0.0143 0.0111
Mars	2652-11-15 11:02 G	2690001.79	2690001.96	2690002.13 0.1835 0.0890
Saturn	2653-01-21 01:40 G	2690068.34	2690068.57	2690068.81 0.0295 0.0072
Uranus	2653-05-28 10:19 G	2690195.73	2690195.93	2690196.16 0.0142 0.0076
Uranus	2654-06-02 09:21 G	2690565.65	2690565.89	2690566.14 0.0142 0.0041
Uranus	2655-06-07 07:26 G	2690935.55	2690935.81	2690936.07 0.0141 0.0006
Uranus	2656-06-11 04:48 G	2691305.46	2691305.70	2691305.96 0.0141 0.0028
Uranus	2657-06-16 01:26 G	2691675.35	2691675.56	2691675.81 0.0140 0.0062

2658-06-20 21:50 G 2692045.24 2692045.41 2692045.62 0.0140 0.0095 Uranus 2658-08-03 11:45 G 2692088.88 2692088.99 2692089.11 0.0088 0.0079 Neptune **Uranus** 2659-06-25 17:45 G 2692415.14 2692415.24 2692415.35 0.0139 0.0126 2659-08-06 00:28 G 2692456.35 2692456.75 0.0088 0.0057 Neptune 2692456.52 2660-07-04 16:33 G 2692789.97 2692790.19 2692790.41 0.0508 0.0195 Jupiter Neptune 2660-08-07 13:55 G 2692823.85 2692824.08 2692824.34 0.0089 0.0034 2661-08-10 03:35 G 2693191.39 Neptune 2693191.65 2693191.91 0.0089 0.0011 2662-08-12 16:48 G 2693558.95 2693559.20 2693559.46 0.0089 0.0012 Neptune Neptune 2663-08-15 05:45 G 2693926.51 2693926.74 2693926.99 0.0089 0.0036 2664-08-16 19:11 G 2694294.11 2694294.50 0.0089 0.0058 Neptune 2694294.30 Neptune 2665-08-19 08:09 G 2694661.75 2694661.84 2694661.96 0.0089 0.0081 2666-01-02 08:52 G 2694797.69 2694797.87 2694798.06 0.0520 0.0295 Jupiter Saturn 2667-07-18 08:38 G 2695359.68 2695359.86 2695360.05 0.0266 0.0177 2672-07-09 12:43 G 2697177.79 Jupiter 2697178.03 2697178.26 0.0510 0.0050 2674-01-18 22:19 G 2697736.42 2697736.43 2697736.49 0.0064 0.0064 Pluto Pluto 2675-01-20 09:50 G 2698102.69 2698102.91 2698103.14 0.0065 0.0029 Jupiter 2678-01-07 02:38 G 2699185.38 2699185.61 2699185.84 0.0518 0.0045 2678-05-13 08:09 G 2699311.69 2699311.84 2699311.98 0.1693 0.1110 Mars Saturn 2682-01-15 01:26 G 2700654.46 2700654.56 2700654.67 0.0295 0.0263 2684-07-14 10:33 G 2701565.75 2701565.94 2701566.13 0.0513 0.0299 Jupiter Jupiter 2690-01-11 18:43 G 2703573.07 2703573.28 2703573.49 0.0515 0.0201 2695-11-23 02:09 G 2705714.50 2705714.59 2705714.72 0.0136 0.0122 Uranus 2696-11-26 11:16 G 2706083.79 2706083.97 2706084.16 0.0136 0.0093 **Uranus** 2697-07-24 06:57 G 2706323.58 2706323.79 2706324.02 0.0266 0.0120 Saturn Uranus 2697-11-30 20:24 G 2706453.14 2706453.35 2706453.59 0.0136 0.0064 2698-12-05 06:14 G 2706822.52 2706822.76 2706823.01 0.0137 0.0033 Uranus 2699-12-09 17:02 G 2707191.95 2707192.21 2707192.46 0.0137 0.0003 Uranus Uranus 2700-12-14 03:50 G 2707561.42 2707561.66 2707561.91 0.0138 0.0029 Uranus 2701-12-18 15:21 G 2707930.92 2707931.14 2707931.37 0.0138 0.0061 Jupiter 2702-01-17 06:57 G 2707960.68 2707960.79 2707960.92 0.0513 0.0436

Uranus 2702-12-23 03:35 G 2708300.47 2708300.65 2708300.84 0.0139 0.0092
Uranus 2703-12-27 16:19 G 2708670.08 2708670.18 2708670.31 0.0139 0.0124
Saturn 2712-01-24 05:31 G 2711619.52 2711619.73 2711619.94 0.0294 0.0143
Saturn 2726-07-20 11:45 G 2716910.77 2716910.99 2716911.22 0.0266 0.0115
Jupiter 2731-07-01 03:07 G 2718717.55 2718717.63 2718717.72 0.0506 0.0467
Mars 2731-11-20 09:50 G 2718859.78 2718859.91 2718860.04 0.1828 0.1315
Uranus 2735-05-21 00:28 G 2720137.49 2720137.52 2720137.60 0.0143 0.0140
Uranus 2736-05-25 00:57 G 2720507.37 2720507.54 2720507.71 0.0143 0.0105
Uranus 2737-05-29 23:45 G 2720877.28 2720877.49 2720877.73 0.0142 0.0070
Uranus 2738-06-03 22:33 G 2721247.20 2721247.44 2721247.70 0.0142 0.0036
Uranus 2739-06-08 20:52 G 2721617.12 2721617.37 2721617.63 0.0141 0.0002
Neptune 2740-02-02 20:52 G 2721856.25 2721856.37 2721856.54 0.0089 0.0073
Uranus 2740-06-12 18:28 G 2721987.02 2721987.27 2721987.52 0.0141 0.0034
Saturn 2741-01-17 09:07 G 2722205.70 2722205.88 2722206.08 0.0294 0.0183
Neptune 2741-02-04 07:11 G 2722223.62 2722223.80 2722224.03 0.0089 0.0051
Uranus 2741-06-17 15:35 G 2722356.93 2722357.15 2722357.38 0.0140 0.0068
Neptune 2742-02-06 17:31 G 2722591.00 2722591.23 2722591.49 0.0089 0.0029
Uranus 2742-06-22 11:45 G 2722726.83 2722726.99 2722727.18 0.0140 0.0101
Neptune 2743-02-09 04:04 G 2722958.42 2722958.67 2722958.93 0.0089 0.0006
Uranus 2743-06-27 07:26 G 2723096.74 2723096.81 2723096.90 0.0139 0.0132
Jupiter 2743-07-05 21:35 G 2723105.19 2723105.40 2723105.61 0.0508 0.0232
Neptune 2744-02-11 14:09 G 2723325.84 2723326.09 2723326.34 0.0089 0.0016
Neptune 2745-02-13 00:14 G 2723693.28 2723693.51 2723693.74 0.0089 0.0038
Neptune 2746-02-15 10:04 G 2724060.74 2724060.92 2724061.12 0.0089 0.0060
Neptune 2747-02-17 19:40 G 2724428.26 2724428.32 2724428.44 0.0089 0.0083
Jupiter 2749-01-02 16:19 G 2725113.01 2725113.18 2725113.36 0.0520 0.0331
Jupiter 2755-07-10 18:57 G 2727493.05 2727493.29 2727493.52 0.0510 0.0016
Saturn 2756-07-26 11:31 G 2727874.80 2727874.98 2727875.16 0.0266 0.0184
Mars 2757-05-16 18:00 G 2728169.06 2728169.25 2728169.44 0.1698 0.0396
Jupiter 2761-01-07 06:57 G 2729500.56 2729500.79 2729501.01 0.0518 0.0087

Pluto	2762-07-22 11:02 G	2730061.85	2730061.96	2730062.08 0.0079 0.0071
Jupiter	2767-07-15 16:04 G	2731880.97	2731881.17	2731881.37 0.0512 0.0262
Saturn	2771-01-25 13:11 G	2733170.90	2733171.05	2733171.21 0.0294 0.0223
Jupiter	2773-01-11 22:04 G	2733888.20	2733888.42	2733888.64 0.0516 0.0157
Jupiter	2779-07-20 10:19 G	2736268.88	2736268.93	2736268.98 0.0514 0.0500
Uranus	2779-11-24 16:48 G	2736396.08	2736396.20	2736396.34 0.0136 0.0116
Uranus	2780-11-28 01:40 G	2736765.39	2736765.57	2736765.77 0.0136 0.0087
Uranus	2781-12-02 11:02 G	2737134.74	2737134.96	2737135.20 0.0136 0.0058
Uranus	2782-12-06 21:07 G	2737504.13	2737504.38	2737504.63 0.0137 0.0027
Uranus	2783-12-11 07:40 G	2737873.57	2737873.82	2737874.08 0.0137 0.0005
Uranus	2784-12-14 18:43 G	2738243.04	2738243.28	2738243.52 0.0138 0.0035
Jupiter	2785-01-16 11:45 G	2738275.85	2738275.99	2738276.14 0.0515 0.0393
Saturn	2785-07-21 17:02 G	2738461.97	2738462.21	2738462.46 0.0266 0.0049
Uranus	2785-12-19 06:14 G	2738612.55	2738612.76	2738612.99 0.0138 0.0067
Uranus	2786-12-23 18:14 G	2738982.09	2738982.26	2738982.44 0.0139 0.0098
Uranus	2787-12-28 06:57 G	2739351.71	2739351.79	2739351.89 0.0139 0.0130
Saturn	2800-01-19 20:38 G	2743757.13	2743757.36	2743757.59 0.0294 0.0093
Jupiter	2814-06-30 07:26 G	2749032.80	2749032.81	2749032.82 0.0506 0.0505
Saturn	2815-07-28 18:00 G	2749426.19	2749426.25	2749426.33 0.0266 0.0253
Uranus	2819-05-21 16:04 G	2750819.10	2750819.17	2750819.27 0.0143 0.0134
Uranus	2820-05-25 15:35 G	2751188.99	2751189.15	2751189.36 0.0143 0.0100
Uranus	2821-05-30 15:07 G	2751558.91	2751559.13	2751559.37 0.0142 0.0065
Uranus	2822-06-04 14:24 G	2751928.84	2751929.10	2751929.35 0.0142 0.0029
Uranus	2823-06-09 12:14 G	2752298.76	2752299.01	2752299.27 0.0141 0.0006
Neptune	2823-08-06 02:52 0	2752356.48	2752356.62	2 2752356.80 0.0088 0.0070
Uranus	2824-06-13 09:50 G	2752668.67	2752668.91	2752669.17 0.0141 0.0041
Neptune	2824-08-07 15:50 0	2752723.97	2752724.16	2752724.41 0.0088 0.0048
Uranus	2825-06-18 06:57 G	2753038.58	2753038.79	2753039.02 0.0140 0.0074
Neptune	2825-08-10 05:16 0	<b>3</b> 2753091.48	2753091.72	2 2753091.99 0.0089 0.0025
Uranus	2826-06-23 03:21 G	2753408.48	2753408.64	2753408.81 0.0140 0.0107

Jupiter 2826-07-05 01:55 G 2753420.39	2753420.58 2753420.79 0.0508 0.0269
Neptune 2826-08-12 18:43 G 2753459.02	2 2753459.28 2753459.54 0.0089 0.0002
Uranus 2827-06-27 22:48 G 2753778.45	2753778.45 2753778.48 0.0139 0.0139
Neptune 2827-08-15 07:55 G 2753826.58	3 2753826.83 2753827.09 0.0089 0.0021
Neptune 2828-08-16 20:52 G 2754194.16	2754194.37 2754194.62 0.0089 0.0044
Neptune 2829-08-19 10:33 G 2754561.77	2754561.94 2754562.11 0.0089 0.0066
Neptune 2830-08-21 23:31 G 2754929.48	2754929.48 2754929.50 0.0089 0.0089
Jupiter 2832-01-02 16:48 G 2755428.05	2755428.20 2755428.36 0.0521 0.0380
Jupiter 2838-07-09 19:40 G 2757808.08	2757808.32 2757808.55 0.0509 0.0036
Jupiter 2844-01-07 07:40 G 2759815.60	2759815.82 2759816.04 0.0519 0.0139
Saturn 2844-07-23 00:00 G 2760013.25	2760013.50 2760013.75 0.0266 0.0023
Jupiter 2850-07-14 14:24 G 2762195.88	2762196.10 2762196.32 0.0511 0.0206
Jupiter 2856-01-12 00:28 G 2764203.30	2764203.52 2764203.75 0.0517 0.0106
Saturn 2859-01-21 11:31 G 2765308.74	2765308.98 2765309.22 0.0294 0.0003
Jupiter 2862-07-19 10:19 G 2766583.82	2766583.93 2766584.05 0.0513 0.0450
Uranus 2863-11-25 06:43 G 2767077.66	2767077.78 2767077.94 0.0136 0.0112
Uranus 2864-11-28 15:35 G 2767446.96	2767447.15 2767447.36 0.0136 0.0082
Uranus 2865-12-03 01:11 G 2767816.32	2767816.55 2767816.79 0.0136 0.0053
Uranus 2866-12-07 11:02 G 2768185.72	2768185.96 2768186.21 0.0137 0.0022
Uranus 2867-12-11 21:35 G 2768555.15	2768555.40 2768555.65 0.0137 0.0009
Jupiter 2868-01-16 16:19 G 2768591.02	2768591.18 2768591.35 0.0515 0.0349
Uranus 2868-12-15 08:09 G 2768924.61	2768924.84 2768925.09 0.0138 0.0041
Uranus 2869-12-19 19:55 G 2769294.11	2769294.33 2769294.54 0.0138 0.0072
Uranus 2870-12-24 07:40 G 2769663.66	2769663.82 2769663.99 0.0139 0.0103
Uranus 2871-12-28 20:24 G 2770033.29	2770033.35 2770033.41 0.0139 0.0135
Saturn 2873-07-17 21:21 G 2770600.27	2770600.39 2770600.53 0.0266 0.0225
Uranus 2903-05-23 04:04 G 2781500.58	2781500.67 2781500.79 0.0143 0.0130
Saturn 2903-07-26 08:38 G 2781564.63	2781564.86 2781565.10 0.0267 0.0097
Neptune 2904-02-03 03:35 G 2781756.59	2781756.65 2781756.73 0.0089 0.0085
Uranus 2904-05-27 04:19 G 2781870.50	2781870.68 2781870.88 0.0143 0.0095

Neptune	2905-02-04 13:11 G	2782123.90	2782124.05	2782124.26 0.0089 0.0064
Uranus	2905-06-01 03:50 G	2782240.43	2782240.66	2782240.90 0.0142 0.0060
Neptune	2906-02-06 23:45 @	2782491.29	2782491.49	2782491.74 0.0089 0.0042
Uranus	2906-06-06 02:52 G	2782610.37	2782610.62	2782610.88 0.0142 0.0024
Neptune	2907-02-09 10:04 0	2782858.69	2782858.92	2782859.18 0.0089 0.0020
Uranus	2907-06-11 01:11 G	2782980.30	2782980.55	2782980.81 0.0141 0.0011
Neptune	2908-02-11 20:38 G	2783226.10	2783226.36	2783226.61 0.0089 0.0003
Uranus	2908-06-14 23:02 G	2783350.23	2783350.46	2783350.71 0.0141 0.0046
Neptune	2909-02-13 06:14 0	2783593.53	2783593.76	2783594.02 0.0089 0.0025
Uranus	2909-06-19 20:09 G	2783720.14	2783720.34	2783720.57 0.0140 0.0079
Jupiter 2	2909-07-05 01:26 G	2783735.37	2783735.56	2783735.74 0.0506 0.0318
Neptune	2910-02-15 16:19 0	2783960.98	2783961.18	2783961.41 0.0089 0.0047
Uranus	2910-06-24 16:33 G	2784090.06	2784090.19	2784090.36 0.0140 0.0113
Neptune	2911-02-18 02:38 G	2784328.46	2784328.61	2784328.78 0.0089 0.0068
Jupiter 2	2915-01-02 16:19 G	2785743.06	2785743.18	2785743.31 0.0522 0.0437
Saturn	2918-01-24 04:19 G	2786860.45	2786860.68	2786860.90 0.0294 0.0104
Jupiter 2	2921-07-09 17:31 G	2788123.00	2788123.23	2788123.47 0.0509 0.0088
Pluto 2	923-01-23 15:50 G	2788685.91	2788686.16	2788686.42 0.0065 0.0010
Jupiter 2	2927-01-07 11:16 G	2790130.75	2790130.97	2790131.18 0.0519 0.0184
Saturn	2932-07-20 07:40 G	2792151.62	2792151.82	2792152.03 0.0266 0.0149
Jupiter 2	2933-07-14 14:24 G	2792510.87	2792511.10	2792511.33 0.0511 0.0157
Mars 2	2936-11-17 10:48 G	2793732.78	2793732.95	2793733.12 0.1843 0.0928
Jupiter 2	2939-01-12 02:09 G	2794518.36	2794518.59	2794518.81 0.0517 0.0060
Jupiter 2	2945-07-19 12:14 G	2796898.87	2796899.01	2796899.16 0.0513 0.0405
Uranus	2946-11-22 12:28 G	2797390.02	2797390.02	2797390.03 0.0135 0.0135
Saturn	2947-01-18 06:57 G	2797446.64	2797446.79	2797446.95 0.0295 0.0225
Uranus	2947-11-26 20:52 G	2797759.23	2797759.37	2797759.53 0.0135 0.0107
Uranus	2948-11-30 05:31 G	2798128.54	2798128.73	2798128.95 0.0136 0.0078
Uranus	2949-12-04 15:07 G	2798497.90	2798498.13	2798498.38 0.0136 0.0048
Uranus	2950-12-09 01:11 G	2798867.30	2798867.55	2798867.80 0.0137 0.0017

2951-01-16 15:50 G 2798905.98 2798906.16 2798906.35 0.0515 0.0297 Jupiter 2951-12-13 11:31 G 2799236.73 2799236.98 2799237.23 0.0137 0.0014 Uranus 2952-12-16 21:50 G 2799606.19 2799606.41 2799606.66 0.0138 0.0046 **Uranus** 2953-12-21 09:07 G 2799975.69 2799975.88 2799976.11 0.0138 0.0078 **Uranus** 2954-12-25 20:52 G 2800345.24 2800345.37 2800345.54 0.0139 0.0109 **Uranus** Mars 2962-05-16 02:24 G 2803043.43 2803043.60 2803043.78 0.1687 0.0656 2962-07-27 18:28 G 2803116.09 2803116.27 2803116.47 0.0267 0.0173 Saturn 2977-01-25 21:21 G 2808412.23 2808412.39 2808412.58 0.0294 0.0206 Saturn 2987-05-23 16:48 G 2812182.09 **Uranus** 2812182.20 2812182.34 0.0143 0.0126 Neptune 2987-08-06 05:16 G 2812256.65 2812256.72 2812256.83 0.0088 0.0083 2988-05-27 17:02 G 2812552.02 Uranus 2812552.21 2812552.42 0.0143 0.0090 Neptune 2988-08-07 18:28 G 2812624.09 2812624.27 2812624.47 0.0088 0.0061 Uranus 2989-06-01 16:48 G 2812921.97 2812922.20 2812922.44 0.0142 0.0055 Neptune 2989-08-10 07:11 G 2812991.59 2812991.80 2812992.06 0.0088 0.0039 2990-06-06 16:04 G 2813291.91 **Uranus** 2813292.17 2813292.42 0.0142 0.0019 Neptune 2990-08-12 20:52 G 2813359.11 2813359.37 2813359.63 0.0088 0.0016 Uranus 2991-06-11 14:24 G 2813661.84 2813662.10 2813662.36 0.0141 0.0016 2991-07-22 18:28 G 2813703.04 2813703.27 2813703.52 0.0266 0.0071 Saturn Neptune 2991-08-15 10:04 G 2813726.66 2813726.92 2813727.18 0.0089 0.0007 2992-06-15 12:14 G 2814031.78 2814032.01 2814032.26 0.0141 0.0051 **Uranus** 2992-07-04 00:14 G 2814050.34 2814050.51 2814050.67 0.0506 0.0366 Neptune 2992-08-16 22:48 G 2814094.23 2814094.45 2814094.72 0.0089 0.0030 2993-06-20 09:35 G 2814401.70 2814401.90 2814402.11 0.0140 0.0085 **Uranus** Neptune 2993-08-19 12:14 G 2814461.81 2814462.01 2814462.24 0.0089 0.0052 Uranus 2994-06-25 05:45 G 2814771.62 2814771.74 2814771.90 0.0140 0.0118 Neptune 2994-08-22 01:26 G 2814829.43 2814829.56 2814829.72 0.0089 0.0074 Jupiter 2998-01-01 18:00 G 2816058.17 2816058.25 2816058.34 0.0522 0.0482

## 4TH MILLENNIUM CE

## This is a list of transits of Earth in the 4th millennium CE.

FROM MAX- C START MAX END SUNRAD DEPTH S

TRANSIT

TIME

Jupiter 3004-07-09 19:40 G 2818438.10 2818438.32 2818438.56 0.0508 0.0129 3006-01-20 23:16 G 2818998.25 2818998.47 2818998.69 0.0295 0.0126 Saturn Jupiter 3010-01-07 10:04 G 2820445.72 2820445.92 2820446.13 0.0520 0.0237 Pluto 3011-07-27 12:14 G 2821011.86 2821012.01 2821012.23 0.0079 0.0058 3015-11-22 11:16 G 2822590.85 2822590.97 2822591.10 0.1837 0.1359 Mars Jupiter 3016-07-14 15:07 G 2822825.90 2822826.13 2822826.36 0.0510 0.0108 3021-07-30 04:33 G 2824667.61 2824667.69 2824667.79 0.0267 0.0248 Saturn Jupiter 3022-01-11 23:16 G 2824833.24 2824833.47 2824833.70 0.0518 0.0008 Jupiter 3028-07-19 10:04 G 2827213.74 2827213.92 2827214.09 0.0512 0.0348 Uranus 3030-11-24 02:24 G 2828071.55 2828071.60 2828071.68 0.0135 0.0130 Uranus 3031-11-28 11:02 G 2828440.81 2828440.96 2828441.14 0.0135 0.0102 Uranus 3032-12-01 19:40 G 2828810.12 2828810.32 2828810.55 0.0136 0.0073 Uranus 3033-12-06 05:16 G 2829179.49 2829179.72 2829179.97 0.0136 0.0043 Jupiter 3034-01-16 15:21 G 2829220.94 2829221.14 2829221.35 0.0516 0.0241 Uranus 3034-12-10 15:07 G 2829548.88 2829549.13 2829549.38 0.0137 0.0012 Uranus 3035-12-15 01:11 G 2829918.30 2829918.55 2829918.80 0.0137 0.0019 Uranus 3036-12-18 11:31 G 2830287.76 2830287.98 2830288.23 0.0138 0.0051 Uranus 3037-12-22 22:33 G 2830657.26 2830657.44 2830657.66 0.0138 0.0082 Uranus 3038-12-27 10:33 G 2831026.80 2831026.94 2831027.09 0.0139 0.0113 3041-05-19 12:00 G 2831900.83 2831901.00 2831901.17 0.1692 0.0822 Mars Jupiter 3046-01-21 08:09 G 2833608.76 2833608.84 2833608.92 0.0514 0.0480 Saturn 3050-07-25 05:16 G 2835254.47 2835254.72 2835254.97 0.0266 0.0007

Saturn	3065-01-22 14:24 G	2840549.86	2840550.10	2840550.34 0.0295 0.0030
Neptune	3069-02-04 19:40 G	2842024.21	2842024.32	2842024.47 0.0089 0.0076
Neptune	3070-02-07 06:14 G	2842391.57	2842391.76	2842391.97 0.0089 0.0054
Neptune	3071-02-09 16:19 G	2842758.97	2842759.18	2842759.44 0.0089 0.0033
Uranus	3071-05-25 02:24 G	2842863.48	2842863.60	2842863.75 0.0143 0.0121
Neptune	3072-02-12 02:52 G	2843126.38	2843126.62	2843126.88 0.0089 0.0011
Uranus	3072-05-29 02:52 G	2843233.43	2843233.62	2843233.83 0.0143 0.0086
Neptune	3073-02-13 13:11 G	2843493.80	2843494.05	2843494.31 0.0089 0.0011
Uranus	3073-06-03 02:38 G	2843603.38	2843603.61	2843603.86 0.0142 0.0050
Neptune	3074-02-15 23:31 G	2843861.25	2843861.48	2843861.72 0.0089 0.0033
Uranus	3074-06-08 01:55 G	2843973.33	2843973.58	2843973.84 0.0142 0.0015
Neptune	3075-02-18 09:07 G	2844228.70	2844228.88	2844229.10 0.0089 0.0055
Uranus	3075-06-13 00:28 G	2844343.27	2844343.52	2844343.78 0.0141 0.0021
Jupiter	3075-07-05 02:52 G	2844365.48	2844365.62	2844365.76 0.0506 0.0406
Neptune	3076-02-20 18:57 G	2844596.20	2844596.29	2844596.45 0.0089 0.0077
Uranus	3076-06-16 22:48 G	2844713.21	2844713.45	2844713.69 0.0141 0.0055
Uranus	3077-06-21 19:26 G	2845083.13	2845083.31	2845083.53 0.0140 0.0090
Uranus	3078-06-26 16:19 G	2845453.07	2845453.18	2845453.31 0.0140 0.0122
Saturn	3079-07-20 07:55 G	2845841.72	2845841.83	2845841.96 0.0266 0.0231
Jupiter	3087-07-09 19:55 G	2848753.11	2848753.33	2848753.55 0.0507 0.0176
Jupiter	3093-01-06 09:21 G	2850760.70	2850760.89	2850761.08 0.0521 0.0291
Jupiter	3099-07-14 10:48 G	2853140.72	2853140.95	2853141.19 0.0509 0.0053
Jupiter	3105-01-12 04:48 G	2855148.47	2855148.70	2855148.93 0.0519 0.0040
Saturn	3109-07-27 14:38 G	2856805.87	2856806.11	2856806.35 0.0266 0.0079
Jupiter	3111-07-20 08:09 G	2857528.65	2857528.84	2857529.03 0.0512 0.0297
Uranus	3114-11-25 16:33 G	2858753.12	2858753.19	2858753.31 0.0135 0.0125
Uranus	3115-11-30 01:11 G	2859122.39	2859122.55	2859122.74 0.0135 0.0097
Uranus	3116-12-03 10:04 G	2859491.71	2859491.92	2859492.15 0.0136 0.0067
Jupiter	3117-01-16 20:24 G	2859536.14	2859536.35	2859536.56 0.0516 0.0202
Uranus	3117-12-07 19:40 G	2859861.08	2859861.32	2859861.56 0.0136 0.0037

Uranus 3118-12-12 05:02 G 2860230.46 2860230.71 2860230.97 0.0137 0.0007
Uranus 3119-12-16 15:07 G 2860599.89 2860600.13 2860600.39 0.0137 0.0026
Uranus 3120-12-20 01:26 G 2860969.34 2860969.56 2860969.80 0.0138 0.0056
Uranus 3121-12-24 12:43 G 2861338.84 2861339.03 2861339.23 0.0138 0.0088
Uranus 3122-12-29 00:14 G 2861708.40 2861708.51 2861708.65 0.0139 0.0119
Saturn 3124-01-26 02:09 G 2862101.36 2862101.59 2862101.83 0.0295 0.0059
Jupiter 3129-01-21 10:04 G 2863923.80 2863923.92 2863924.04 0.0514 0.0435
Saturn 3138-07-22 15:35 G 2867392.96 2867393.15 2867393.35 0.0266 0.0161
Neptune 3152-08-08 21:21 G 2872524.28 2872524.39 2872524.57 0.0088 0.0074
Saturn 3153-01-19 12:57 G 2872687.92 2872688.04 2872688.17 0.0294 0.0249
Neptune 3153-08-11 10:33 G 2872891.75 2872891.94 2872892.18 0.0088 0.0052
Neptune 3154-08-13 23:31 G 2873259.25 2873259.48 2873259.75 0.0088 0.0030
Uranus 3155-05-26 14:09 G 2873544.97 2873545.09 2873545.27 0.0143 0.0117
Neptune 3155-08-16 12:57 G 2873626.78 2873627.04 2873627.31 0.0089 0.0007
Uranus 3156-05-30 15:07 G 2873914.92 2873915.13 2873915.34 0.0143 0.0080
Neptune 3156-08-18 01:55 G 2873994.33 2873994.58 2873994.85 0.0089 0.0016
Uranus 3157-06-04 14:38 G 2874284.87 2874285.11 2874285.36 0.0142 0.0045
Neptune 3157-08-20 14:52 G 2874361.89 2874362.12 2874362.37 0.0089 0.0038
Uranus 3158-06-09 14:09 G 2874654.83 2874655.09 2874655.34 0.0142 0.0009
Jupiter 3158-07-05 00:00 G 2874680.41 2874680.50 2874680.61 0.0505 0.0454
Neptune 3158-08-23 03:50 G 2874729.48 2874729.66 2874729.87 0.0089 0.0060
Uranus 3159-06-14 12:28 G 2875024.77 2875025.02 2875025.28 0.0141 0.0027
Neptune 3159-08-25 17:16 G 2875097.14 2875097.22 2875097.33 0.0089 0.0082
Uranus 3160-06-18 10:33 G 2875394.72 2875394.94 2875395.18 0.0141 0.0061
Uranus 3161-06-23 07:26 G 2875764.64 2875764.81 2875765.02 0.0140 0.0096
Uranus 3162-06-28 03:50 G 2876134.58 2876134.66 2876134.79 0.0140 0.0128
Mars 3167-05-16 13:40 G 2877918.01 2877918.07 2877918.14 0.1677 0.1579
Saturn 3168-07-28 22:19 G 2878357.23 2878357.43 2878357.64 0.0266 0.0149
Jupiter 3170-07-09 18:57 G 2879068.08 2879068.29 2879068.50 0.0507 0.0221
Pluto 3171-01-26 19:55 G 2879269.09 2879269.33 2879269.58 0.0064 0.0015

Jupiter	3176-01-07 16:04 G	2881075.99	2881076.17	2881076.35 0.0521 0.0325
Jupiter	3182-07-14 16:04 G	2883455.93	2883456.17	2883456.41 0.0509 0.0018
Saturn	3183-01-27 10:04 G	2883652.71	2883652.92	2883653.14 0.0295 0.0139
Jupiter	3188-01-12 08:38 G	2885463.63	2885463.86	2885464.09 0.0519 0.0080
Jupiter	3194-07-19 13:26 G	2887843.86	2887844.06	2887844.27 0.0511 0.0259
Saturn	3197-07-23 21:21 G	2888944.16	2888944.39	2888944.63 0.0266 0.0096
Uranus	3198-11-26 07:26 G	2889434.70	2889434.81	2889434.94 0.0135 0.0119
Uranus	3199-11-30 16:04 G	2889803.99	2889804.17	2889804.36 0.0135 0.0091
Jupiter	3200-01-16 21:35 G	2889851.18	2889851.40	2889851.62 0.0517 0.0153
Uranus	3200-12-04 00:43 G	2890173.31	2890173.53	2890173.76 0.0136 0.0061
Uranus	3201-12-08 09:50 G	2890542.68	2890542.91	2890543.17 0.0136 0.0032
Uranus	3202-12-12 19:40 G	2890912.07	2890912.32	2890912.57 0.0137 0.0001
Uranus	3203-12-17 05:16 G	2891281.49	2891281.72	2891281.98 0.0137 0.0032
Uranus	3204-12-20 16:04 G	2891650.95	2891651.17	2891651.39 0.0138 0.0062
Uranus	3205-12-25 02:52 G	2892020.45	2892020.62	2892020.82 0.0138 0.0093
Jupiter	3206-07-24 09:35 G	2892231.86	2892231.90	2892231.96 0.0513 0.0501
Uranus	3206-12-29 14:09 G	2892390.01	2892390.09	2892390.23 0.0139 0.0125
Jupiter	3212-01-21 13:26 G	2894238.92	2894239.06	2894239.22 0.0515 0.0392
Saturn	3212-01-21 18:57 G	2894239.11	2894239.29	2894239.49 0.0294 0.0175 *
Mars	3220-11-19 10:04 G	2897463.75	2897463.92	2897464.08 0.1851 0.0980
Saturn	3227-07-31 03:50 G	2899908.51	2899908.66	2899908.81 0.0266 0.0213
Neptune	3233-02-05 02:09 G	2901924.57	2901924.59	2901924.62 0.0089 0.0088
Neptune	3234-02-07 12:00 G	2902291.86	2902292.00	2902292.19 0.0089 0.0067
Neptune	3235-02-09 22:48 G	2902659.24	2902659.45	2902659.67 0.0089 0.0045
Neptune	3236-02-12 08:52 G	2903026.64	2903026.87	2903027.13 0.0089 0.0024
Neptune	3237-02-13 19:40 G	2903394.07	2903394.32	2903394.58 0.0089 0.0002
Neptune	3238-02-16 05:45 G	2903761.50	2903761.74	2903762.00 0.0089 0.0020
Neptune	3239-02-18 15:35 G	2904128.95	2904129.15	2904129.40 0.0089 0.0042
Uranus	3239-05-27 01:55 G	2904226.42	2904226.58	2904226.74 0.0143 0.0111
Neptune	3240-02-21 01:55 G	2904496.42	2904496.58	2904496.78 0.0089 0.0063

Uranus	3240-05-31 02:09 G	2904596.38	2904596.59	2904596.81 0.0143 0.0075
Neptune	3241-02-22 12:28 G	2904863.95	2904864.02	2904864.10 0.0089 0.0084
Uranus	3241-06-05 01:40 G	2904966.33	2904966.57	2904966.83 0.0142 0.0039
Jupiter	3241-07-04 07:11 G	2904995.74	2904995.80	2904995.87 0.0505 0.0482
Saturn	3242-01-28 15:07 G	2905203.97	2905204.13	2905204.30 0.0295 0.0211
Uranus	3242-06-10 00:57 G	2905336.28	2905336.54	2905336.80 0.0142 0.0004
Uranus	3243-06-14 23:31 G	2905706.23	2905706.48	2905706.73 0.0141 0.0032
Uranus	3244-06-18 21:21 G	2906076.17	2906076.39	2906076.63 0.0141 0.0066
Uranus	3245-06-23 18:00 G	2906446.09	2906446.25	2906446.45 0.0140 0.0101
Mars	3246-05-18 22:33 G	2906775.25	2906775.44	2906775.63 0.1682 0.0174
Uranus	3246-06-28 14:38 G	2906816.05	2906816.11	2906816.21 0.0140 0.0133
Jupiter	3253-07-09 02:52 G	2909383.42	2909383.62	2909383.83 0.0507 0.0251
Saturn	3256-07-25 00:43 G	2910495.28	2910495.53	2910495.77 0.0266 0.0035
Jupiter	3259-01-06 18:43 G	2911391.12	2911391.28	2911391.44 0.0522 0.0369
Pluto	3259-07-29 10:04 G	2911594.66	2911594.92	2911595.19 0.0079 0.0005
Jupiter	3265-07-13 21:35 G	2913771.16	2913771.40	2913771.63 0.0508 0.0019
Jupiter	3271-01-11 12:57 G	2915778.81	2915779.04	2915779.26 0.0520 0.0121
Saturn	3271-01-22 21:21 G	2915790.18	2915790.39	2915790.63 0.0294 0.0109
Jupiter	3277-07-18 12:43 G	2918158.81	2918159.03	2918159.24 0.0510 0.0211
Uranus	3282-11-26 21:21 G	2920116.28	2920116.39	2920116.55 0.0135 0.0114
Jupiter	3283-01-16 08:24 G	2920166.63	2920166.85	2920167.07 0.0518 0.0128
Uranus	3283-12-01 06:14 G	2920485.57	2920485.76	2920485.96 0.0135 0.0085
Uranus	3284-12-04 14:52 G	2920854.89	2920855.12	2920855.35 0.0136 0.0055
Uranus	3285-12-09 00:00 G	2921224.26	2921224.50	2921224.76 0.0136 0.0025
Uranus	3286-12-13 09:35 G	2921593.65	2921593.90	2921594.15 0.0137 0.0006
Uranus	3287-12-17 19:26 G	2921963.08	2921963.31	2921963.56 0.0137 0.0037
Uranus	3288-12-21 05:45 G	2922332.53	2922332.74	2922332.97 0.0138 0.0068
Jupiter	3289-07-23 10:33 G	2922546.84	2922546.94	2922547.05 0.0513 0.0457
Uranus	3289-12-25 17:02 G	2922702.05	2922702.21	2922702.39 0.0138 0.0099
Uranus	3290-12-30 05:02 G	2923071.62	2923071.71	2923071.79 0.0139 0.0130

Jupiter	3295-01-21 00:28 G	2924554.37	2924554.52	2924554.69 0.0515 0.0364
Mars	3299-11-23 11:31 G	2926321.85	2926321.98	2926322.11 0.1845 0.1378
Saturn	3301-01-30 16:19 G	2926755.10	2926755.18	2926755.27 0.0294 0.0274
Saturn	3315-07-28 01:55 G	2932046.33	2932046.58	2932046.83 0.0266 0.0022
Neptune	3316-08-09 02:09 G	2932424.52	2932424.59	2932424.66 0.0088 0.0085
Neptune	3317-08-11 14:38 G	2932791.95	2932792.11	2932792.31 0.0088 0.0064
Neptune	3318-08-14 03:50 G	2933159.44	2933159.66	2933159.91 0.0088 0.0042
Neptune	3319-08-16 17:02 G	2933526.96	2933527.21	2933527.47 0.0088 0.0020
Neptune	3320-08-18 06:14 G	2933894.50	2933894.76	2933895.02 0.0088 0.0003
Neptune	3321-08-20 18:43 G	2934262.05	2934262.28	2934262.55 0.0089 0.0025
Uranus	3322-05-23 15:07 G	2934538.10	2934538.13	2934538.20 0.0144 0.0141
Neptune	3322-08-23 07:55 G	2934629.63	2934629.83	2934630.07 0.0089 0.0047
Uranus	3323-05-28 15:50 G	2934908.01	2934908.16	2934908.35 0.0143 0.0105
Neptune	e 3323-08-25 20:52 G	2934997.23	2934997.37	2934997.56 0.0089 0.0069
Uranus	3324-06-01 16:19 G	2935277.96	2935278.18	2935278.41 0.0143 0.0069
Mars	3325-05-22 06:57 G	2935632.67	2935632.79	2935632.92 0.1686 0.1268
Uranus	3325-06-06 15:50 G	2935647.91	2935648.16	2935648.41 0.0142 0.0033
Uranus	3326-06-11 14:52 G	2936017.87	2936018.12	2936018.38 0.0142 0.0004
Uranus	3327-06-16 13:26 G	2936387.81	2936388.06	2936388.31 0.0141 0.0038
Uranus	3328-06-20 10:48 G	2936757.75	2936757.95	2936758.19 0.0141 0.0073
Uranus	3329-06-25 07:40 G	2937127.67	2937127.82	2937128.01 0.0140 0.0107
Saturn	3330-01-24 21:07 G	2937341.15	2937341.38	2937341.62 0.0294 0.0048
Uranus	3330-06-30 04:04 G	2937497.66	2937497.67	2937497.72 0.0140 0.0139
Jupiter	3336-07-09 04:19 G	2939698.49	2939698.68	2939698.88 0.0506 0.0291
Jupiter	3342-01-07 05:31 G	2941706.58	2941706.73	2941706.88 0.0523 0.0394
Saturn	3344-07-22 04:04 G	2942633.53	2942633.67	2942633.82 0.0265 0.0216
Jupiter	3348-07-14 00:14 G	2944086.27	2944086.51	2944086.74 0.0508 0.0056
Jupiter	3354-01-12 00:57 G	2946094.32	2946094.54	2946094.76 0.0520 0.0145
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Jupiter	3360-07-18 21:50 G	2948474.19	2948474.41	2948474.64 0.0510 0.0185

Uranus	3366-11-28 11:16 G	2950797.84	2950797.97	2950798.13 0.0135 0.0109
Uranus	3367-12-02 20:09 G	2951167.14	2951167.34	2951167.54 0.0136 0.0080
Uranus	3368-12-06 04:33 G	2951536.46	2951536.69	2951536.93 0.0136 0.0050
Uranus	3369-12-10 13:55 G	2951905.83	2951906.08	2951906.33 0.0136 0.0020
Uranus	3370-12-14 23:16 G	2952275.22	2952275.47	2952275.72 0.0137 0.0011
Uranus	3371-12-19 09:07 G	2952644.65	2952644.88	2952645.13 0.0137 0.0042
Jupiter	3372-07-23 21:07 G	2952862.25	2952862.38	2952862.51 0.0512 0.0429
Uranus	3372-12-22 19:26 G	2953014.12	2953014.31	2953014.54 0.0138 0.0074
Uranus	3373-12-27 06:57 G	2953383.63	2953383.79	2953383.96 0.0138 0.0104
Saturn	3374-07-29 01:55 G	2953597.34	2953597.58	2953597.82 0.0266 0.0076
Uranus	3374-12-31 18:14 G	2953753.23	2953753.26	2953753.33 0.0139 0.0136
Jupiter	3378-01-21 07:11 G	2954869.63	2954869.80	2954869.98 0.0516 0.0329
Saturn	3389-01-25 18:28 G	2958892.03	2958892.27	2958892.51 0.0294 0.0008
Neptune	3398-02-07 19:11 G	2962192.21	2962192.30	2962192.44 0.0089 0.0079
Neptune	3399-02-10 06:00 G	2962559.56	2962559.75	2962559.95 0.0089 0.0057
Neptune	3400-02-12 16:04 G	2962926.95	2962927.17	2962927.42 0.0089 0.0036
Neptune	3401-02-15 02:24 G	2963294.36	2963294.60	2963294.86 0.0089 0.0015
Neptune	3402-02-17 12:57 G	2963661.79	2963662.04	2963662.30 0.0089 0.0007
Neptune	3403-02-19 23:02 G	2964029.23	2964029.46	2964029.71 0.0089 0.0029
Saturn	3403-07-25 03:50 G	2964184.47	2964184.66	2964184.87 0.0266 0.0162
Neptune	3404-02-22 09:21 G	2964396.70	2964396.89	2964397.12 0.0089 0.0050
Neptune	3405-02-23 19:40 G	2964764.18	2964764.32	2964764.48 0.0089 0.0071
Uranus	3406-05-25 03:50 G	2965219.58	2965219.66	2965219.74 0.0144 0.0136
Uranus	3407-05-30 04:19 G	2965589.50	2965589.68	2965589.86 0.0143 0.0100
Uranus	3408-06-03 04:04 G	2965959.45	2965959.67	2965959.91 0.0143 0.0065
Uranus	3409-06-08 03:50 G	2966329.41	2966329.66	2966329.91 0.0142 0.0028
Uranus	3410-06-13 02:52 G	2966699.36	2966699.62	2966699.88 0.0142 0.0007
Uranus	3411-06-18 00:57 G	2967069.31	2967069.54	2967069.80 0.0141 0.0043
Uranus	3412-06-21 23:02 G	2967439.25	2967439.46	2967439.67 0.0141 0.0077
Uranus	3413-06-26 19:55 G	2967809.17	2967809.33	2967809.49 0.0140 0.0111

Pluto	3419-01-29 21:50 G	2969852.25	2969852.41	2969852.62 0.0064 0.0046
Jupiter	3419-07-10 14:38 G	2970013.93	2970014.11	2970014.30 0.0506 0.0315
Pluto	3420-01-31 09:21 G	2970218.73	2970218.89	2970219.08 0.0065 0.0047
Jupiter	3425-01-07 16:04 G	2972022.04	2972022.17	2972022.31 0.0523 0.0420
Jupiter	3431-07-15 11:16 G	2974401.74	2974401.97	2974402.21 0.0508 0.0081
Saturn	3433-07-31 00:57 G	2975148.32	2975148.54	2975148.75 0.0266 0.0128
Jupiter	3437-01-12 07:55 G	2976409.62	2976409.83	2976410.05 0.0521 0.0178
Jupiter	3443-07-20 07:11 G	2978789.58	2978789.80	2978790.03 0.0510 0.0157
Saturn	3448-01-28 15:50 G	2980442.92	2980443.16	2980443.39 0.0294 0.0062
Jupiter	3449-01-17 01:40 G	2980797.34	2980797.57	2980797.80 0.0519 0.0065
Uranus	3449-11-25 16:33 G	2981110.16	2981110.19	2981110.23 0.0135 0.0133
Uranus	3450-11-30 00:28 G	2981479.37	2981479.52	2981479.68 0.0135 0.0105
Mars	3451-05-19 11:31 G	2981649.83	2981649.98	2981650.13 0.1672 0.1065
Uranus	3451-12-04 08:38 G	2981848.66	2981848.86	2981849.08 0.0135 0.0075
Uranus	3452-12-07 17:31 G	2982217.99	2982218.23	2982218.47 0.0136 0.0045
Uranus	3453-12-12 02:38 G	2982587.36	2982587.61	2982587.86 0.0136 0.0015
Uranus	3454-12-16 12:00 G	2982956.75	2982957.00	2982957.25 0.0137 0.0016
Jupiter	3455-07-24 23:16 G	2983177.32	2983177.47	2983177.63 0.0511 0.0386
Uranus	3455-12-20 21:50 G	2983326.19	2983326.41	2983326.66 0.0137 0.0047
Uranus	3456-12-24 08:38 G	2983695.65	2983695.86	2983696.07 0.0138 0.0078
Uranus	3457-12-28 19:40 G	2984065.18	2984065.32	2984065.48 0.0138 0.0110
Jupiter	3461-01-21 19:26 G	2985185.13	2985185.31	2985185.50 0.0517 0.0305
Saturn	3462-07-26 03:21 G	2985735.42	2985735.64	2985735.87 0.0266 0.0108
Saturn	3477-01-21 10:48 G	2991028.88	2991028.95	2991029.03 0.0294 0.0279
Neptune	e 3481-08-11 19:26 G	2992692.20	2992692.31	2992692.48 0.0088 0.0075
Neptune	e 3482-08-14 08:38 G	2993059.67	2993059.86	2993060.09 0.0088 0.0054
Neptune	e 3483-08-16 22:04 G	2993427.18	2993427.42	2993427.67 0.0088 0.0032
Neptune	3484-08-18 10:48 G	2993794.70	2993794.95	2993795.22 0.0088 0.0010
Neptune	3485-08-21 00:00 G	2994162.24	2994162.50	2994162.76 0.0088 0.0012
Neptune	3486-08-23 12:43 G	2994529.80	2994530.03	2994530.29 0.0089 0.0034

Neptune	3487-08-26 01:26 G	2994897.38	2994897.56	S 2994897.79 0.0089 0.0056
•	3488-08-27 14:38 G			
Uranus	3490-05-25 15:50 G			
Uranus	3491-05-30 16:19 G	2996271.01	2996271.18	2996271.39 0.0143 0.0096
Uranus	3492-06-03 16:33 G	2996640.97	2996641.19	2996641.44 0.0143 0.0060
Saturn	3492-07-31 23:45 G	2996699.32	2996699.49	2996699.68 0.0266 0.0182
Uranus	3493-06-08 16:19 G	2997010.92	2997011.18	2997011.43 0.0142 0.0024
Uranus	3494-06-13 15:21 G	2997380.88	2997381.14	2997381.40 0.0142 0.0012
Uranus	3495-06-18 13:40 G	2997750.83	2997751.07	2997751.31 0.0141 0.0048
Uranus	3496-06-22 11:16 G	2998120.77	2998120.97	2998121.18 0.0141 0.0082
Uranus	3497-06-27 08:24 G	2998490.71	2998490.85	2998491.00 0.0140 0.0116
Jupiter	3502-07-11 00:43 G	3000329.35	3000329.53	3000329.70 0.0505 0.0337
Mars	3504-11-22 08:24 G	3001194.69	3001194.85	3001195.01 0.1859 0.1056
Saturn	3507-01-30 13:26 G	3001993.84	3001994.06	3001994.28 0.0294 0.0119
Pluto	3507-08-02 01:11 G	3002177.43	3002177.55	3002177.70 0.0080 0.0068
Jupiter	3508-01-08 22:19 G	3002337.33	3002337.43	3002337.55 0.0523 0.0454
Jupiter	3514-07-15 15:21 G	3004716.91	3004717.14	3004717.37 0.0507 0.0118
Jupiter	3520-01-13 17:45 G	3006725.03	3006725.24	3006725.45 0.0522 0.0208
Saturn	3521-07-28 03:07 G	3007286.38	3007286.63	3007286.87 0.0266 0.0053
Jupiter	3526-07-20 10:48 G	3009104.72	3009104.95	3009105.18 0.0509 0.0117
Mars	3530-05-22 19:55 G	3010507.14	3010507.33	3010507.52 0.1676 0.0330
Jupiter	3532-01-18 12:57 G	3011112.81	3011113.04	3011113.27 0.0519 0.0037
Uranus	3533-11-27 05:02 G	3011791.65	3011791.71	3011791.80 0.0135 0.0129
Uranus	3534-12-01 12:57 G	3012160.88	3012161.04	3012161.22 0.0135 0.0100
Uranus	3535-12-05 21:35 G	3012530.18	3012530.40	3012530.61 0.0135 0.0071
Saturn	3536-01-24 11:02 G	3012579.81	3012579.96	3012580.13 0.0294 0.0216
Uranus	3536-12-09 06:00 G	3012899.52	3012899.75	3012900.00 0.0136 0.0041
Uranus	3537-12-13 15:07 G	3013268.88	3013269.13	3013269.38 0.0136 0.0011
Jupiter	3538-07-25 08:09 G	3013492.67	3013492.84	3013493.01 0.0511 0.0356
Uranus	3538-12-18 00:28 G	3013638.28	3013638.52	3013638.78 0.0137 0.0021

Uranus	3539-12-22 10:33 G	3014007.71	3014007.94	3014008.18 0.0137 0.0051
Uranus	3540-12-25 21:07 G	3014377.18	3014377.38	3014377.58 0.0138 0.0083
Uranus	3541-12-30 08:09 G	3014746.72	3014746.84	3014746.99 0.0138 0.0114
Jupiter	3544-01-23 06:00 G	3015500.56	3015500.75	3015500.95 0.0517 0.0276
Saturn	3551-08-04 00:00 G	3018250.40	3018250.50	3018250.62 0.0266 0.0237
Jupiter	3556-01-27 19:26 G	3019888.26	3019888.31	3019888.36 0.0515 0.0502
Neptune	3563-02-11 13:26 G	3022459.91	3022460.06	3022460.23 0.0089 0.0069
Neptune	3564-02-13 23:31 G	3022827.28	3022827.48	3022827.71 0.0089 0.0048
Neptune	3565-02-15 09:50 G	3023194.69	3023194.91	3023195.17 0.0089 0.0027
Saturn	3566-01-31 13:26 G	3023544.88	3023545.06	3023545.25 0.0294 0.0180
Neptune	3566-02-17 20:24 G	3023562.10	3023562.35	3023562.61 0.0089 0.0006
Neptune	3567-02-20 06:43 G	3023929.54	3023929.78	3023930.04 0.0089 0.0016
Neptune	3568-02-22 17:02 G	3024296.99	3024297.21	3024297.45 0.0089 0.0037
Neptune	3569-02-24 03:07 G	3024664.46	3024664.63	3024664.84 0.0089 0.0059
Neptune	3570-02-26 13:55 G	3025031.97	3025032.08	3025032.19 0.0089 0.0079
Uranus	3574-05-27 00:57 G	3026582.45	3026582.54	3026582.68 0.0144 0.0128
Uranus	3575-06-01 01:26 G	3026952.39	3026952.56	3026952.78 0.0143 0.0092
Uranus	3576-06-05 01:26 G	3027322.34	3027322.56	3027322.81 0.0143 0.0056
Uranus	3577-06-10 01:11 G	3027692.30	3027692.55	3027692.80 0.0142 0.0019
Uranus	3578-06-15 00:14 G	3028062.25	3028062.51	3028062.76 0.0142 0.0016
Uranus	3579-06-19 22:19 G	3028432.20	3028432.43	3028432.67 0.0141 0.0052
Uranus	3580-06-23 19:55 G	3028802.14	3028802.33	3028802.55 0.0141 0.0086
Saturn	3580-07-29 03:50 G	3028837.41	3028837.66	3028837.91 0.0266 0.0005
Uranus	3581-06-28 17:16 G	3029172.09	3029172.22	3029172.36 0.0140 0.0120
Mars	3583-11-26 11:02 G	3030052.83	3030052.96	3030053.09 0.1853 0.1379
Jupiter	3585-07-10 04:48 G	3030644.54	3030644.70	3030644.86 0.0504 0.0374
Jupiter	3591-01-08 06:57 G	3032652.72	3032652.79	3032652.88 0.0524 0.0489
Saturn	3595-01-25 14:09 G	3034130.88	3034131.09	3034131.30 0.0294 0.0146
Jupiter	3597-07-14 22:48 G	3035032.23	3035032.45	3035032.68 0.0506 0.0149
Jupiter	3603-01-13 03:07 G	3037040.43	3037040.63	3037040.84 0.0522 0.0239

Jupiter	3609-07-19 19:26 G	3039420.08	3039420.31	3039420.55 0.0509 0.0088
Saturn	3609-07-23 20:24 G	3039424.28	3039424.35	3039424.44 0.0266 0.0249
Jupiter	3615-01-17 18:57 G	3041428.06	3041428.29	3041428.52 0.0520 0.0005
Uranus	3617-11-27 16:48 G	3042473.13	3042473.20	3042473.32 0.0135 0.0125
Uranus	3618-12-02 01:11 G	3042842.38	3042842.55	3042842.73 0.0135 0.0095
Uranus	3619-12-06 09:07 G	3043211.68	3043211.88	3043212.12 0.0135 0.0067
Uranus	3620-12-09 18:00 G	3043581.01	3043581.25	3043581.50 0.0136 0.0036
Jupiter	3621-07-24 16:04 G	3043807.99	3043808.17	3043808.35 0.0510 0.0325
Uranus	3621-12-14 03:21 G	3043950.39	3043950.64	3043950.89 0.0136 0.0006
Uranus	3622-12-18 12:28 G	3044319.78	3044320.02	3044320.28 0.0137 0.0026
Uranus	3623-12-22 22:48 G	3044689.22	3044689.45	3044689.68 0.0137 0.0056
Uranus	3624-12-26 09:07 G	3045058.70	3045058.88	3045059.09 0.0137 0.0088
Saturn	3625-02-01 16:19 G	3045096.07	3045096.18	3045096.32 0.0294 0.0249
Uranus	3625-12-30 20:09 G	3045428.24	3045428.34	3045428.49 0.0138 0.0119
Jupiter	3627-01-22 11:16 G	3045815.77	3045815.97	3045816.18 0.0518 0.0238
Jupiter	3639-01-27 02:38 G	3050203.52	3050203.61	3050203.71 0.0516 0.0467
Saturn	3639-07-31 06:14 G	3050388.52	3050388.76	3050389.01 0.0267 0.0065
Neptune	3645-08-12 01:40 G	3052592.52	3052592.57	3052592.64 0.0088 0.0086
Neptune	3646-08-14 14:52 G	3052959.95	3052960.12	3052960.31 0.0088 0.0065
Neptune	3647-08-17 03:35 G	3053327.45	3053327.65	3053327.90 0.0088 0.0044
Neptune	3648-08-18 17:02 G	3053694.97	3053695.21	3053695.47 0.0088 0.0022
Neptune	3649-08-21 06:14 G	3054062.50	3054062.76	3054063.03 0.0088 0.0002
Neptune	3650-08-23 19:11 G	3054430.05	3054430.30	3054430.56 0.0088 0.0021
Neptune	3651-08-26 08:09 G	3054797.62	3054797.84	3054798.07 0.0089 0.0043
Neptune	3652-08-27 20:38 G	3055165.21	3055165.36	3055165.56 0.0089 0.0065
Neptune	3653-08-30 09:50 G	3055532.87	3055532.91	3055533.00 0.0089 0.0086
Saturn	3654-01-26 20:52 G	3055682.14	3055682.37	3055682.61 0.0294 0.0069
Uranus	3658-05-27 10:33 G	3057263.83	3057263.94	3057264.09 0.0144 0.0124
Uranus	3659-06-01 11:02 G	3057633.77	3057633.96	3057634.18 0.0143 0.0088
Uranus	3660-06-05 11:02 G	3058003.73	3058003.96	3058004.21 0.0143 0.0051

Uranus	3661-06-10 10:33 G	3058373.69	3058373.94	3058374.20 0.0142 0.0015
Uranus	3662-06-15 09:35 G	3058743.65	3058743.90	3058744.16 0.0142 0.0021
Uranus	3663-06-20 07:40 G	3059113.60	3059113.82	3059114.07 0.0141 0.0057
Uranus	3664-06-24 05:31 G	3059483.55	3059483.73	3059483.94 0.0141 0.0091
Uranus	3665-06-29 02:52 G	3059853.52	3059853.62	3059853.75 0.0140 0.0125
Pluto	3668-02-02 11:45 G	3060801.75	3060801.99	3060802.24 0.0065 0.0016
Jupiter	3668-07-09 11:45 G	3060959.85	3060959.99	3060960.13 0.0504 0.0405
Saturn	3668-07-24 23:45 G	3060975.33	3060975.49	3060975.68 0.0266 0.0187
Jupiter	3680-07-14 05:45 G	3065347.52	3065347.74	3065347.97 0.0506 0.0179
Jupiter	3686-01-12 06:00 G	3067355.55	3067355.75	3067355.94 0.0522 0.0282
Jupiter	3692-07-18 22:04 G	3069735.19	3069735.42	3069735.66 0.0507 0.0044
Jupiter	3698-01-16 22:19 G	3071743.20	3071743.43	3071743.66 0.0521 0.0046
Saturn	3698-08-01 10:48 G	3071939.73	3071939.95	3071940.17 0.0267 0.0130
Uranus	3701-11-29 05:02 G	3073154.62	3073154.71	3073154.85 0.0135 0.0120
Uranus	3702-12-03 12:57 G	3073523.88	3073524.04	3073524.25 0.0135 0.0091
Uranus	3703-12-07 21:35 G	3073893.19	3073893.40	3073893.64 0.0135 0.0061
Jupiter	3704-07-24 16:33 G	3074122.99	3074123.19	3074123.39 0.0509 0.0276
Uranus	3704-12-11 06:28 G	3074262.53	3074262.77	3074263.02 0.0136 0.0031
Uranus	3705-12-15 15:35 G	3074631.90	3074632.15	3074632.41 0.0136 0.0002
Uranus	3706-12-20 01:11 G	3075001.31	3075001.55	3075001.80 0.0137 0.0031
Uranus	3707-12-24 11:02 G	3075370.75	3075370.96	3075371.20 0.0137 0.0062
Uranus	3708-12-27 21:35 G	3075740.24	3075740.40	3075740.61 0.0137 0.0094
Uranus	3710-01-01 09:07 G	3076109.79	3076109.88	3076110.00 0.0138 0.0124
Jupiter	3710-01-22 16:19 G	3076130.97	3076131.18	3076131.39 0.0519 0.0193
Saturn	3713-01-29 06:57 G	3077233.55	3077233.79	3077234.03 0.0293 0.0016
Jupiter	3716-07-29 12:28 G	3078511.00	3078511.02	3078511.05 0.0512 0.0508
Jupiter	3722-01-27 09:21 G	3080518.77	3080518.89	3080519.02 0.0516 0.0429
Neptune	3727-02-11 22:04 G	3082360.32	3082360.42	3082360.54 0.0089 0.0080
Saturn	3727-07-28 05:31 G	3082526.51	3082526.73	3082526.96 0.0266 0.0120
Neptune	3728-02-14 08:24 G	3082727.67	3082727.85	3082728.05 0.0089 0.0059

Neptune	3729-02-15 18:43 G	3083095.06	3083095.28	3083095.52 0.0089 0.0038
Neptune	3730-02-18 05:02 G	3083462.47	3083462.71	3083462.96 0.0089 0.0017
Neptune	3731-02-20 15:21 G	3083829.89	3083830.14	3083830.40 0.0089 0.0004
Neptune	3732-02-23 01:26 G	3084197.33	3084197.56	3084197.81 0.0089 0.0025
Neptune	3733-02-24 11:31 G	3084564.78	3084564.98	3084565.21 0.0089 0.0046
Neptune	3734-02-26 21:50 G	3084932.26	3084932.41	3084932.59 0.0089 0.0067
Neptune	3735-03-01 07:55 G	3085299.82	3085299.83	3085299.90 0.0089 0.0088
Mars	3735-05-22 10:04 G	3085381.74	3085381.92	3085382.10 0.1667 0.0541
Uranus	3742-05-28 19:11 G	3087945.18	3087945.30	3087945.46 0.0144 0.0119
Uranus	3743-06-02 19:55 G	3088315.12	3088315.33	3088315.54 0.0143 0.0083
Uranus	3744-06-06 19:11 G	3088685.07	3088685.30	3088685.55 0.0143 0.0047
Uranus	3745-06-11 18:57 G	3089055.03	3089055.29	3089055.54 0.0142 0.0010
Uranus	3746-06-16 17:31 G	3089424.99	3089425.23	3089425.50 0.0142 0.0026
Uranus	3747-06-21 16:04 G	3089794.94	3089795.17	3089795.40 0.0141 0.0061
Uranus	3748-06-25 13:55 G	3090164.90	3090165.08	3090165.27 0.0141 0.0095
Uranus	3749-06-30 11:16 G	3090534.88	3090534.97	3090535.08 0.0140 0.0129
Jupiter	3751-07-10 15:07 G	3091275.03	3091275.13	3091275.24 0.0503 0.0443
Pluto	3756-08-05 00:14 G	3093127.32	3093127.51	3093127.74 0.0079 0.0048
Saturn	3757-08-03 16:48 G	3093491.04	3093491.20	3093491.37 0.0267 0.0198
Jupiter	3763-07-15 06:57 G	3095662.58	3095662.79	3095663.01 0.0505 0.0224
Jupiter	3769-01-12 07:26 G	3097670.64	3097670.81	3097670.99 0.0524 0.0333
Saturn	3772-01-31 19:55 G	3098785.11	3098785.33	3098785.56 0.0293 0.0107
Jupiter	3775-07-19 23:02 G	3100050.22	3100050.46	3100050.70 0.0507 0.0003
Jupiter	3781-01-17 03:21 G	3102058.41	3102058.64	3102058.86 0.0521 0.0086
Uranus	3785-11-29 16:48 G	3103836.08	3103836.20	3103836.34 0.0135 0.0115
Saturn	3786-07-29 13:40 G	3104077.82	3104078.07	3104078.31 0.0266 0.0049
Uranus	3786-12-04 00:43 G	3104205.36	3104205.53	3104205.75 0.0135 0.0086
Jupiter	3787-07-24 18:57 G	3104438.09	3104438.29	3104438.51 0.0509 0.0233
Uranus	3787-12-08 09:21 G	3104574.67	3104574.89	3104575.13 0.0135 0.0056
Mars	3788-11-23 03:35 G	3104925.51	3104925.65	3104925.80 0.1867 0.1215

3788-12-11 18:14 G 3104944.02 3104944.26 3104944.51 0.0136 0.0026 Uranus 3789-12-16 03:35 G 3105313.40 3105313.65 3105313.90 0.0136 0.0005 Uranus Uranus 3790-12-20 13:11 G 3105682.81 3105683.05 3105683.30 0.0137 0.0036 3791-12-24 23:31 G 3106052.26 3106052.48 3106052.70 0.0137 0.0067 Uranus **Uranus** 3792-12-28 10:04 G 3106421.76 3106421.92 3106422.11 0.0137 0.0099 Jupiter 3793-01-21 18:57 G 3106446.07 3106446.29 3106446.51 0.0519 0.0150 3794-01-01 21:07 G 3106791.32 3106791.38 3106791.48 0.0138 0.0130 Uranus 3799-07-29 16:04 G 3108826.07 3108826.17 3108826.26 0.0511 0.0468 Jupiter Saturn 3801-01-25 23:02 G 3109371.30 3109371.46 3109371.62 0.0294 0.0216 Jupiter 3805-01-27 09:50 G 3110833.76 3110833.91 3110834.07 0.0517 0.0381 Neptune 3810-08-15 21:07 G 3112860.27 3112860.38 3112860.54 0.0088 0.0076 Neptune 3811-08-18 10:04 G 3113227.74 3113227.92 3113228.15 0.0088 0.0055 Neptune 3812-08-19 23:16 G 3113595.25 3113595.47 3113595.74 0.0088 0.0034 Neptune 3813-08-22 12:57 G 3113962.78 3113963.04 3113963.30 0.0088 0.0012 Mars 3814-05-25 17:45 G 3114239.07 3114239.24 3114239.40 0.1671 0.0832 Neptune 3814-08-25 01:55 G 3114330.32 3114330.58 3114330.85 0.0088 0.0010 Neptune 3815-08-27 14:38 G 3114697.88 3114698.11 3114698.37 0.0088 0.0032 Neptune 3816-08-29 03:35 G 3115065.47 3115065.65 3115065.89 0.0089 0.0053 Neptune 3817-08-31 16:33 G 3115433.07 3115433.19 3115433.36 0.0089 0.0074 Uranus 3826-05-30 06:14 G 3118626.61 3118626.76 3118626.92 0.0144 0.0114 Uranus 3827-06-04 06:00 G 3118996.55 3118996.75 3118996.98 0.0143 0.0078 3828-06-08 05:45 G 3119366.51 3119366.74 3119367.00 0.0143 0.0042 Uranus 3829-06-13 05:16 G 3119736.47 3119736.72 3119736.98 0.0142 0.0006 Uranus Uranus 3830-06-18 04:04 G 3120106.42 3120106.67 3120106.92 0.0142 0.0031 Saturn 3831-02-03 11:45 G 3120336.83 3120336.99 3120337.17 0.0293 0.0204 3831-06-23 02:38 G 3120476.38 3120476.61 3120476.83 0.0141 0.0066 Uranus Uranus 3832-06-27 00:00 G 3120846.34 3120846.50 3120846.70 0.0141 0.0101 Uranus 3833-07-01 21:21 G 3121216.34 3121216.39 3121216.48 0.0140 0.0134 Jupiter 3834-07-10 14:38 G 3121590.06 3121590.11 3121590.17 0.0503 0.0487 3845-07-31 22:48 G 3125629.21 3125629.45 3125629.71 0.0266 0.0026 Saturn

Jupiter	3846-07-15 07:40 G	3125977.62	3125977.82	3125978.02 0.0505 0.0266
Jupiter	3852-01-13 09:07 G	3127985.73	3127985.88	3127986.04 0.0524 0.0377
Jupiter	3858-07-20 02:24 G	3130365.36	3130365.60	3130365.83 0.0507 0.0039
Saturn	3860-01-28 14:24 G	3130922.89	3130923.10	3130923.33 0.0294 0.0120
Jupiter	3864-01-18 02:24 G	3132373.38	3132373.60	3132373.82 0.0522 0.0137
Mars	3867-11-28 08:52 G	3133783.73	3133783.87	3133784.00 0.1861 0.1331
Uranus	3869-12-01 04:04 G	3134517.55	3134517.67	3134517.84 0.0135 0.0111
Jupiter	3870-07-24 19:55 G	3134753.12	3134753.33	3134753.56 0.0508 0.0186
Uranus	3870-12-05 12:43 G	3134886.83	3134887.03	3134887.24 0.0135 0.0081
Uranus	3871-12-09 21:07 G	3135256.16	3135256.38	3135256.62 0.0136 0.0051
Uranus	3872-12-13 06:14 G	3135625.51	3135625.76	3135626.01 0.0136 0.0021
Uranus	3873-12-17 15:35 G	3135994.90	3135995.15	3135995.40 0.0136 0.0010
Saturn	3874-07-27 02:52 G	3136216.47	3136216.62	3136216.79 0.0267 0.0206
Uranus	3874-12-22 01:11 G	3136364.32	3136364.55	3136364.80 0.0137 0.0042
Uranus	3875-12-26 11:45 G	3136733.78	3136733.99	3136734.21 0.0137 0.0072
Jupiter	3876-01-22 16:19 G	3136760.96	3136761.18	3136761.41 0.0520 0.0092
Uranus	3876-12-29 22:19 G	3137103.28	3137103.43	3137103.60 0.0138 0.0104
Uranus	3878-01-03 09:21 G	3137472.86	3137472.89	3137472.96 0.0138 0.0135
Jupiter	3882-07-29 14:09 G	3139140.95	3139141.09	3139141.23 0.0510 0.0413
Jupiter	3888-01-27 09:21 G	3141148.72	3141148.89	3141149.07 0.0518 0.0326
Neptune	3892-02-14 17:31 0	3142628.10	3142628.23	3142628.41 0.0089 0.0070
Neptune	3893-02-16 04:04 0	3142995.47	3142995.67	3142995.89 0.0089 0.0049
Neptune	3894-02-18 14:38 0	3143362.87	3143363.11	3143363.36 0.0089 0.0028
Neptune	3895-02-21 00:57 0	3143730.29	3143730.54	3143730.80 0.0089 0.0008
Neptune	3896-02-23 11:16 G	3144097.72	3144097.97	3144098.22 0.0089 0.0013
Neptune	3897-02-24 21:21 0	3144465.16	3144465.39	3144465.63 0.0089 0.0034
Neptune	3898-02-27 07:26 0	3144832.63	3144832.81	3144833.03 0.0089 0.0055
Neptune	3899-03-01 17:31 0	3145200.12	3145200.23	3145200.38 0.0089 0.0076
Saturn	3904-08-03 08:52 G	3147180.65	3147180.87	3147181.11 0.0266 0.0101
Uranus	3910-05-31 16:33 G	3149308.04	3149308.19	3149308.37 0.0144 0.0110

3911-06-05 16:48 G 3149677.99 3149678.20 3149678.42 0.0143 0.0073 **Uranus** 3912-06-09 16:19 G 3150047.94 3150048.18 3150048.43 0.0143 0.0037 Uranus Uranus 3913-06-14 15:35 G 3150417.90 3150418.15 3150418.41 0.0142 0.0002 3914-06-19 14:09 G 3150787.85 3150788.09 3150788.35 0.0142 0.0036 **Uranus Uranus** 3915-06-24 12:14 G 3151157.81 3151158.01 3151158.25 0.0141 0.0072 Pluto 3916-02-06 12:00 G 3151384.77 3151385.00 3151385.25 0.0064 0.0022 Uranus 3916-06-28 10:33 G 3151527.77 3151527.94 3151528.11 0.0141 0.0105 Uranus 3917-07-03 07:55 G 3151897.80 3151897.83 3151897.87 0.0140 0.0139 Saturn 3919-01-31 06:43 G 3152474.54 3152474.78 3152475.02 0.0294 0.0023 Jupiter 3929-07-15 10:04 G 3156292.74 3156292.92 3156293.12 0.0504 0.0307 Saturn 3933-07-29 12:28 G 3157767.81 3157768.02 3157768.24 0.0267 0.0133 Jupiter 3935-01-13 04:33 G 3158300.58 3158300.69 3158300.83 0.0525 0.0438 Mars 3940-05-22 03:07 G 3160256.52 3160256.63 3160256.75 0.1658 0.1332 Jupiter 3941-07-20 02:09 G 3160680.36 3160680.59 3160680.82 0.0505 0.0086 Jupiter 3947-01-18 00:00 G 3162688.29 3162688.50 3162688.72 0.0523 0.0194 Jupiter 3953-07-24 16:19 G 3165067.96 3165068.18 3165068.41 0.0508 0.0133 Uranus 3953-12-02 14:52 G 3165198.98 3165199.12 3165199.29 0.0135 0.0107 Uranus 3954-12-06 23:16 G 3165568.28 3165568.47 3165568.69 0.0135 0.0077 Uranus 3955-12-11 07:55 G 3165937.61 3165937.83 3165938.08 0.0136 0.0048 Uranus 3956-12-14 17:02 G 3166306.97 3166307.21 3166307.47 0.0136 0.0017 Uranus 3957-12-19 02:38 G 3166676.36 3166676.61 3166676.86 0.0136 0.0015 3958-12-23 12:28 G 3167045.79 3167046.02 3167046.27 0.0137 0.0046 Uranus 3959-01-22 20:24 G 3167076.12 3167076.35 3167076.58 0.0520 0.0051 Jupiter Uranus 3959-12-27 22:48 G 3167415.25 3167415.45 3167415.66 0.0137 0.0077 Uranus 3960-12-31 09:21 G 3167784.75 3167784.89 3167785.06 0.0138 0.0109 Saturn 3963-08-05 19:26 G 3168732.14 3168732.31 3168732.51 0.0266 0.0176 3965-07-29 12:28 G 3169455.86 3169456.02 3169456.19 0.0510 0.0364 Jupiter Jupiter 3971-01-27 12:28 G 3171463.83 3171464.02 3171464.21 0.0518 0.0284 Neptune 3974-08-16 05:02 G 3172760.67 3172760.71 3172760.79 0.0088 0.0086 Neptune 3975-08-18 18:14 G 3173128.09 3173128.26 3173128.45 0.0088 0.0065

3976-08-20 07:11 G 3173495.59 3173495.80 3173496.04 0.0088 0.0044 Neptune 3977-08-22 20:24 G 3173863.10 3173863.35 3173863.61 0.0088 0.0023 Neptune Saturn 3978-02-01 21:21 G 3174026.16 3174026.39 3174026.63 0.0294 0.0071 3978-08-25 09:35 G 3174230.64 3174230.90 3174231.16 0.0088 0.0001 Neptune Neptune 3979-08-27 22:48 G 3174598.20 3174598.45 3174598.71 0.0088 0.0020 Neptune 3980-08-29 11:45 G 3174965.76 3174965.99 3174966.23 0.0089 0.0041 Neptune 3981-09-01 00:43 G 3175333.36 3175333.53 3175333.73 0.0089 0.0062 3982-09-03 13:26 G 3175700.99 3175701.06 3175701.17 0.0089 0.0083 Neptune **Jupiter** 3983-02-01 02:52 G 3175851.59 3175851.62 3175851.66 0.0516 0.0510 3992-07-30 21:50 G 3179319.17 3179319.41 3179319.65 0.0267 0.0060 Saturn 3993-05-27 02:52 G 3179619.60 **Uranus** 3179619.62 3179619.69 0.0144 0.0142 **Uranus** 3994-06-01 03:21 G 3179989.48 3179989.64 3179989.82 0.0143 0.0106 **Uranus** 3995-06-06 03:21 G 3180359.43 3180359.64 3180359.87 0.0143 0.0069 3996-06-10 03:07 G 3180729.39 **Uranus** 3180729.63 3180729.89 0.0143 0.0033 3181099.61 3181099.87 0.0142 0.0004 **Uranus** 3997-06-15 02:38 G 3181099.36 **Uranus** 3998-06-20 01:26 G 3181469.31 3181469.56 3181469.80 0.0142 0.0040 Uranus 3999-06-24 23:31 G 3181839.28 3181839.48 3181839.71 0.0141 0.0076 **Uranus** 4000-06-28 21:35 G 3182209.25 3182209.40 3182209.57 0.0141 0.0110

## 5TH MILLENNIUM CE

## This is a list of transits of Earth in the 5th millennium CE.

FROM MAX- C START MAX END SUNRAD DEPTH S

TRANSIT

TIME

Pluto 4004-08-07 13:26 G 3183709.84 3183710.06 3183710.32 0.0079 0.0035

Saturn	4007-01-27 11:31 G	3184612.84	3184612.98	3184613.15 0.0293 0.0223
Jupiter	4012-07-14 06:43 G	3186607.62	3186607.78	3186607.95 0.0503 0.0354
Jupiter	4018-01-12 08:52 G	3188615.78	3188615.87	3188615.97 0.0525 0.0475
Mars	4019-05-25 08:24 G	3189113.66	3189113.85	3189114.04 0.1662 0.0028
Saturn	4022-08-07 05:16 G	3190283.65	3190283.72	3190283.82 0.0266 0.0249
Jupiter	4024-07-19 00:28 G	3190995.29	3190995.52	3190995.75 0.0505 0.0132
Jupiter	4030-01-17 04:33 G	3193003.48	3193003.69	3193003.89 0.0523 0.0232
Jupiter	4036-07-23 19:55 G	3195383.10	3195383.33	3195383.57 0.0507 0.0095
Uranus	4036-11-28 17:02 G	3195511.20	3195511.21	3195511.28 0.0134 0.0133
Saturn	4037-02-03 10:04 G	3195577.72	3195577.92	3195578.13 0.0294 0.0160
Uranus	4037-12-03 01:26 G	3195880.41	3195880.56	3195880.73 0.0135 0.0103
Uranus	4038-12-07 09:50 G	3196249.71	3196249.91	3196250.14 0.0135 0.0074
Uranus	4039-12-11 18:28 G	3196619.04	3196619.27	3196619.52 0.0135 0.0044
Uranus	4040-12-15 03:50 G	3196988.41	3196988.66	3196988.92 0.0136 0.0013
Uranus	4041-12-19 13:26 G	3197357.81	3197358.06	3197358.31 0.0136 0.0019
Jupiter	4042-01-21 21:35 G	3197391.17	3197391.40	3197391.63 0.0521 0.0006
Uranus	4042-12-23 23:16 G	3197727.24	3197727.47	3197727.70 0.0137 0.0050
Uranus	4043-12-28 09:21 G	3198096.70	3198096.89	3198097.10 0.0137 0.0081
Uranus	4044-12-31 19:55 G	3198466.20	3198466.33	3198466.48 0.0138 0.0113
Jupiter	4048-07-28 15:50 G	3199770.98	3199771.16	3199771.35 0.0509 0.0322
Saturn	4051-08-02 06:00 G	3200870.50	3200870.75	3200871.00 0.0267 0.0010
Jupiter	4054-01-26 11:02 G	3201778.75	3201778.96	3201779.16 0.0519 0.0231
Neptune	4056-02-15 03:50 G	3202528.56	3202528.66	3202528.78 0.0089 0.0080
Neptune	e 4057-02-16 13:55 G	3202895.92	3202896.08	3202896.29 0.0089 0.0060
Neptune	4058-02-19 00:43 G	3203263.31	3203263.53	3203263.76 0.0089 0.0039
Neptune	e 4059-02-21 10:48 G	3203630.72	3203630.95	3203631.21 0.0089 0.0019
Neptune	e 4060-02-23 21:21 G	3203998.14	3203998.39	3203998.64 0.0089 0.0002
Neptune	e 4061-02-25 07:26 G	3204365.57	3204365.81	3204366.07 0.0089 0.0023
Neptune	e 4062-02-27 17:45 G	3204733.02	3204733.24	3204733.47 0.0089 0.0043
Neptune	4063-03-02 03:50 G	3205100.50	3205100.66	3205100.85 0.0089 0.0064

Neptune	e 4064-03-03 14:09 G	3205468.02	3205468.09	3205468.17 0.0089 0.0084
Saturn	4066-01-28 22:48 G	3206164.24	3206164.45	3206164.66 0.0293 0.0139
Jupiter	4066-01-31 03:50 G	3206166.56	3206166.66	3206166.76 0.0517 0.0461
Mars	4072-11-24 20:09 G	3208656.22	3208656.34	3208656.47 0.1875 0.1467
Uranus	4077-05-27 12:14 G	3210300.95	3210301.01	3210301.08 0.0144 0.0138
Uranus	4078-06-01 12:28 G	3210670.84	3210671.02	3210671.20 0.0143 0.0102
Uranus	4079-06-06 12:14 G	3211040.80	3211041.01	3211041.25 0.0143 0.0066
Uranus	4080-06-10 12:14 G	3211410.76	3211411.01	3211411.26 0.0143 0.0029
Saturn	4080-07-27 08:09 G	3211457.72	3211457.84	3211457.99 0.0266 0.0225
Uranus	4081-06-15 11:31 G	3211780.73	3211780.98	3211781.24 0.0142 0.0008
Uranus	4082-06-20 10:19 G	3212150.69	3212150.93	3212151.18 0.0142 0.0044
Uranus	4083-06-25 08:38 G	3212520.66	3212520.86	3212521.08 0.0141 0.0080
Uranus	4084-06-29 06:28 G	3212890.63	3212890.77	3212890.93 0.0141 0.0114
Jupiter	4095-07-14 11:45 G	3216922.84	3216922.99	3216923.14 0.0503 0.0386
Saturn	4096-02-05 19:40 G	3217129.18	3217129.32	3217129.45 0.0294 0.0241
Mars	4098-05-27 15:21 G	3217971.03	3217971.14	3217971.26 0.1665 0.1324
Jupiter	4101-01-12 11:45 G	3218930.95	3218930.99	3218931.04 0.0525 0.0515
Jupiter	4107-07-20 06:00 G	3221310.53	3221310.75	3221310.98 0.0505 0.0166
Saturn	4110-08-04 12:28 G	3222421.78	3222422.02	3222422.26 0.0267 0.0077
Jupiter	4113-01-17 03:50 G	3223318.47	3223318.66	3223318.85 0.0524 0.0282
Jupiter	4119-07-24 23:16 G	3225698.23	3225698.47	3225698.70 0.0507 0.0057
Uranus	4120-11-30 03:07 G	3226192.57	3226192.63	3226192.72 0.0134 0.0129
Uranus	4121-12-04 11:02 G	3226561.81	3226561.96	3226562.15 0.0135 0.0100
Uranus	4122-12-08 19:40 G	3226931.12	3226931.32	3226931.55 0.0135 0.0070
Uranus	4123-12-13 04:33 G	3227300.46	3227300.69	3227300.94 0.0135 0.0040
Uranus	4124-12-16 13:40 G	3227669.83	3227670.07	3227670.33 0.0136 0.0009
Jupiter	4125-01-21 22:33 G	3227706.21	3227706.44	3227706.67 0.0522 0.0041
Saturn	4125-01-31 06:14 G	3227715.53	3227715.76	3227716.00 0.0293 0.0062
Uranus	4125-12-20 23:16 G	3228039.22	3228039.47	3228039.72 0.0136 0.0023
Uranus	4126-12-25 09:07 G	3228408.65	3228408.88	3228409.11 0.0137 0.0054

Uranus 4127-12-29 18:43 G 3228778.11 3228778.28 3228778.50 0.0137 0.0086 Uranus 4129-01-02 05:45 G 3229147.62 3229147.74 3229147.88 0.0138 0.0117 Jupiter 4131-07-29 13:11 G 3230085.86 3230086.05 3230086.26 0.0509 0.0273 Jupiter 4137-01-26 18:57 G 3232094.08 3232094.29 3232094.50 0.0520 0.0200 4139-07-30 15:07 G 3233008.94 3233009.13 3233009.34 0.0266 0.0158 Saturn Neptune 4139-08-19 02:24 G 3233028.48 3233028.60 3233028.76 0.0088 0.0075 Neptune 4140-08-20 15:35 G 3233395.95 3233396.15 3233396.37 0.0088 0.0054 Neptune 4141-08-23 04:19 G 3233763.45 3233763.68 3233763.94 0.0088 0.0033 Neptune 4142-08-25 17:31 G 3234130.98 3234131.23 3234131.50 0.0088 0.0013 Jupiter 4143-08-03 10:04 G 3234473.89 3234473.92 3234473.95 0.0511 0.0505 Neptune 4143-08-28 06:57 G 3234498.53 3234498.79 3234499.05 0.0088 0.0009 Neptune 4144-08-29 20:09 G 3234866.10 3234866.34 3234866.59 0.0088 0.0030 Neptune 4145-09-01 08:52 G 3235233.67 3235233.87 3235234.10 0.0088 0.0051 Neptune 4146-09-03 22:04 G 3235601.28 3235601.42 3235601.59 0.0089 0.0072 Jupiter 4149-01-31 12:00 G 3236481.88 3236482.00 3236482.13 0.0517 0.0430 Mars 4151-11-30 02:52 G 3237514.47 3237514.62 3237514.77 0.1869 0.1183 Uranus 4161-05-28 19:55 G 3240982.26 3240982.33 3240982.43 0.0144 0.0135 Uranus 4162-06-02 20:09 G 3241352.17 3241352.34 3241352.54 0.0143 0.0099 Uranus 4163-06-07 20:24 G 3241722.13 3241722.35 3241722.59 0.0143 0.0062 4164-02-08 12:28 G 3241967.93 3241968.02 3241968.16 0.0064 0.0057 Pluto Uranus 4164-06-11 20:24 G 3242092.10 3242092.35 3242092.60 0.0143 0.0025 4165-02-08 23:45 G 3242334.30 3242334.49 3242334.73 0.0065 0.0035 Pluto Uranus 4165-06-16 19:40 G 3242462.07 3242462.32 3242462.58 0.0142 0.0012 Uranus 4166-06-21 18:28 G 3242832.03 3242832.27 3242832.51 0.0142 0.0048 Uranus 4167-06-26 16:48 G 3243202.00 3243202.20 3243202.42 0.0141 0.0083 Uranus 4168-06-30 14:38 G 3243571.98 3243572.11 3243572.26 0.0141 0.0118 4169-08-05 17:02 G 3243973.01 3243973.21 3243973.43 0.0266 0.0139 Saturn Jupiter 4178-07-14 17:45 G 3247238.12 3247238.24 3247238.38 0.0502 0.0415 Saturn 4184-02-02 09:50 G 3249266.67 3249266.91 3249267.15 0.0293 0.0006 Jupiter 4190-07-19 05:45 G 3251625.53 3251625.74 3251625.96 0.0504 0.0208

Jupiter	4196-01-17 12:14 G	3253633.83	3253634.01	3253634.20 0.0524 0.0311
Saturn	4198-07-31 19:40 G	3254560.10	3254560.32	3254560.57 0.0266 0.0096
Jupiter	4202-07-25 00:14 G	3256013.28	3256013.51	3256013.75 0.0506 0.0016
Uranus	4204-12-01 13:11 G	3256873.97	3256874.05	3256874.15 0.0134 0.0125
Uranus	4205-12-05 21:07 G	3257243.22	3257243.38	3257243.58 0.0135 0.0096
Uranus	4206-12-10 05:45 G	3257612.54	3257612.74	3257612.98 0.0135 0.0066
Uranus	4207-12-14 14:38 G	3257981.88	3257982.11	3257982.36 0.0135 0.0035
Jupiter	4208-01-23 08:38 G	3258021.63	3258021.86	3258022.09 0.0522 0.0069
Uranus	4208-12-18 00:00 G	3258351.25	3258351.50	3258351.75 0.0136 0.0004
Uranus	4209-12-22 09:07 G	3258720.64	3258720.88	3258721.14 0.0136 0.0028
Uranus	4210-12-26 18:43 G	3259090.07	3259090.28	3259090.52 0.0137 0.0059
Uranus	4211-12-31 04:48 G	3259459.53	3259459.70	3259459.91 0.0137 0.0090
Uranus	4213-01-03 15:07 G	3259829.04	3259829.13	3259829.27 0.0137 0.0122
Jupiter	4214-07-29 20:38 G	3260401.16	3260401.36	3260401.57 0.0508 0.0244
Jupiter	4220-01-28 02:24 G	3262409.38	3262409.60	3262409.82 0.0520 0.0167
Neptune	4221-02-18 00:57 G	3262796.41	3262796.54	3262796.72 0.0089 0.0070
Neptune	4222-02-20 11:45 G	3263163.79	3263163.99	3263164.21 0.0089 0.0049
Neptune	4223-02-22 22:04 G	3263531.19	3263531.42	3263531.67 0.0089 0.0029
Neptune	4224-02-25 08:38 G	3263898.61	3263898.86	3263899.12 0.0089 0.0009
Mars	4224-05-25 03:07 G	3263988.46	3263988.63	3263988.79 0.1653 0.0793
Neptune	4225-02-26 18:57 G	3264266.04	3264266.29	3264266.54 0.0089 0.0012
Neptune	4226-03-01 05:16 G	3264633.49	3264633.72	3264633.96 0.0089 0.0032
Jupiter	4226-08-03 18:28 G	3264789.19	3264789.27	3264789.36 0.0510 0.0475
Neptune	4227-03-03 15:07 G	3265000.94	3265001.13	3265001.35 0.0089 0.0053
Neptune	4228-03-05 01:11 G	3265368.43	3265368.55	3265368.71 0.0089 0.0073
Saturn	4228-08-07 19:55 G	3265524.16	3265524.33	3265524.50 0.0266 0.0198
Jupiter	4232-02-01 16:19 G	3266797.03	3266797.18	3266797.33 0.0518 0.0391
Saturn	4243-02-04 10:48 G	3270817.72	3270817.95	3270818.19 0.0294 0.0068
Uranus	4245-05-30 03:21 G	3271663.55	3271663.64	3271663.75 0.0144 0.0131
Uranus	4246-06-04 03:21 G	3272033.46	3272033.64	3272033.84 0.0143 0.0095

Uranus	4247-06-09 03:35 G	3272403.43	3272403.65	3272403.90 0.0143 0.0058
Uranus	4248-06-13 03:35 G	3272773.40	3272773.65	3272773.90 0.0143 0.0021
Uranus	4249-06-18 02:52 G	3273143.37	3273143.62	3273143.88 0.0142 0.0016
Uranus	4250-06-23 01:26 G	3273513.33	3273513.56	3273513.81 0.0142 0.0052
Uranus	4251-06-28 00:00 G	3273883.30	3273883.50	3273883.71 0.0141 0.0088
Uranus	4252-07-01 21:21 G	3274253.28	3274253.39	3274253.53 0.0141 0.0122
Pluto	4253-08-12 09:50 G	3274659.85	3274659.91	3274660.05 0.0079 0.0073
Saturn	4257-08-02 22:19 G	3276111.19	3276111.43	3276111.68 0.0266 0.0037
Jupiter	4261-07-14 20:52 G	3277553.27	3277553.37	3277553.48 0.0502 0.0449
Saturn	4272-01-29 04:48 G	3281403.62	3281403.70	3281403.80 0.0293 0.0270
Jupiter	4273-07-19 14:52 G	3281940.91	3281941.12	3281941.33 0.0504 0.0233
Jupiter	4279-01-17 21:07 G	3283949.21	3283949.38	3283949.56 0.0525 0.0340
Jupiter	4285-07-24 10:19 G	3286328.69	3286328.93	3286329.17 0.0506 0.0010
Saturn	4287-08-09 20:52 G	3287075.31	3287075.37	3287075.45 0.0266 0.0253
Uranus	4288-12-01 22:33 G	3287555.35	3287555.44	3287555.57 0.0134 0.0121
Uranus	4289-12-06 06:43 G	3287924.62	3287924.78	3287924.99 0.0135 0.0092
Uranus	4290-12-10 15:35 G	3288293.94	3288294.15	3288294.39 0.0135 0.0061
Jupiter	4291-01-22 13:40 G	3288336.85	3288337.07	3288337.30 0.0522 0.0105
Uranus	4291-12-15 00:28 G	3288663.28	3288663.52	3288663.77 0.0135 0.0031
Uranus	4292-12-18 09:35 G	3289032.65	3289032.90	3289033.16 0.0136 0.0001
Uranus	4293-12-22 18:57 G	3289402.04	3289402.29	3289402.53 0.0136 0.0032
Uranus	4294-12-27 04:48 G	3289771.48	3289771.70	3289771.92 0.0137 0.0063
Uranus	4295-12-31 14:38 G	3290140.93	3290141.11	3290141.29 0.0137 0.0095
Uranus	4297-01-04 00:57 G	3290510.46	3290510.54	3290510.66 0.0138 0.0126
Jupiter	4297-07-29 05:02 G	3290716.49	3290716.71	3290716.92 0.0508 0.0215
Saturn	4302-02-06 09:07 G	3292368.67	3292368.88	3292369.10 0.0294 0.0125
Jupiter	4303-01-28 08:24 G	3292724.62	3292724.85	3292725.07 0.0521 0.0133
Mars	4303-05-29 07:26 G	3292845.63	3292845.81	3292846.00 0.1657 0.0488
Neptune	4303-08-20 11:16 G	3292928.92	3292928.97	3292929.08 0.0088 0.0085
Neptune	4304-08-22 00:28 G	3293296.35	3293296.52	3293296.71 0.0088 0.0064

4305-08-24 13:11 G 3293663.84 3293664.05 3293664.30 0.0088 0.0044 Neptune 4306-08-27 02:24 G 3294031.36 3294031.60 3294031.86 0.0088 0.0023 Neptune Neptune 4307-08-29 15:35 G 3294398.89 3294399.15 3294399.42 0.0088 0.0002 4308-08-31 04:33 G 3294766.44 3294766.95 0.0088 0.0019 Neptune 3294766.69 4309-08-03 19:40 G 3295104.20 3295104.32 3295104.45 0.0509 0.0432 Jupiter Neptune 4309-09-02 17:31 G 3295134.00 3295134.23 3295134.47 0.0088 0.0040 Neptune 4310-09-05 06:28 G 3295501.60 3295501.77 3295501.98 0.0089 0.0061 4311-09-07 19:55 G 3295869.23 3295869.33 3295869.44 0.0089 0.0081 Neptune Jupiter 4315-02-02 03:21 G 3297112.48 3297112.64 3297112.81 0.0519 0.0366 4316-08-04 23:16 G 3297662.23 3297662.47 3297662.72 0.0266 0.0020 Saturn Uranus 4329-05-31 11:16 G 3302344.86 3302344.97 3302345.10 0.0144 0.0127 **Uranus** 4330-06-05 11:45 G 3302714.79 3302714.99 3302715.19 0.0143 0.0091 Saturn 4331-01-31 04:04 G 3302954.52 3302954.67 3302954.85 0.0293 0.0211 **Uranus** 4331-06-10 11:31 G 3303084.76 3303084.98 3303085.23 0.0143 0.0054 **Uranus** 4332-06-14 11:16 G 3303454.72 3303454.97 3303455.23 0.0143 0.0017 **Uranus** 4333-06-19 10:33 G 3303824.69 3303824.94 3303825.20 0.0142 0.0020 Uranus 4334-06-24 08:52 G 3304194.65 3304194.87 3304195.12 0.0142 0.0057 4335-06-29 07:40 G 3304564.63 3304564.82 3304565.01 0.0141 0.0092 Uranus Uranus 4336-07-03 04:33 G 3304934.61 3304934.69 3304934.83 0.0141 0.0127 4344-07-15 07:55 G 3307868.76 3307868.83 3307868.92 0.0502 0.0470 Jupiter Saturn 4345-07-30 14:24 G 3308249.00 3308249.10 3308249.23 0.0266 0.0235 Jupiter 4356-07-20 00:28 G 3312256.32 3312256.52 3312256.73 0.0503 0.0255 Mars 4356-11-27 09:35 G 3312386.85 3312386.90 3312386.95 0.1883 0.1814 4361-02-07 06:28 G 3313919.59 3313919.77 3313919.97 0.0293 0.0179 Saturn Jupiter 4362-01-18 02:52 G 3314264.46 3314264.62 3314264.78 0.0525 0.0374 Jupiter 4368-07-24 14:09 G 3316643.86 3316644.09 3316644.33 0.0505 0.0047 Uranus 4372-12-03 08:24 G 3318236.74 3318236.85 3318236.99 0.0135 0.0117 Uranus 4373-12-07 16:48 G 3318606.02 3318606.20 3318606.40 0.0135 0.0087 Jupiter 4374-01-22 23:45 G 3318652.26 3318652.49 3318652.71 0.0524 0.0134 Uranus 4374-12-12 01:26 G 3318975.34 3318975.56 3318975.80 0.0135 0.0057

4375-08-06 23:31 G 3319213.24 3319213.48 3319213.72 0.0267 0.0075 Saturn 4375-12-16 10:04 G 3319344.68 3319344.92 3319345.18 0.0136 0.0026 Uranus Uranus 4376-12-19 19:26 G 3319714.06 3319714.31 3319714.56 0.0136 0.0005 4377-12-24 04:33 G 3320083.46 3320083.69 3320083.94 0.0136 0.0036 Uranus **Uranus** 4378-12-28 14:09 G 3320452.89 3320453.09 3320453.32 0.0137 0.0068 **Uranus** 4380-01-02 00:14 G 3320822.35 3320822.51 3320822.70 0.0137 0.0099 4380-07-29 08:38 G 3321031.64 3321031.86 3321032.08 0.0507 0.0177 Jupiter 4381-01-05 10:48 G 3321191.90 3321191.95 3321192.05 0.0138 0.0131 Uranus Neptune 4385-02-18 12:28 G 3322696.91 3322697.02 3322697.14 0.0089 0.0079 Jupiter 4386-01-27 20:09 G 3323040.11 3323040.34 3323040.56 0.0521 0.0106 Neptune 4386-02-20 22:48 G 3323064.27 3323064.45 3323064.65 0.0089 0.0059 Neptune 4387-02-23 09:21 G 3323431.67 3323431.89 3323432.13 0.0089 0.0039 Neptune 4388-02-25 19:40 G 3323799.09 3323799.32 3323799.58 0.0089 0.0019 Neptune 4389-02-27 06:28 G 3324166.52 3324166.77 3324167.03 0.0089 0.0002 Saturn 4390-02-01 03:21 G 3324505.43 3324505.64 3324505.85 0.0293 0.0151 Neptune 4390-03-01 16:33 G 3324533.95 3324534.19 3324534.45 0.0089 0.0022 Neptune 4391-03-04 02:52 G 3324901.41 3324901.62 3324901.85 0.0089 0.0042 Neptune 4392-03-05 13:11 G 3325268.88 3325269.05 3325269.24 0.0089 0.0062 Jupiter 4392-08-03 05:16 G 3325419.58 3325419.72 3325419.87 0.0509 0.0404 Neptune 4393-03-07 23:16 G 3325636.39 3325636.47 3325636.58 0.0089 0.0082 Jupiter 4398-02-01 14:09 G 3327427.92 3327428.09 3327428.27 0.0519 0.0339 4404-07-31 13:26 G 3329799.89 3329800.06 3329800.26 0.0267 0.0182 Saturn 4413-02-11 22:33 G 3332917.19 3332917.44 3332917.70 0.0064 0.0009 Pluto Uranus 4413-05-31 20:52 G 3333026.25 3333026.37 3333026.51 0.0144 0.0123 Uranus 4414-06-05 20:52 G 3333396.18 3333396.37 3333396.59 0.0143 0.0086 Uranus 4415-06-10 21:07 G 3333766.14 3333766.38 3333766.62 0.0143 0.0049 Uranus 4416-06-14 20:24 G 3334136.10 3334136.35 3334136.61 0.0143 0.0012 Uranus 4417-06-19 19:11 G 3334506.06 3334506.30 3334506.56 0.0142 0.0026 Uranus 4418-06-24 17:45 G 3334876.02 3334876.24 3334876.48 0.0142 0.0061 Uranus 4419-06-29 15:50 G 3335245.98 3335246.16 3335246.36 0.0141 0.0097

Saturn	4420-02-09 04:33 G	3335470.56	3335470.69	3335470.84 0.0293 0.0236
Uranus	4420-07-03 12:43 G	3335615.96	3335616.03	3335616.15 0.0141 0.0131
Jupiter	4427-07-15 13:55 G	3338184.07	3338184.08	3338184.09 0.0500 0.0500
Mars	4429-05-24 21:35 G	3338863.33	3338863.40	3338863.48 0.1645 0.1514
Saturn	4434-08-07 22:48 G	3340764.24	3340764.45	3340764.68 0.0267 0.0129
Mars	4435-12-01 18:43 G	3341245.11	3341245.28	3341245.45 0.1877 0.0950
Jupiter	4439-07-20 05:45 G	3342571.55	3342571.74	3342571.94 0.0502 0.0289
Jupiter	4445-01-17 12:57 G	3344579.90	3344580.04	3344580.19 0.0526 0.0405
Saturn	4449-02-02 03:35 G	3346056.43	3346056.65	3346056.89 0.0293 0.0089
Jupiter	4451-07-24 23:16 G	3346959.23	3346959.47	3346959.70 0.0505 0.0074
Uranus	4456-12-03 17:16 G	3348918.11	3348918.22	3348918.38 0.0135 0.0114
Jupiter	4457-01-22 10:04 G	3348967.70	3348967.92	3348968.14 0.0524 0.0160
Uranus	4457-12-08 01:40 G	3349287.39	3349287.57	3349287.79 0.0135 0.0084
Uranus	4458-12-12 10:19 G	3349656.71	3349656.93	3349657.18 0.0135 0.0054
Uranus	4459-12-16 19:11 G	3350026.06	3350026.30	3350026.56 0.0136 0.0023
Uranus	4460-12-20 04:33 G	3350395.44	3350395.69	3350395.94 0.0136 0.0009
Uranus	4461-12-24 13:40 G	3350764.84	3350765.07	3350765.32 0.0136 0.0041
Uranus	4462-12-28 23:31 G	3351134.28	3351134.48	3351134.71 0.0137 0.0072
Jupiter	4463-07-29 18:57 G	3351347.07	3351347.29	3351347.52 0.0507 0.0151
Saturn	4463-08-02 13:26 G	3351350.85	3351351.06	3351351.29 0.0267 0.0127
Uranus	4464-01-02 09:50 G	3351503.75	3351503.91	3351504.08 0.0137 0.0104
Uranus	4465-01-05 20:24 G	3351873.32	3351873.35	3351873.42 0.0138 0.0135
Neptune	4468-08-21 10:19 G	3353196.79	3353196.93	3353197.08 0.0088 0.0073
Jupiter	4469-01-27 03:07 G	3353355.40	3353355.63	3353355.85 0.0521 0.0073
Neptune	4469-08-23 23:02 G	3353564.26	3353564.46	3353564.68 0.0088 0.0053
Neptune	4470-08-26 12:00 G	3353931.77	3353932.00	3353932.26 0.0088 0.0033
Neptune	4471-08-29 01:11 G	3354299.29	3354299.55	3354299.81 0.0088 0.0012
Neptune	4472-08-30 14:09 G	3354666.83	3354667.09	3354667.35 0.0088 0.0009
Neptune	4473-09-02 02:52 0	3355034.39	3355034.62	3355034.88 0.0088 0.0030
Neptune	4474-09-04 16:04 G	3355401.97	3355402.17	3355402.40 0.0089 0.0050

Jupiter 4475-08-03 14:38 G 3355734.96 3355735.11 3355735.27 0.0509 0.0377 Neptune 4475-09-07 04:48 G 3355769.58 3355769.70 3355769.89 0.0089 0.0071 Jupiter 4481-01-31 20:38 G 3357743.17 3357743.36 3357743.54 0.0520 0.0305 4493-08-08 22:48 G 3362315.28 3362315.45 3362315.64 0.0267 0.0184 Saturn **Uranus** 4497-06-01 06:28 G 3363707.65 3363707.77 3363707.93 0.0144 0.0120 **Uranus** 4498-06-06 06:57 G 3364077.59 3364077.79 3364078.00 0.0143 0.0083 **Uranus** 4499-06-11 06:57 G 3364447.55 3364447.79 3364448.03 0.0143 0.0045 4500-06-16 06:00 G 3364817.50 3364817.75 3364818.01 0.0143 0.0009 Uranus 4501-06-21 05:02 G 3365187.46 3365187.71 Uranus 3365187.97 0.0142 0.0029 Pluto 4501-08-14 21:35 G 3365242.15 3365242.40 3365242.66 0.0079 0.0018 4502-06-26 03:07 G 3365557.42 3365557.63 3365557.87 0.0142 0.0066 Uranus **Uranus** 4503-07-01 01:26 G 3365927.38 3365927.56 3365927.74 0.0141 0.0101 Uranus 4504-07-04 22:33 G 3366297.38 3366297.44 3366297.51 0.0141 0.0135 4508-02-05 06:28 G 3367607.53 3367607.77 3367608.01 0.0293 0.0022 Saturn Mars 4508-05-28 02:09 G 3367720.40 3367720.59 3367720.78 0.1649 0.0267 Jupiter 4522-07-20 14:52 G 3372886.94 3372887.12 3372887.31 0.0502 0.0314 Saturn 4522-08-04 14:09 G 3372901.85 3372902.09 3372902.34 0.0267 0.0070 4528-01-18 18:57 G 3374895.16 3374895.29 3374895.41 0.0526 0.0438 Jupiter Jupiter 4534-07-25 08:24 G 3377274.61 3377274.85 3377275.08 0.0504 0.0099 4540-01-23 14:24 G 3379282.89 3379283.10 3379283.32 0.0524 0.0199 Jupiter Uranus 4540-12-05 02:24 G 3379599.48 3379599.60 3379599.76 0.0135 0.0111 4541-12-09 11:02 G 3379968.76 3379968.96 3379969.16 0.0135 0.0080 Uranus 4542-12-13 19:26 G 3380338.09 Uranus 3380338.31 3380338.56 0.0135 0.0050 Uranus 4543-12-18 04:19 G 3380707.43 3380707.68 3380707.93 0.0136 0.0019 Uranus 4544-12-21 13:26 G 3381076.81 3381077.06 3381077.32 0.0136 0.0013 Uranus 4545-12-25 22:33 G 3381446.22 3381446.44 3381446.69 0.0136 0.0045 4546-07-29 23:16 G 3381662.24 3381662.47 3381662.70 0.0506 0.0112 Jupiter Uranus 4546-12-30 08:24 G 3381815.66 3381815.85 3381816.07 0.0137 0.0076 Uranus 4548-01-03 18:43 G 3382185.14 3382185.28 3382185.45 0.0137 0.0107 Neptune 4549-02-19 00:14 G 3382597.51 3382597.51 3382597.55 0.0089 0.0089

4550-02-21 10:19 G 3382964.80 3382964.93 3382965.12 0.0089 0.0069 Neptune Neptune 4551-02-23 20:52 G 3383332.18 3383332.61 0.0089 0.0049 3383332.37 4552-01-28 08:24 G 3383670.63 3383670.85 3383671.08 0.0523 0.0035 Jupiter 4552-02-26 07:40 G 3383699.59 3383700.08 0.0089 0.0029 Neptune 3383699.82 Saturn 4552-08-11 00:28 G 3383866.42 3383866.52 3383866.62 0.0267 0.0243 Neptune 4553-02-27 18:14 G 3384067.01 3384067.26 3384067.52 0.0089 0.0009 Neptune 4554-03-02 04:33 G 3384434.45 3384434.69 3384434.95 0.0089 0.0012 4555-03-04 14:52 G 3384801.90 3384802.12 3384802.37 0.0089 0.0032 Neptune Neptune 4556-03-06 00:57 G 3385169.36 3385169.54 3385169.77 0.0089 0.0052 3385537.14 0.0089 0.0072 Neptune 4557-03-08 11:02 G 3385536.84 3385536.96 Jupiter 4558-08-03 17:02 G 3386050.04 3386050.21 3386050.40 0.0508 0.0334 4564-02-02 04:04 G 3388058.47 3388058.67 3388058.86 0.0521 0.0267 Jupiter Saturn 4567-02-06 11:45 G 3389158.75 3389158.99 3389159.23 0.0292 0.0052 Jupiter 4576-02-06 22:19 G 3392446.36 3392446.43 3392446.50 0.0518 0.0494 **Uranus** 4581-06-02 16:33 G 3394389.05 3394389.19 3394389.34 0.0144 0.0116 4581-08-05 16:48 G 3394452.95 3394453.20 3394453.45 0.0267 0.0010 Saturn **Uranus** 4582-06-07 16:19 G 3394758.98 3394759.18 3394759.41 0.0143 0.0079 4583-06-12 16:04 G 3395128.94 3395129.43 0.0143 0.0042 Uranus 3395129.17 **Uranus** 4584-06-16 15:35 G 3395498.89 3395499.15 3395499.41 0.0143 0.0004 4585-06-21 14:09 G 3395868.85 3395869.35 0.0142 0.0034 **Uranus** 3395869.09 **Uranus** 4586-06-26 12:14 G 3396238.81 3396239.01 3396239.25 0.0142 0.0070 4587-05-31 07:26 G 3396577.66 3396577.81 3396577.96 0.1652 0.1009 Mars 4587-07-01 10:04 G 3396608.77 3396608.92 3396609.12 0.0141 0.0106 Uranus Uranus 4588-07-05 07:26 G 3396978.79 3396978.81 3396978.86 0.0141 0.0139 Saturn 4596-01-31 13:55 G 3399744.98 3399745.08 3399745.18 0.0293 0.0266 Jupiter 4605-07-20 20:09 G 3403202.17 3403202.34 3403202.51 0.0501 0.0349 4610-08-01 19:11 G 3405040.20 3405040.30 3405040.42 0.0268 0.0240 Saturn Jupiter 4611-01-18 20:09 G 3405210.26 3405210.34 3405210.43 0.0528 0.0487 Jupiter 4617-07-25 11:31 G 3407589.75 3407589.98 3407590.21 0.0503 0.0139 Jupiter 4623-01-23 18:14 G 3409598.06 3409598.26 3409598.47 0.0525 0.0244

4624-12-06 10:33 G 3410280.81 3410280.94 3410281.11 0.0135 0.0108 Uranus 4625-12-10 18:43 G 3410650.09 3410650.28 3410650.51 0.0135 0.0078 Uranus Saturn 4626-02-08 20:38 G 3410710.15 3410710.36 3410710.58 0.0292 0.0133 4626-12-15 03:35 G 3411019.42 3411019.65 3411019.89 0.0135 0.0047 **Uranus Uranus** 4627-12-19 12:28 G 3411388.77 3411389.02 3411389.27 0.0136 0.0016 **Uranus** 4628-12-22 21:35 G 3411758.16 3411758.40 3411758.66 0.0136 0.0016 4629-07-30 03:07 G 3411977.40 3411977.63 3411977.87 0.0505 0.0076 Jupiter 4629-12-27 06:57 G 3412127.56 3412127.79 3412128.03 0.0136 0.0047 Uranus Uranus 4630-12-31 17:02 G 3412497.01 3412497.21 3412497.42 0.0137 0.0079 4632-01-05 03:07 G 3412866.50 3412866.63 3412866.79 0.0137 0.0111 Uranus Neptune 4632-08-22 19:11 G 3413097.24 3413097.30 3413097.43 0.0088 0.0082 Neptune 4633-08-25 08:24 G 3413464.69 3413464.85 3413465.06 0.0088 0.0062 Neptune 4634-08-27 21:35 G 3413832.18 3413832.40 3413832.64 0.0088 0.0042 Jupiter 4635-01-28 15:21 G 3413985.91 3413986.14 3413986.37 0.0523 0.0008 Neptune 4635-08-30 10:33 G 3414199.69 3414199.94 3414200.20 0.0088 0.0022 Neptune 4636-08-31 23:45 G 3414567.23 3414567.49 3414567.75 0.0088 0.0001 4637-09-03 12:43 G 3414934.77 3414935.03 3414935.29 0.0088 0.0019 Neptune Neptune 4638-09-06 01:26 G 3415302.34 3415302.56 3415302.81 0.0089 0.0040 Neptune 4639-09-08 14:09 G 3415669.92 3415670.09 3415670.30 0.0089 0.0060 4640-08-07 21:21 G 3416004.14 3416004.39 3416004.63 0.0267 0.0055 Saturn Neptune 4640-09-10 03:21 G 3416037.55 3416037.64 3416037.77 0.0089 0.0080 Jupiter 4641-08-03 22:33 G 3416365.25 3416365.44 3416365.63 0.0508 0.0298 Jupiter 4647-02-02 08:09 G 3418373.64 3418373.84 3418374.05 0.0521 0.0228 4655-02-02 23:16 G 3421296.29 3421296.47 3421296.66 0.0292 0.0184 Saturn Jupiter 4659-02-07 00:14 G 3422761.41 3422761.51 3422761.63 0.0519 0.0452 Pluto 4661-02-14 21:50 G 3423500.26 3423500.41 3423500.59 0.0064 0.0049 4662-02-16 08:52 G 3423866.70 3423866.87 3423867.08 0.0065 0.0043 Pluto Uranus 4665-06-04 00:43 G 3425070.38 3425070.53 3425070.70 0.0144 0.0113 Uranus 4666-06-09 00:43 G 3425440.32 3425440.53 3425440.76 0.0143 0.0076 Uranus 4667-06-14 00:28 G 3425810.28 3425810.52 3425810.77 0.0143 0.0038

Uranus 4668-06-17 23:31 G 3426180.23 3426180.48 3426180.74 0.0143 0.0003
Uranus 4669-06-22 22:19 G 3426550.19 3426550.43 3426550.69 0.0142 0.0037
Saturn 4669-08-03 00:28 G 3426591.34 3426591.52 3426591.71 0.0268 0.0175
Uranus 4670-06-27 20:38 G 3426920.15 3426920.36 3426920.59 0.0142 0.0073
Uranus 4671-07-02 18:14 G 3427290.11 3427290.26 3427290.44 0.0141 0.0108
Saturn 4685-02-10 08:38 G 3432261.71 3432261.86 3432262.02 0.0292 0.0220
Jupiter 4688-07-19 22:04 G 3433517.28 3433517.42 3433517.58 0.0501 0.0387
Jupiter 4694-01-18 01:26 G 3435525.54 3435525.56 3435525.59 0.0528 0.0523
Saturn 4699-08-10 04:19 G 3437555.46 3437555.68 3437555.90 0.0267 0.0124
Jupiter 4700-07-25 14:38 G 3437904.89 3437905.11 3437905.33 0.0503 0.0175
Jupiter 4706-01-23 21:21 G 3439913.20 3439913.39 3439913.58 0.0525 0.0284
Uranus 4707-12-04 11:16 G 3440592.95 3440592.97 3440592.99 0.0134 0.0134
Uranus 4708-12-07 18:57 G 3440962.16 3440962.29 3440962.47 0.0135 0.0105
Uranus 4709-12-12 03:21 G 3441331.44 3441331.64 3441331.86 0.0135 0.0074
Uranus 4710-12-16 12:14 G 3441700.77 3441701.01 3441701.25 0.0135 0.0044
Uranus 4711-12-20 20:52 G 3442070.12 3442070.37 3442070.63 0.0136 0.0012
Jupiter 4712-07-30 08:24 G 3442292.61 3442292.85 3442293.08 0.0505 0.0041
Uranus 4712-12-24 06:14 G 3442439.51 3442439.76 3442440.01 0.0136 0.0019
Mars 4713-05-28 22:48 G 3442595.30 3442595.45 3442595.60 0.1641 0.0959
Uranus 4713-12-28 15:21 G 3442808.92 3442809.14 3442809.39 0.0136 0.0051
Saturn 4714-02-05 12:00 G 3442847.77 3442848.00 3442848.23 0.0292 0.0095
Neptune 4714-02-22 22:33 G 3442865.35 3442865.44 3442865.59 0.0089 0.0078
Uranus 4715-01-02 01:26 G 3443178.37 3443178.56 3443178.77 0.0137 0.0083
Neptune 4715-02-25 09:21 G 3443232.72 3443232.89 3443233.10 0.0089 0.0058
Uranus 4716-01-06 11:45 G 3443547.87 3443547.99 3443548.14 0.0137 0.0115
Neptune 4716-02-27 19:55 G 3443600.11 3443600.33 3443600.57 0.0089 0.0038
Neptune 4717-03-01 06:28 G 3443967.52 3443967.77 3443968.02 0.0089 0.0018
Jupiter 4718-01-28 15:50 G 3444300.93 3444301.16 3444301.39 0.0524 0.0049
Neptune 4718-03-03 17:02 G 3444334.96 3444335.21 3444335.46 0.0089 0.0002
Neptune 4719-03-06 03:07 G 3444702.40 3444702.63 3444702.89 0.0089 0.0022

4719-12-04 08:09 G 3444975.66 3444975.84 3444976.03 0.1885 0.0648 Mars Neptune 4720-03-07 13:26 G 3445069.86 3445070.06 3445070.31 0.0089 0.0042 Neptune 4721-03-10 00:00 G 3445437.33 3445437.50 3445437.69 0.0089 0.0061 Neptune 4722-03-12 10:04 G 3445804.84 3445804.92 3445805.05 0.0089 0.0081 4724-08-04 00:57 G 3446680.33 3446680.54 3446680.74 0.0506 0.0254 Jupiter Saturn 4728-08-05 07:26 G 3448142.59 3448142.81 3448143.04 0.0268 0.0106 Jupiter 4730-02-02 06:57 G 3448688.57 3448688.79 3448689.01 0.0522 0.0173 4736-08-08 18:00 G 3451068.17 3451068.25 3451068.34 0.0508 0.0471 Jupiter Jupiter 4742-02-07 01:11 G 3453076.41 3453076.55 3453076.70 0.0520 0.0401 4749-06-05 08:09 G 3455751.69 3455751.84 3455752.02 0.0144 0.0110 Uranus 4750-06-10 08:09 G 3456121.63 Uranus 3456121.84 3456122.07 0.0143 0.0072 **Uranus** 4751-06-15 07:40 G 3456491.58 3456491.82 3456492.08 0.0143 0.0035 **Uranus** 4752-06-19 06:57 G 3456861.54 3456861.79 3456862.05 0.0143 0.0003 4753-06-24 05:31 G 3457231.50 Uranus 3457231.73 3457231.99 0.0142 0.0040 Uranus 4754-06-29 03:35 G 3457601.45 3457601.65 3457601.88 0.0142 0.0077 Uranus 4755-07-04 01:26 G 3457971.43 3457971.56 3457971.74 0.0141 0.0113 3459107.05 3459107.23 0.0267 0.0197 Saturn 4758-08-12 13:11 G 3459106.89 Jupiter 4771-07-21 02:38 G 3463832.48 3463832.61 3463832.74 0.0501 0.0419 Saturn 4773-02-07 02:09 G 3464399.35 3464399.59 3464399.83 0.0292 0.0004 Jupiter 4783-07-25 18:00 G 3468220.03 3468220.25 3468220.46 0.0502 0.0214 Saturn 4787-08-07 16:19 G 3469693.93 3469694.18 3469694.43 0.0268 0.0034 Jupiter 4789-01-22 17:02 G 3470228.04 3470228.21 3470228.39 0.0527 0.0343 Uranus 4791-12-04 19:11 G 3471274.25 3471274.30 3471274.37 0.0134 0.0131 4792-05-31 02:38 G 3471452.42 3471452.61 3471452.80 0.1644 0.0272 Mars Uranus 4792-12-08 03:21 G 3471643.48 3471643.64 3471643.81 0.0135 0.0101 Uranus 4793-12-12 11:31 G 3472012.78 3472012.98 3472013.21 0.0135 0.0071 4794-12-16 20:09 G 3472382.11 3472382.34 3472382.59 0.0135 0.0040 Uranus Jupiter 4795-07-30 08:52 G 3472607.63 3472607.87 3472608.10 0.0504 0.0007 Uranus 4795-12-21 05:02 G 3472751.46 3472751.71 3472751.97 0.0136 0.0009 Uranus 4796-12-24 14:24 G 3473120.85 3473121.10 3473121.35 0.0136 0.0023

Neptune	4797-08-25 18:43 G	3473365.13	3473365.28	3473365.44 0.0088 0.0071
Uranus	4797-12-28 23:45 G	3473490.27	3473490.49	3473490.73 0.0136 0.0055
Neptune	4798-08-28 07:40 G	3473732.61	3473732.82	3473733.04 0.0088 0.0051
Uranus	4799-01-02 09:50 G	3473859.73	3473859.91	3473860.12 0.0137 0.0087
Neptune	4799-08-30 20:24 G	3474100.12	3474100.35	3474100.61 0.0088 0.0032
Uranus	4800-01-06 20:24 G	3474229.24	3474229.35	3474229.49 0.0137 0.0118
Neptune	4800-09-01 09:50 G	3474467.65	3474467.91	3474468.17 0.0088 0.0011
Jupiter	4801-01-27 13:26 G	3474615.84	3474616.06	3474616.29 0.0525 0.0105
Neptune	4801-09-03 22:48 G	3474835.19	3474835.45	3474835.71 0.0088 0.0009
Saturn	4802-02-01 18:00 G	3474986.23	3474986.25	3474986.31 0.0292 0.0287
Neptune	4802-09-06 11:16 G	3475202.74	3475202.97	3475203.23 0.0089 0.0030
Neptune	4803-09-09 00:43 G	3475570.31	3475570.53	3475570.75 0.0089 0.0049
Neptune	4804-09-10 12:57 G	3475937.91	3475938.04	3475938.23 0.0089 0.0070
Jupiter	4807-08-03 22:48 G	3476995.23	3476995.45	3476995.66 0.0506 0.0206
Jupiter	4813-02-01 10:48 G	3479003.73	3479003.95	3479004.18 0.0522 0.0134
Jupiter	4819-08-08 17:31 G	3481383.11	3481383.23	3481383.36 0.0508 0.0426
Jupiter	4825-02-06 03:35 G	3483391.49	3483391.65	3483391.82 0.0520 0.0359
Saturn	4832-02-09 18:00 G	3485951.02	3485951.25	3485951.48 0.0292 0.0091
Uranus	4832-05-31 15:07 G	3486063.12	3486063.13	3486063.18 0.0144 0.0143
Uranus	4833-06-05 15:21 G	3486432.98	3486433.14	3486433.32 0.0144 0.0106
Uranus	4834-06-10 15:07 G	3486802.92	3486803.13	3486803.37 0.0143 0.0069
Uranus	4835-06-15 14:38 G	3487172.87	3487173.11	3487173.37 0.0143 0.0031
Uranus	4836-06-19 13:55 G	3487542.82	3487543.08	3487543.34 0.0143 0.0007
Uranus	4837-06-24 12:28 G	3487912.79	3487913.02	3487913.27 0.0142 0.0044
Uranus	4838-06-29 11:02 G	3488282.75	3488282.96	3488283.17 0.0142 0.0080
Uranus	4839-07-04 08:52 G	3488652.73	3488652.87	3488653.02 0.0141 0.0116
Saturn	4846-08-09 01:55 G	3491245.33	3491245.58	3491245.83 0.0268 0.0039
Jupiter	4854-07-20 04:33 G	3494147.60	3494147.69	3494147.79 0.0500 0.0456
Saturn	4861-02-03 09:50 G	3496537.74	3496537.91	3496538.10 0.0292 0.0193
Jupiter	4866-07-24 15:07 G	3498534.93	3498535.13	3498535.34 0.0501 0.0259

Mars	4871-06-03 07:26 G	3500309.75	3500309.81	3500309.88 0.1648 0.1535
Jupiter	4872-01-22 20:09 G	3500543.19	3500543.34	3500543.50 0.0527 0.0381
Saturn	4875-08-04 02:09 G	3501832.43	3501832.59	3501832.77 0.0268 0.0198
Uranus	4875-12-05 04:04 G	3501955.59	3501955.67	3501955.75 0.0134 0.0127
Uranus	4876-12-08 11:45 G	3502324.83	3502324.99	3502325.18 0.0135 0.0098
Uranus	4877-12-12 19:55 G	3502694.13	3502694.33	3502694.57 0.0135 0.0067
Neptune	e 4878-02-22 11:31 G	3502765.93	3502765.98	3502766.05 0.0089 0.0087
Jupiter	4878-07-29 07:40 G	3502922.59	3502922.82	3502923.06 0.0504 0.0048
Uranus	4878-12-17 04:48 G	3503063.46	3503063.70	3503063.95 0.0135 0.0036
Neptune	e 4879-02-24 21:35 G	3503133.26	3503133.40	3503133.59 0.0089 0.0067
Uranus	4879-12-21 13:55 G	3503432.83	3503433.08	3503433.33 0.0136 0.0005
Neptune	e 4880-02-27 08:24 G	3503500.64	3503500.85	3503501.07 0.0089 0.0047
Uranus	4880-12-24 23:02 G	3503802.22	3503802.46	3503802.72 0.0136 0.0027
Neptune	e 4881-02-28 18:28 G	3503868.05	3503868.27	3503868.53 0.0089 0.0028
Uranus	4881-12-29 08:38 G	3504171.65	3504171.86	3504172.10 0.0136 0.0059
Neptune	4882-03-03 05:16 G	3504235.46	3504235.72	3504235.97 0.0089 0.0008
Uranus	4883-01-02 18:57 G	3504541.12	3504541.29	3504541.49 0.0137 0.0091
Neptune	e 4883-03-05 15:21 G	3504602.90	3504603.14	3504603.40 0.0089 0.0012
Uranus	4884-01-07 05:45 G	3504910.63	3504910.74	3504910.85 0.0137 0.0122
Jupiter	4884-01-27 16:33 G	3504930.97	3504931.19	3504931.41 0.0525 0.0144
Neptune	e 4884-03-07 01:40 G	3504970.34	3504970.57	3504970.82 0.0089 0.0031
Neptune	4885-03-09 12:00 G	3505337.81	3505338.00	3505338.22 0.0089 0.0051
Neptune	4886-03-11 22:33 G	3505705.29	3505705.44	3505705.60 0.0089 0.0070
Jupiter	4890-08-03 01:40 G	3507310.35	3507310.57	3507310.79 0.0506 0.0168
Saturn	4891-02-11 08:24 G	3507502.68	3507502.85	3507503.05 0.0293 0.0183
Jupiter	4896-02-01 10:33 G	3509318.71	3509318.94	3509319.17 0.0523 0.0086
Jupiter	4902-08-08 20:09 G	3511698.19	3511698.34	3511698.50 0.0507 0.0383
Saturn	4905-08-11 11:31 G	3512796.76	3512796.98	3512797.21 0.0268 0.0111
Jupiter	4908-02-07 00:28 G	3513706.34	3513706.52	3513706.71 0.0521 0.0304
Pluto	4910-02-19 06:00 G	3514449.50	3514449.75	3514450.01 0.0064 0.0005

4916-06-01 23:31 G 3516744.44 3516744.48 3516744.56 0.0144 0.0139 Uranus 4917-06-06 23:31 G 3517114.32 3517114.48 3517114.67 0.0144 0.0102 Uranus Mars 4918-05-28 21:35 G 3517470.37 3517470.40 3517470.44 0.1634 0.1598 4918-06-11 23:16 G 3517484.26 3517484.47 3517484.71 0.0143 0.0065 Uranus **Uranus** 4919-06-16 22:33 G 3517854.20 3517854.44 3517854.70 0.0143 0.0027 Saturn 4920-02-07 00:28 G 3518089.30 3518089.52 3518089.75 0.0292 0.0103 4920-06-20 21:50 G 3518224.16 3518224.41 3518224.67 0.0143 0.0011 **Uranus** 4921-06-25 20:24 G 3518594.12 3518594.35 3518594.60 0.0142 0.0048 Uranus Uranus 4922-06-30 18:28 G 3518964.08 3518964.27 3518964.49 0.0142 0.0085 4923-07-05 16:19 G 3519334.07 3519334.18 3519334.33 0.0141 0.0120 Uranus Saturn 4934-08-06 12:57 G 3523383.82 3523384.04 3523384.27 0.0268 0.0124 4937-07-20 03:21 G 3524462.62 3524462.64 3524462.67 0.0499 0.0496 Jupiter Jupiter 4949-07-24 19:11 G 3528850.11 3528850.30 3528850.49 0.0501 0.0292 4950-02-13 21:35 G 3529054.31 3529054.40 3529054.49 0.0293 0.0269 Saturn Jupiter 4955-01-22 20:52 G 3530858.24 3530858.37 3530858.51 0.0527 0.0425 Uranus 4959-12-06 12:00 G 3532636.91 3532637.00 3532637.10 0.0134 0.0124 Uranus 4960-12-09 19:55 G 3533006.16 3533006.33 3533006.52 0.0135 0.0094 4961-07-29 12:00 G 3533237.77 3533238.00 3533238.24 0.0503 0.0083 Jupiter Neptune 4961-08-26 03:50 G 3533265.57 3533265.66 3533265.79 0.0088 0.0080 4961-12-14 04:04 G 3533375.47 3533375.67 3533375.91 0.0135 0.0064 **Uranus** Neptune 4962-08-28 16:48 G 3533633.03 3533633.20 3533633.41 0.0088 0.0060 4962-12-18 13:11 G 3533744.81 3533745.05 3533745.30 0.0135 0.0033 **Uranus** Neptune 4963-08-31 06:00 G 3534000.53 3534000.75 3534001.00 0.0088 0.0041 Uranus 4963-12-22 22:19 G 3534114.18 3534114.43 3534114.69 0.0136 0.0002 Saturn 4964-08-12 20:38 G 3534348.17 3534348.36 3534348.54 0.0268 0.0181 Neptune 4964-09-01 19:26 G 3534368.06 3534368.31 3534368.57 0.0088 0.0021 4964-12-26 07:40 G 3534483.58 3534483.82 3534484.08 0.0136 0.0031 Uranus Neptune 4965-09-04 08:24 G 3534735.59 3534735.85 3534736.12 0.0088 0.0002 Uranus 4965-12-30 17:16 G 3534853.01 3534853.22 3534853.46 0.0136 0.0064 Neptune 4966-09-06 21:21 G 3535103.15 3535103.39 3535103.66 0.0088 0.0020

4967-01-04 03:50 G 3535222.49 3535222.66 3535222.85 0.0137 0.0095 Uranus 4967-01-27 13:11 G 3535245.84 3535246.05 3535246.26 0.0526 0.0198 Jupiter Neptune 4967-09-09 10:04 G 3535470.71 3535470.92 3535471.18 0.0089 0.0040 **Uranus** 4968-01-08 14:09 G 3535592.02 3535592.09 3535592.21 0.0137 0.0128 4968-09-10 23:31 G 3535838.29 3535838.48 3535838.68 0.0089 0.0059 Neptune 4969-09-13 12:14 G 3536205.91 3536206.01 3536206.15 0.0089 0.0079 Jupiter 4973-08-03 03:35 G 3537625.42 3537625.65 3537625.88 0.0505 0.0128 4979-02-01 08:52 G 3539633.65 3539633.87 3539634.10 0.0524 0.0037 **Jupiter** Saturn 4979-02-08 11:45 G 3539640.75 3539640.99 3539641.23 0.0292 0.0020 Jupiter 4985-08-07 16:48 G 3542013.02 3542013.20 3542013.38 0.0507 0.0334 **Jupiter** 4991-02-06 06:14 G 3544021.56 3544021.76 3544021.95 0.0522 0.0270 Saturn 4993-08-07 22:33 G 3544935.20 3544935.44 3544935.69 0.0268 0.0053 Mars 4997-05-31 00:57 G 3546327.36 3546327.54 3546327.73 0.1637 0.0391 Pluto 4998-08-21 01:11 G 3546774.30 3546774.55 3546774.82 0.0079 0.0018 **Uranus** 5000-06-03 09:07 G 3547425.81 3547425.88 3547425.98 0.0144 0.0135

## 6TH MILLENNIUM CE

## This is a list of transits of Earth in the 6th millennium CE.

FROM MAX- C START MAX END SUNRAD DEPTH S

TRANSIT

TIME

 Uranus
 5001-06-08 09:07 G
 3547795.70
 3547795.88
 3547796.07 0.0144 0.0098

 Uranus
 5002-06-13 08:24 G
 3548165.63
 3548165.85
 3548166.09 0.0143 0.0061

 Jupiter
 5003-02-12 00:00 G
 3548409.43
 3548409.50
 3548409.57 0.0519 0.0492

 Uranus
 5003-06-18 07:40 G
 3548535.58
 3548535.82
 3548536.08 0.0143 0.0023

Mars	5003-12-05 19:40 G	3548706.12	3548706.32	3548706.52 0.1892 0.0277
Uranus	5004-06-22 06:57 G	3548905.54	3548905.79	3548906.05 0.0143 0.0015
Uranus	5005-06-27 05:31 G	3549275.50	3549275.73	3549275.98 0.0142 0.0053
Uranus	5006-07-02 03:50 G	3549645.47	3549645.66	3549645.87 0.0142 0.0089
Uranus	5007-07-07 01:40 G	3550015.46	3550015.57	3550015.70 0.0141 0.0125
Saturn	5023-08-16 03:21 G	3555899.56	3555899.64	3555899.75 0.0267 0.0248
Jupiter	5032-07-24 23:31 G	3559165.30	3559165.48	3559165.66 0.0501 0.0324
Jupiter	5038-01-22 19:26 G	3561173.21	3561173.31	3561173.41 0.0528 0.0473
Saturn	5038-02-10 20:09 G	3561192.10	3561192.34	3561192.58 0.0292 0.0057
Neptune	5043-02-26 10:33 G	3563033.82	3563033.94	3563034.08 0.0089 0.0076
Uranus	5043-12-07 20:09 G	3563318.25	3563318.34	3563318.47 0.0134 0.0121
Neptune	5044-02-28 20:52 G	3563401.19	3563401.37	3563401.58 0.0089 0.0056
Jupiter	5044-07-29 10:33 G	3563552.71	3563552.94	3563553.16 0.0502 0.0127
Uranus	5044-12-11 04:33 G	3563687.52	3563687.69	3563687.89 0.0135 0.0091
Neptune	5045-03-02 07:11 G	3563768.58	3563768.80	3563769.04 0.0089 0.0037
Uranus	5045-12-15 13:11 G	3564056.83	3564057.05	3564057.28 0.0135 0.0060
Neptune	5046-03-04 18:00 G	3564136.00	3564136.25	3564136.50 0.0089 0.0017
Uranus	5046-12-19 22:04 G	3564426.18	3564426.42	3564426.67 0.0135 0.0029
Neptune	5047-03-07 04:04 G	3564503.42	3564503.67	3564503.93 0.0089 0.0003
Uranus	5047-12-24 07:26 G	3564795.56	3564795.81	3564796.06 0.0136 0.0003
Neptune	5048-03-08 14:09 G	3564870.86	3564871.09	3564871.35 0.0089 0.0022
Uranus	5048-12-27 16:48 G	3565164.96	3565165.20	3565165.45 0.0136 0.0035
Neptune	5049-03-11 00:28 G	3565238.31	3565238.52	3565238.76 0.0089 0.0041
Uranus	5050-01-01 02:24 G	3565534.40	3565534.60	3565534.84 0.0136 0.0068
Jupiter	5050-01-27 19:11 G	3565561.09	3565561.30	3565561.51 0.0526 0.0231
Neptune	5050-03-13 11:02 G	3565605.78	3565605.96	3565606.15 0.0089 0.0060
Uranus	5051-01-05 12:57 G	3565903.88	3565904.04	3565904.22 0.0137 0.0099
Neptune	5051-03-15 20:52 G	3565973.29	3565973.37	3565973.51 0.0089 0.0080
Uranus	5052-01-09 23:16 G	3566273.42	3566273.47	3566273.56 0.0137 0.0131
Saturn	5052-08-10 06:14 G	3566486.51	3566486.76	3566487.01 0.0267 0.0015

Jupiter	5056-08-03 03:21 G	3567940.41	3567940.64	3567940.87 0.0504 0.0086
Jupiter	5062-02-01 16:33 G	3569948.96	3569949.19	3569949.42 0.0524 0.0008
Saturn	5067-02-04 17:31 G	3571778.14	3571778.23	3571778.33 0.0292 0.0268
Jupiter	5068-08-07 22:19 G	3572328.24	3572328.43	3572328.62 0.0507 0.0301
Jupiter	5074-02-06 10:48 G	3574336.75	3574336.95	3574337.16 0.0522 0.0233
Mars	5076-06-03 04:48 G	3575184.54	3575184.70	3575184.86 0.1640 0.0833
Saturn	5081-08-05 00:43 G	3577073.41	3577073.53	3577073.66 0.0268 0.0231
Uranus	5084-06-03 19:11 G	3578107.21	3578107.30	3578107.40 0.0144 0.0132
Uranus	5085-06-08 18:43 G	3578477.10	3578477.28	3578477.49 0.0144 0.0095
Jupiter	5086-02-11 01:11 G	3578724.44	3578724.55	3578724.67 0.0520 0.0448
Uranus	5086-06-13 18:43 G	3578847.05	3578847.28	3578847.52 0.0143 0.0057
Uranus	5087-06-18 18:00 G	3579217.00	3579217.25	3579217.50 0.0143 0.0019
Uranus	5088-06-22 17:02 G	3579586.96	3579587.21	3579587.47 0.0143 0.0020
Uranus	5089-06-27 15:50 G	3579956.93	3579957.16	3579957.40 0.0142 0.0056
Uranus	5090-07-02 13:40 G	3580326.90	3580327.07	3580327.28 0.0142 0.0094
Uranus	5091-07-07 11:31 G	3580696.90	3580696.98	3580697.10 0.0141 0.0129
Saturn	5097-02-12 00:57 G	3582743.33	3582743.54	3582743.77 0.0292 0.0127
Saturn	5111-08-13 11:31 G	3588037.75	3588037.98	3588038.22 0.0267 0.0079
Jupiter	5115-07-26 00:57 G	3589480.38	3589480.54	3589480.71 0.0500 0.0360
Jupiter	5121-01-23 04:04 G	3591488.60	3591488.67	3591488.74 0.0529 0.0502
Neptune	5125-08-27 13:40 G	3593166.07	3593166.07	3593166.11 0.0088 0.0088
Saturn	5126-02-06 21:35 G	3593329.23	3593329.40	3593329.58 0.0292 0.0200
Neptune	5126-08-30 02:52 G	3593533.46	3593533.62	3593533.79 0.0088 0.0069
Jupiter	5127-07-30 17:31 G	3593868.01	3593868.23	3593868.46 0.0502 0.0154
Neptune	5127-09-01 15:35 G	3593900.96	3593901.15	3593901.39 0.0088 0.0050
Uranus	5127-12-09 04:04 G	3593999.57	3593999.67	3593999.81 0.0134 0.0119
Neptune	5128-09-03 05:02 G	3594268.46	3594268.71	3594268.96 0.0088 0.0030
Uranus	5128-12-12 12:14 G	3594368.84	3594369.01	3594369.22 0.0135 0.0089
Neptune	5129-09-05 18:00 G	3594636.00	3594636.25	3594636.52 0.0088 0.0010
Uranus	5129-12-16 21:21 G	3594738.16	3594738.39	3594738.62 0.0135 0.0057

Neptune	• 5130-09-08 07:11 G	3595003.54	3595003.80	3595004.06 0.0088 0.0009
Uranus	5130-12-21 06:14 G	3595107.52	3595107.76	3595108.01 0.0135 0.0026
Neptune	e 5131-09-10 19:55 G	3595371.10	3595371.33	3595371.59 0.0088 0.0030
Uranus	5131-12-25 15:35 G	3595476.90	3595477.15	3595477.40 0.0136 0.0006
Neptune	e 5132-09-12 09:07 G	3595738.67	3595738.88	3595739.11 0.0089 0.0049
Uranus	5132-12-29 01:11 G	3595846.31	3595846.55	3595846.79 0.0136 0.0038
Jupiter	5133-01-28 01:40 G	3595876.38	3595876.57	3595876.77 0.0526 0.0264
Neptune	e 5133-09-14 21:35 G	3596106.26	3596106.40	3596106.59 0.0089 0.0069
Uranus	5134-01-02 10:48 G	3596215.75	3596215.95	3596216.18 0.0136 0.0071
Neptune	e 5134-09-17 10:48 G	3596473.94	3596473.95	3596474.01 0.0089 0.0088
Uranus	5135-01-06 21:07 G	3596585.23	3596585.38	3596585.56 0.0137 0.0103
Uranus	5136-01-11 07:55 G	3596954.79	3596954.83	3596954.88 0.0137 0.0135
Jupiter	5139-08-04 11:45 G	3598255.76	3598255.99	3598256.23 0.0504 0.0059
Saturn	5140-08-07 04:19 G	3598624.50	3598624.68	3598624.88 0.0268 0.0171
Jupiter	5145-02-01 18:57 G	3600264.06	3600264.29	3600264.52 0.0524 0.0037
Jupiter	5151-08-09 05:02 G	3602643.51	3602643.71	3602643.91 0.0506 0.0271
Saturn	5156-02-15 02:24 G	3604294.43	3604294.60	3604294.80 0.0292 0.0189
Jupiter	5157-02-06 14:24 G	3604651.89	3604652.10	3604652.31 0.0523 0.0193
Pluto	5158-02-22 04:33 G	3605032.54	3605032.69	3605032.88 0.0064 0.0047
Pluto	5159-02-23 15:35 G	3605398.98	3605399.15	3605399.36 0.0064 0.0044
Jupiter	5163-08-13 18:28 G	3607031.20	3607031.27	3607031.36 0.0508 0.0476
Uranus	5168-06-05 04:19 G	3608788.59	3608788.68	3608788.81 0.0144 0.0129
Jupiter	5169-02-11 10:48 G	3609039.82	3609039.95	3609040.08 0.0521 0.0421
Uranus	5169-06-10 04:04 G	3609158.50	3609158.67	3609158.89 0.0144 0.0092
Uranus	5170-06-15 04:04 G	3609528.44	3609528.67	3609528.91 0.0143 0.0053
Saturn	5170-08-14 14:52 G	3609588.91	3609589.12	3609589.34 0.0267 0.0139
Uranus	5171-06-20 03:35 G	3609898.40	3609898.65	3609898.91 0.0143 0.0015
Uranus	5172-06-24 02:52 G	3610268.37	3610268.62	3610268.88 0.0142 0.0023
Uranus	5173-06-29 01:26 G	3610638.33	3610638.56	3610638.80 0.0142 0.0061
Uranus	5174-07-04 00:00 G	3611008.31	3611008.50	3611008.68 0.0142 0.0097

5175-07-08 21:21 G 3611378.33 3611378.39 3611378.49 0.0141 0.0133 Uranus 5185-02-07 23:16 G 3614880.26 3614880.47 3614880.68 0.0292 0.0136 Saturn Jupiter 5198-07-25 11:02 G 3619795.81 3619795.96 3619796.11 0.0500 0.0382 5199-08-09 06:14 G 3620175.54 3620175.76 3620175.99 0.0268 0.0113 Saturn Mars 5202-06-01 00:57 G 3621202.39 3621202.54 3621202.68 0.1631 0.1006 Neptune 5207-02-26 22:19 G 3622934.37 3622934.43 3622934.53 0.0089 0.0084 Neptune 5208-02-29 08:52 G 3623301.71 3623301.87 3623302.06 0.0089 0.0065 5209-03-02 19:26 G 3623669.10 3623669.31 3623669.54 0.0089 0.0046 Neptune Neptune 5210-03-05 05:31 G 3624036.51 3624036.73 3624036.99 0.0089 0.0027 Jupiter 5210-07-30 02:09 G 3624183.37 3624183.59 3624183.82 0.0502 0.0178 Neptune 5211-03-07 16:19 G 3624403.93 3624404.18 3624404.44 0.0089 0.0008 Uranus 5211-12-09 12:57 G 3624680.91 3624681.04 3624681.16 0.0134 0.0116 Neptune 5212-03-09 02:24 G 3624771.36 3624771.60 3624771.86 0.0089 0.0012 5212-12-12 20:52 G 3625050.19 Uranus 3625050.37 3625050.58 0.0135 0.0086 Neptune 5213-03-11 12:43 G 3625138.80 3625139.03 3625139.28 0.0089 0.0031 Uranus 5213-12-17 06:00 G 3625419.52 3625419.75 3625419.98 0.0135 0.0054 Neptune 5214-03-13 23:02 G 3625506.26 3625506.46 3625506.68 0.0089 0.0050 5214-12-21 14:52 G 3625788.88 3625789.12 3625789.38 0.0135 0.0023 Uranus Saturn 5215-02-16 02:09 G 3625845.46 3625845.59 3625845.72 0.0292 0.0246 Neptune 5215-03-16 09:07 G 3625873.74 3625873.88 3625874.05 0.0089 0.0069 Uranus 5215-12-26 00:14 G 3626158.26 3626158.51 3626158.77 0.0136 0.0009 Jupiter 5216-01-28 05:31 G 3626191.55 3626191.73 3626191.92 0.0527 0.0301 Neptune 5216-03-17 19:40 G 3626241.30 3626241.32 3626241.36 0.0089 0.0088 Uranus 5216-12-29 09:50 G 3626527.67 3626527.91 3626528.15 0.0136 0.0041 Uranus 5218-01-02 19:11 G 3626897.11 3626897.30 3626897.53 0.0136 0.0075 Uranus 5219-01-07 05:45 G 3627266.59 3627266.74 3627266.91 0.0137 0.0106 Jupiter 5222-08-03 14:38 G 3628570.87 3628571.11 3628571.34 0.0503 0.0022 Jupiter 5228-02-02 03:50 G 3630579.43 3630579.66 3630579.89 0.0526 0.0066 Saturn 5229-08-15 16:19 G 3631140.02 3631140.18 3631140.36 0.0268 0.0196 Jupiter 5234-08-08 07:55 G 3632958.62 3632958.83 3632959.04 0.0505 0.0233

Jupiter 5240-02-07 01:26 G 3634967.34 3634967.56 3634967.78 0.0523 0.0166
Saturn 5244-02-09 23:16 G 3636431.24 3636431.47 3636431.71 0.0292 0.0076
Jupiter 5246-08-13 03:35 G 3637346.55 3637346.65 3637346.76 0.0507 0.0448
Pluto 5247-08-25 18:00 G 3637724.20 3637724.25 3637724.37 0.0079 0.0076
Jupiter 5252-02-11 20:38 G 3639355.21 3639355.36 3639355.51 0.0521 0.0393
Uranus 5252-06-05 12:57 G 3639469.94 3639470.04 3639470.18 0.0144 0.0126
Uranus 5253-06-10 12:57 G 3639839.85 3639840.04 3639840.25 0.0144 0.0088
Uranus 5254-06-15 12:43 G 3640209.80 3640210.03 3640210.28 0.0143 0.0050
Uranus 5255-06-20 12:28 G 3640579.77 3640580.02 3640580.28 0.0143 0.0012
Uranus 5256-06-24 11:45 G 3640949.74 3640949.99 3640950.24 0.0142 0.0027
Uranus 5257-06-29 10:19 G 3641319.71 3641319.93 3641320.17 0.0142 0.0064
Uranus 5258-07-04 08:52 G 3641689.69 3641689.87 3641690.05 0.0142 0.0101
Saturn 5258-08-10 06:28 G 3641726.53 3641726.77 3641727.02 0.0268 0.0058
Uranus 5259-07-09 06:14 G 3642059.72 3642059.76 3642059.84 0.0141 0.0137
Mars 5281-06-03 04:19 G 3650059.49 3650059.68 3650059.87 0.1633 0.0192
Jupiter 5281-07-24 16:04 G 3650111.05 3650111.17 3650111.31 0.0499 0.0413
Mars 5287-12-06 06:14 G 3652436.56 3652436.76 3652436.96 0.1899 0.0150
Saturn 5288-08-16 16:48 G 3652691.13 3652691.20 3652691.29 0.0268 0.0252
Neptune 5290-08-29 12:00 G 3653433.90 3653434.00 3653434.15 0.0088 0.0078
Neptune 5291-09-01 00:57 G 3653801.36 3653801.54 3653801.76 0.0088 0.0058
Neptune 5292-09-02 14:24 G 3654168.87 3654169.10 3654169.34 0.0088 0.0039
Jupiter 5293-07-29 07:26 G 3654498.60 3654498.81 3654499.02 0.0501 0.0210
Neptune 5293-09-05 03:21 G 3654536.39 3654536.64 3654536.90 0.0088 0.0019
Neptune 5294-09-07 16:33 G 3654903.93 3654904.19 3654904.46 0.0088 0.0001
Neptune 5295-09-10 05:45 G 3655271.49 3655271.74 3655272.00 0.0088 0.0020
Uranus 5295-12-09 20:52 G 3655362.24 3655362.37 3655362.52 0.0134 0.0113
Neptune 5296-09-11 18:43 G 3655639.05 3655639.28 3655639.52 0.0088 0.0039
Uranus 5296-12-13 05:02 G 3655731.53 3655731.71 3655731.93 0.0135 0.0083
Neptune 5297-09-14 07:26 G 3656006.64 3656006.81 3656007.03 0.0089 0.0059

Neptune	5298-09-16 20:38 G	3656374.26	3656374.36	3656374.50 0.0089 0.0078
Uranus	5298-12-21 23:16 G	3656470.22	3656470.47	3656470.72 0.0135 0.0019
Jupiter	5299-01-27 15:50 G	3656506.99	3656507.16	3656507.35 0.0528 0.0330
Uranus	5299-12-26 08:24 G	3656839.60	3656839.85	3656840.10 0.0136 0.0013
Uranus	5300-12-30 17:45 G	3657209.01	3657209.24	3657209.48 0.0136 0.0045
Uranus	5302-01-04 03:21 G	3657578.45	3657578.64	3657578.86 0.0136 0.0077
Uranus	5303-01-08 13:11 G	3657947.92	3657948.05	3657948.22 0.0137 0.0110
Saturn	5303-02-11 23:02 G	3657982.22	3657982.46	3657982.70 0.0292 0.0016
Jupiter	5305-08-03 23:45 G	3658886.26	3658886.49	3658886.73 0.0503 0.0011
Jupiter	5311-02-02 14:09 G	3660894.87	3660895.09	3660895.32 0.0526 0.0093
Jupiter	5317-08-08 18:43 G	3663274.07	3663274.28	3663274.50 0.0505 0.0209
Saturn	5317-08-12 06:28 G	3663277.52	3663277.77	3663278.02 0.0268 0.0004
Jupiter	5323-02-07 08:09 G	3665282.62	3665282.84	3665283.06 0.0523 0.0134
Jupiter	5329-08-13 13:11 G	3667661.92	3667662.05	3667662.18 0.0507 0.0422
Jupiter	5335-02-12 02:52 G	3669670.45	3669670.62	3669670.78 0.0521 0.0360
Uranus	5336-06-06 21:07 G	3670151.26	3670151.38	3670151.52 0.0144 0.0122
Uranus	5337-06-11 21:07 G	3670521.19	3670521.38	3670521.60 0.0144 0.0085
Uranus	5338-06-16 21:07 G	3670891.15	3670891.38	3670891.63 0.0143 0.0046
Uranus	5339-06-21 20:52 G	3671261.12	3671261.37	3671261.63 0.0143 0.0007
Uranus	5340-06-25 20:09 G	3671631.09	3671631.34	3671631.59 0.0143 0.0031
Uranus	5341-06-30 18:43 G	3672001.06	3672001.28	3672001.51 0.0142 0.0068
Uranus	5342-07-05 17:02 G	3672371.05	3672371.21	3672371.39 0.0142 0.0105
Uranus	5343-07-10 14:38 G	3672741.11	3672741.11	3672741.14 0.0141 0.0141
Saturn	5346-08-07 07:55 G	3673864.72	3673864.83	3673864.95 0.0269 0.0235
Mars	5360-06-06 07:26 G	3678916.71	3678916.81	3678916.90 0.1636 0.1402
Saturn	5362-02-12 23:02 G	3679533.23	3679533.46	3679533.70 0.0291 0.0045
Jupiter	5364-07-25 01:40 G	3680426.47	3680426.57	3680426.69 0.0499 0.0436
Neptune	5372-02-29 20:38 G	3683202.25	3683202.36	3683202.53 0.0089 0.0074
Neptune	5373-03-03 07:11 G	3683569.62	3683569.80	3683570.02 0.0089 0.0055
Neptune	5374-03-05 17:45 G	3683937.03	3683937.24	3683937.49 0.0089 0.0036

Neptune	• 5375-03-08 04:19 G	3684304.44	3684304.68	3684304.94 0.0089 0.0017
Neptune	5376-03-09 14:52 G	3684671.87	3684672.12	3684672.37 0.0089 0.0002
Jupiter	5376-07-29 17:45 G	3684814.03	3684814.24	3684814.45 0.0501 0.0233
Saturn	5376-08-13 06:14 G	3684828.52	3684828.76	3684829.01 0.0268 0.0052
Neptune	5377-03-12 01:11 G	3685039.31	3685039.55	3685039.80 0.0089 0.0021
Neptune	5378-03-14 11:02 G	3685406.75	3685406.96	3685407.20 0.0089 0.0040
Neptune	5379-03-16 21:21 0	3685774.22	3685774.39	3685774.59 0.0089 0.0059
Uranus	5379-12-11 05:45 G	3686043.61	3686043.74	3686043.91 0.0134 0.0110
Neptune	5380-03-18 07:26 G	3686141.71	3686141.81	3686141.95 0.0089 0.0078
Uranus	5380-12-14 14:24 G	3686412.91	3686413.10	3686413.32 0.0135 0.0079
Uranus	5381-12-18 23:31 G	3686782.24	3686782.48	3686782.72 0.0135 0.0047
Jupiter	5382-01-27 22:33 G	3686822.27	3686822.44	3686822.61 0.0528 0.0361
Uranus	5382-12-23 08:24 G	3687151.60	3687151.85	3687152.10 0.0135 0.0016
Uranus	5383-12-27 17:31 G	3687520.98	3687521.23	3687521.48 0.0136 0.0017
Uranus	5384-12-31 02:38 G	3687890.38	3687890.61	3687890.86 0.0136 0.0049
Uranus	5386-01-04 12:14 G	3688259.82	3688260.01	3688260.23 0.0136 0.0082
Uranus	5387-01-08 22:04 G	3688629.31	3688629.42	3688629.58 0.0137 0.0114
Jupiter	5388-08-03 10:19 G	3689201.69	3689201.93	3689202.16 0.0502 0.0027
Saturn	5391-02-07 01:26 G	3690119.47	3690119.56	3690119.66 0.0291 0.0267
Jupiter	5394-02-01 19:26 G	3691210.09	3691210.31	3691210.53 0.0526 0.0128
Jupiter	5400-08-09 00:00 G	3693589.27	3693589.50	3693589.72 0.0504 0.0172
Saturn	5405-08-09 07:26 G	3695415.63	3695415.81	3695416.00 0.0269 0.0180
Jupiter	5406-02-07 15:07 G	3695597.90	3695598.13	3695598.36 0.0525 0.0099
Pluto	5407-02-26 12:28 G	3695981.77	3695982.02	3695982.28 0.0064 0.0005
Mars	5407-06-02 02:09 G	3696077.55	3696077.59	3696077.63 0.1624 0.1582
Jupiter	5412-08-13 17:16 G	3697977.07	3697977.22	3697977.38 0.0506 0.0383
Jupiter	5418-02-12 12:00 G	3699985.83	3699986.00	3699986.19 0.0522 0.0327
Uranus	5420-06-08 05:16 G	3700832.60	3700832.72	3700832.88 0.0144 0.0119
Saturn	5421-02-15 01:26 G	3701084.34	3701084.56	3701084.79 0.0291 0.0111
Uranus	5421-06-13 05:16 G	3701202.52	3701202.72	3701202.94 0.0144 0.0081

Uranus	5422-06-18 05:16 G	3701572.49	3701572.72	3701572.98 0.0143 0.0043
Uranus	5423-06-23 05:16 G	3701942.46	3701942.72	3701942.97 0.0143 0.0004
Uranus	5424-06-27 04:19 G	3702312.43	3702312.68	3702312.93 0.0143 0.0035
Uranus	5425-07-02 02:52 G	3702682.41	3702682.62	3702682.85 0.0142 0.0072
Uranus	5426-07-07 00:57 G	3703052.40	3703052.54	3703052.72 0.0142 0.0110
Saturn	5435-08-16 06:43 G	3706379.56	3706379.78	3706380.02 0.0268 0.0108
Jupiter	5447-07-26 11:45 G	3710741.91	3710741.99	3710742.09 0.0498 0.0456
Saturn	5450-02-09 03:21 G	3711670.47	3711670.64	3711670.82 0.0291 0.0202
Neptune	5454-08-30 21:35 G	3713334.35	3713334.40	3713334.47 0.0088 0.0086
Neptune	5455-09-02 10:04 G	3713701.77	3713701.92	3713702.11 0.0088 0.0067
Neptune	5456-09-03 22:48 G	3714069.26	3714069.45	3714069.69 0.0088 0.0049
Neptune	5457-09-06 12:00 G	3714436.77	3714437.00	3714437.26 0.0088 0.0029
Neptune	5458-09-09 01:26 G	3714804.30	3714804.56	3714804.82 0.0088 0.0010
Jupiter	5459-07-31 00:43 G	3715129.33	3715129.53	3715129.73 0.0499 0.0264
Neptune	5459-09-11 14:09 G	3715171.83	3715172.09	3715172.36 0.0088 0.0010
Neptune	5460-09-13 03:21 G	3715539.40	3715539.64	3715539.89 0.0088 0.0029
Neptune	5461-09-15 16:33 G	3715906.97	3715907.19	3715907.41 0.0088 0.0048
Neptune	5462-09-18 05:16 G	3716274.58	3716274.72	3716274.91 0.0089 0.0068
Neptune	5463-09-20 18:14 G	3716642.24	3716642.26	3716642.35 0.0089 0.0087
Uranus	5463-12-12 14:38 G	3716724.97	3716725.11	3716725.28 0.0134 0.0106
Saturn	5464-08-10 08:09 G	3716966.62	3716966.84	3716967.06 0.0269 0.0123
Uranus	5464-12-15 23:16 G	3717094.27	3717094.47	3717094.69 0.0135 0.0075
Jupiter	5465-01-28 01:55 G	3717137.44	3717137.58	3717137.73 0.0529 0.0405
Uranus	5465-12-20 08:09 G	3717463.60	3717463.84	3717464.08 0.0135 0.0043
Uranus	5466-12-24 17:02 G	3717832.95	3717833.21	3717833.46 0.0135 0.0012
Uranus	5467-12-29 01:55 G	3718202.33	3718202.58	3718202.83 0.0136 0.0021
Uranus	5469-01-01 11:16 G	3718571.74	3718571.97	3718572.20 0.0136 0.0053
Uranus	5470-01-05 20:52 G	3718941.18	3718941.37	3718941.58 0.0136 0.0085
Uranus	5471-01-10 06:43 G	3719310.67	3719310.78	3719310.92 0.0137 0.0118
Jupiter	5471-08-04 15:21 G	3719516.90	3719517.14	3719517.37 0.0501 0.0062

Jupiter 5477-02-02 01:26 G 3721525.35 3721525.56 3721525.78 0.0527 0.0167 5480-02-17 06:00 G 3722635.57 3722635.75 3722635.94 0.0291 0.0180 Saturn Jupiter 5483-08-09 06:28 G 3723904.55 3723904.77 3723905.00 0.0504 0.0142 5486-06-04 05:02 G 3724934.53 3724934.71 3724934.90 0.1627 0.0407 Mars Jupiter 5489-02-07 00:00 G 3725913.28 3725913.50 3725913.73 0.0525 0.0069 Saturn 5494-08-17 08:38 G 3727930.67 3727930.86 3727931.06 0.0268 0.0167 Jupiter 5495-08-14 01:11 G 3728292.38 3728292.55 3728292.72 0.0506 0.0353 Pluto 5495-08-28 03:07 G 3728306.39 3728306.63 3728306.89 0.0080 0.0025 Jupiter 5501-02-12 18:00 G 3730301.06 3730301.25 3730301.44 0.0523 0.0292 3731514.14 3731514.29 0.0144 0.0114 5504-06-09 15:21 G 3731513.99 **Uranus** 5505-06-14 15:21 G 3731883.93 3731884.14 3731884.36 0.0144 0.0076 Uranus **Uranus** 5506-06-19 15:07 G 3732253.89 3732254.13 3732254.38 0.0143 0.0038 Uranus 5507-06-24 14:38 G 3732623.86 3732624.11 3732624.37 0.0143 0.0002 5508-06-28 13:40 G 3732993.83 3732994.07 3732994.32 0.0143 0.0040 **Uranus** Saturn 5509-02-11 08:52 G 3733221.65 3733221.87 3733222.08 0.0291 0.0129 **Uranus** 5509-07-03 12:14 G 3733363.80 3733364.01 3733364.23 0.0142 0.0078 5510-07-08 10:33 G 3733733.79 3733733.94 3733734.09 0.0142 0.0114 Uranus 5513-02-17 11:31 G 3734688.94 3734688.98 3734689.03 0.0521 0.0510 Jupiter Saturn 5523-08-13 10:04 G 3738517.68 3738517.92 3738518.17 0.0269 0.0064 5530-07-26 17:45 G 3741057.20 3741057.24 3741057.29 0.0497 0.0486 Jupiter Neptune 5536-03-02 07:55 G 3743102.75 3743102.83 3743102.93 0.0089 0.0082 Neptune 5537-03-04 18:14 G 3743470.11 3743470.26 3743470.46 0.0089 0.0064 5538-03-07 05:02 G 3743837.51 3743837.71 3743837.94 0.0089 0.0045 Neptune 5539-02-19 13:55 G 3744186.97 3744187.08 3744187.19 0.0291 0.0256 Saturn Neptune 5539-03-09 15:35 G 3744204.92 3744205.15 3744205.41 0.0089 0.0026 Neptune 5540-03-11 02:24 G 3744572.35 3744572.60 3744572.86 0.0089 0.0007 Neptune 5541-03-13 12:28 G 3744939.78 3744940.02 3744940.28 0.0089 0.0012 Neptune 5542-03-15 23:02 G 3745307.22 3745307.46 3745307.70 0.0089 0.0030 Jupiter 5542-07-31 05:45 G 3745444.55 3745444.74 3745444.93 0.0499 0.0294 Neptune 5543-03-18 09:07 G 3745674.68 3745674.88 3745675.10 0.0089 0.0049

Neptune	5544-03-19 18:57 G	3746042.16	3746042.29	3746042.48 0.0089 0.0068
Neptune	5545-03-22 05:45 G	3746409.69	3746409.74	3746409.80 0.0089 0.0086
Uranus	5546-12-09 15:50 G	3747037.14	3747037.16	3747037.22 0.0134 0.0133
Uranus	5547-12-14 00:14 G	3747406.37	3747406.51	3747406.69 0.0134 0.0102
Jupiter	5548-01-29 09:07 G	3747452.75	3747452.88	3747453.01 0.0530 0.0436
Uranus	5548-12-17 08:52 G	3747775.67	3747775.87	3747776.10 0.0135 0.0071
Uranus	5549-12-21 17:45 G	3748145.00	3748145.24	3748145.49 0.0135 0.0039
Uranus	5550-12-26 02:24 G	3748514.35	3748514.60	3748514.85 0.0135 0.0007
Uranus	5551-12-30 11:31 G	3748883.73	3748883.98	3748884.23 0.0136 0.0025
Uranus	5553-01-02 20:52 G	3749253.14	3749253.37	3749253.60 0.0136 0.0057
Saturn	5553-08-19 12:28 G	3749481.91	3749482.02	3749482.16 0.0268 0.0230
Uranus	5554-01-07 06:28 G	3749622.59	3749622.77	3749622.97 0.0136 0.0090
Jupiter	5554-08-04 21:21 G	3749832.16	3749832.39	3749832.62 0.0501 0.0093
Uranus	5555-01-11 16:19 G	3749992.09	3749992.18	3749992.31 0.0137 0.0122
Jupiter	5560-02-03 06:14 G	3751840.55	3751840.76	3751840.97 0.0527 0.0203
Mars	5565-06-07 08:09 G	3753791.67	3753791.84	3753792.00 0.1630 0.0781
Jupiter	5566-08-09 13:55 G	3754219.85	3754220.08	3754220.31 0.0503 0.0112
Saturn	5568-02-13 16:48 G	3754772.96	3754773.20	3754773.44 0.0291 0.0052
Mars	5571-12-08 14:38 G	3756166.92	3756167.11	3756167.30 0.1906 0.0632
Jupiter	5572-02-08 02:09 G	3756228.36	3756228.59	3756228.82 0.0525 0.0029
Jupiter	5578-08-14 05:31 G	3758607.54	3758607.73	3758607.91 0.0505 0.0313
Saturn	5582-08-14 14:09 G	3760068.84	3760069.09	3760069.34 0.0269 0.0003
Jupiter	5584-02-12 18:43 G	3760616.08	3760616.28	3760616.48 0.0524 0.0244
Uranus	5588-06-10 01:40 G	3762195.42	3762195.57	3762195.74 0.0144 0.0111
Uranus	5589-06-15 01:55 G	3762565.36	3762565.58	3762565.80 0.0144 0.0072
Uranus	5590-06-20 01:40 G	3762935.33	3762935.57	3762935.83 0.0143 0.0033
Uranus	5591-06-25 01:11 G	3763305.30	3763305.55	3763305.81 0.0143 0.0006
Uranus	5592-06-29 00:00 G	3763675.26	3763675.50	3763675.75 0.0143 0.0045
Uranus	5593-07-03 22:19 G	3764045.24	3764045.43	3764045.65 0.0142 0.0082
Uranus	5594-07-08 20:38 G	3764415.23	3764415.36	3764415.51 0.0142 0.0119

Jupiter 5596-02-17 14:24 G 3765004.01 3765004.10 3765004.21 0.0522 0.0466 5611-08-09 07:26 G 3770655.72 3770655.81 3770655.91 0.0269 0.0249 Saturn Neptune 5619-09-02 18:57 G 3773602.18 3773602.29 3773602.45 0.0088 0.0076 5620-09-04 08:09 G 3773969.65 3773969.84 3773970.05 0.0088 0.0057 Neptune 5621-09-06 20:52 G 3774337.15 3774337.37 3774337.62 0.0088 0.0038 Neptune Neptune 5622-09-09 09:50 G 3774704.66 3774704.91 3774705.17 0.0088 0.0019 Neptune 5623-09-11 23:02 G 3775072.20 3775072.46 3775072.72 0.0088 0.0001 5624-09-13 11:45 G 3775439.75 3775439.99 3775440.26 0.0088 0.0019 Neptune Jupiter 5625-07-30 12:00 G 3775759.82 3775760.00 3775760.18 0.0499 0.0323 5625-09-16 01:11 G 3775807.31 3775807.55 3775807.79 0.0088 0.0038 Neptune Neptune 5626-09-18 14:09 G 3776174.90 3776175.09 3776175.30 0.0089 0.0057 5627-02-15 04:04 G 3776324.43 3776324.67 3776324.91 0.0291 0.0032 Saturn Neptune 5627-09-21 03:07 G 3776542.51 3776542.63 3776542.78 0.0089 0.0076 5630-12-10 00:57 G 3777718.49 3777718.54 3777718.62 0.0134 0.0129 Uranus Jupiter 5631-01-28 09:07 G 3777767.79 3777767.88 3777767.98 0.0530 0.0480 **Uranus** 5631-12-14 09:21 G 3778087.73 3778087.89 3778088.07 0.0134 0.0099 5632-12-17 17:45 G 3778457.03 3778457.24 3778457.47 0.0135 0.0068 Uranus Uranus 5633-12-22 02:24 G 3778826.36 3778826.60 3778826.85 0.0135 0.0036 Uranus 5634-12-26 11:16 G 3779195.71 3779195.97 3779196.22 0.0135 0.0004 Uranus 5635-12-30 20:09 G 3779565.10 3779565.34 3779565.59 0.0136 0.0029 Uranus 5637-01-03 05:31 G 3779934.51 3779934.73 3779934.96 0.0136 0.0061 Jupiter 5637-08-04 02:09 G 3780147.36 3780147.59 3780147.82 0.0500 0.0129 Uranus 5638-01-07 15:07 G 3780303.96 3780304.13 3780304.33 0.0136 0.0094 Uranus 5639-01-12 01:11 G 3780673.47 3780673.55 3780673.66 0.0137 0.0126 Saturn 5641-08-15 20:24 G 3781620.10 3781620.35 3781620.59 0.0269 0.0066 Jupiter 5643-02-02 03:21 G 3782155.44 3782155.64 3782155.84 0.0529 0.0258 Jupiter 5649-08-08 16:19 G 3784534.94 3784535.18 3784535.41 0.0502 0.0072 Jupiter 5655-02-07 01:11 G 3786543.32 3786543.55 3786543.78 0.0527 0.0026 Pluto 5655-02-28 11:02 G 3786564.81 3786564.96 3786565.17 0.0064 0.0046 Saturn 5656-02-09 19:40 G 3786911.21 3786911.32 3786911.46 0.0290 0.0245

**Pluto** 5656-02-29 22:48 G 3786931.27 3786931.45 3786931.64 0.0064 0.0045 Jupiter 5661-08-13 06:00 G 3788922.55 3788922.75 3788922.95 0.0504 0.0272 Jupiter 5667-02-11 23:45 G 3790931.28 3790931.49 3790931.70 0.0524 0.0208 5670-08-10 15:35 G 3792206.97 3792207.15 3792207.34 0.0269 0.0179 Saturn **Uranus** 5672-06-10 12:57 G 3792876.89 3792877.04 3792877.22 0.0144 0.0107 **Uranus** 5673-06-15 13:11 G 3793246.83 3793247.05 3793247.28 0.0144 0.0068 5673-08-17 23:45 G 3793310.42 Jupiter 3793310.49 3793310.57 0.0506 0.0481 5674-06-20 13:11 G 3793616.80 3793617.05 3793617.30 0.0143 0.0029 Uranus Uranus 5675-06-25 12:28 G 3793986.76 3793987.02 3793987.27 0.0143 0.0010 5676-06-29 11:16 G 3794356.74 3794356.97 3794357.22 0.0143 0.0049 Uranus 5677-07-04 09:35 G 3794726.71 3794726.90 3794727.12 0.0142 0.0087 Uranus **Uranus** 5678-07-09 07:26 G 3795096.71 3795096.81 3795096.96 0.0142 0.0124 Jupiter 5679-02-16 17:31 G 3795319.11 3795319.23 3795319.37 0.0522 0.0426 5686-02-16 17:31 G 3797876.02 3797876.23 3797876.46 0.0291 0.0120 Saturn Mars 5691-06-04 06:28 G 3799809.63 3799809.77 3799809.93 0.1621 0.0980 Saturn 5700-08-18 03:50 G 3803171.45 3803171.66 3803171.88 0.0269 0.0134 Neptune 5701-03-05 05:31 G 3803370.59 3803370.73 3803370.88 0.0089 0.0072 Neptune 5702-03-07 15:50 G 3803737.97 3803738.16 3803738.38 0.0089 0.0054 Neptune 5703-03-10 02:38 G 3804105.38 3804105.61 3804105.85 0.0089 0.0035 5704-03-11 12:57 G 3804472.80 3804473.04 3804473.30 0.0089 0.0017 Neptune Neptune 5705-03-13 23:45 G 3804840.24 3804840.49 3804840.74 0.0089 0.0002 Neptune 5706-03-16 09:35 G 3805207.67 3805207.90 3805208.16 0.0089 0.0021 5707-03-18 20:09 G 3805575.12 3805575.34 3805575.58 0.0089 0.0039 Neptune 5708-03-20 06:00 G 3805942.58 3805942.75 3805942.97 0.0089 0.0058 Neptune Jupiter 5708-07-30 14:52 G 3806074.96 3806075.12 3806075.29 0.0498 0.0358 Neptune 5709-03-22 16:19 G 3806310.07 3806310.18 3806310.33 0.0089 0.0076 5714-12-11 10:48 G 3808399.88 3808399.95 3808400.04 0.0134 0.0126 Uranus Saturn 5715-02-12 10:48 G 3808462.75 3808462.95 3808463.16 0.0290 0.0155 Uranus 5715-12-15 19:11 G 3808769.13 3808769.30 3808769.48 0.0134 0.0096 Uranus 5716-12-19 03:07 G 3809138.43 3809138.63 3809138.87 0.0135 0.0065

Hannin	E747 40 00 40:00 C	2000507.70	2000500.00	2000500 25 0 0425 0 0022
Uranus	5717-12-23 12:00 G	3809507.76	3809508.00	3809508.25 0.0135 0.0033
Uranus	5718-12-27 20:38 G	3809877.11	3809877.36	3809877.62 0.0135 0.0002
Uranus	5720-01-01 05:45 G	3810246.50	3810246.74	3810246.99 0.0136 0.0032
Jupiter	5720-08-04 01:26 G	3810462.34	3810462.56	3810462.78 0.0500 0.0169
Uranus	5721-01-04 14:52 G	3810615.91	3810616.12	3810616.36 0.0136 0.0065
Uranus	5722-01-09 00:43 G	3810985.37	3810985.53	3810985.72 0.0136 0.0097
Uranus	5723-01-13 10:48 G	3811354.89	3811354.95	3811355.05 0.0137 0.0130
Jupiter	5726-02-02 06:43 G	3812470.59	3812470.78	3812470.97 0.0529 0.0295
Saturn	5729-08-13 01:40 G	3813758.34	3813758.57	3813758.80 0.0269 0.0106
Jupiter	5732-08-08 16:33 G	3814849.96	3814850.19	3814850.43 0.0502 0.0033
Jupiter	5738-02-07 04:04 G	3816858.44	3816858.67	3816858.90 0.0527 0.0064
Jupiter	5744-08-13 09:21 G	3819237.68	3819237.89	3819238.10 0.0504 0.0237
Pluto	5744-08-31 20:52 G	3819256.27	3819256.37	3819256.52 0.0079 0.0070
Saturn	5745-02-19 08:09 G	3819427.68	3819427.84	3819428.01 0.0291 0.0210
Jupiter	5750-02-11 23:02 G	3821246.24	3821246.46	3821246.68 0.0525 0.0161
Uranus	5755-06-07 23:16 G	3823188.43	3823188.47	3823188.52 0.0144 0.0142
Uranus	5756-06-11 23:31 G	3823558.31	3823558.48	3823558.67 0.0144 0.0104
Jupiter	5756-08-18 02:38 G	3823625.50	3823625.61	3823625.73 0.0505 0.0440
Uranus	5757-06-16 23:45 G	3823928.26	3823928.49	3823928.72 0.0144 0.0064
Uranus	5758-06-21 23:31 G	3824298.23	3824298.48	3824298.73 0.0143 0.0025
Uranus	5759-06-26 22:48 G	3824668.20	3824668.45	3824668.71 0.0143 0.0014
Saturn	5759-08-20 12:57 G	3824722.89	3824723.04	3824723.21 0.0269 0.0206
Uranus	5760-06-30 21:50 G	3825038.17	3825038.41	3825038.65 0.0143 0.0053
Uranus	5761-07-05 19:55 G	3825408.15	3825408.33	3825408.54 0.0142 0.0091
Jupiter	5762-02-16 13:55 G	3825633.92	3825634.08	3825634.24 0.0523 0.0371
Uranus	5762-07-10 18:14 G	3825778.17	3825778.26	3825778.38 0.0142 0.0128
Mars	5770-06-07 09:35 G	3828666.71	3828666.90	3828667.09 0.1624 0.0192
Saturn	5774-02-14 01:55 G	3830014.35	3830014.58	3830014.82 0.0290 0.0065
Neptune	5783-09-03 02:38 G	3833502.56	3833502.61	3833502.71 0.0088 0.0085
Neptune	5784-09-04 16:04 G	3833870.01	3833870.17	3833870.35 0.0088 0.0066

Neptune	5785-09-07 04:33 G	3834237.49	3834237.69	3834237.93 0.0088 0.0047
Neptune	5786-09-09 17:45 G	3834605.00	3834605.24	3834605.50 0.0088 0.0029
Neptune	5787-09-12 06:43 G	3834972.52	3834972.78	3834973.04 0.0088 0.0010
Saturn	5788-08-14 12:43 G	3835309.79	3835310.03	3835310.28 0.0269 0.0031
Neptune	5788-09-13 19:40 G	3835340.06	3835340.32	3835340.59 0.0088 0.0009
Neptune	5789-09-16 08:38 G	3835707.62	3835707.86	3835708.12 0.0088 0.0028
Neptune	5790-09-18 21:21 G	3836075.18	3836075.39	3836075.63 0.0088 0.0047
Jupiter	5791-07-30 14:38 G	3836389.97	3836390.11	3836390.25 0.0498 0.0395
Neptune	5791-09-21 10:19 G	3836442.78	3836442.93	3836443.13 0.0089 0.0066
Neptune	5792-09-22 23:45 G	3836810.42	3836810.49	3836810.59 0.0089 0.0084
Uranus	5798-12-11 19:40 G	3839081.24	3839081.32	3839081.44 0.0134 0.0123
Uranus	5799-12-16 03:50 G	3839450.50	3839450.66	3839450.86 0.0134 0.0093
Uranus	5800-12-20 12:28 G	3839819.79	3839820.02	3839820.24 0.0134 0.0061
Uranus	5801-12-24 20:38 G	3840189.12	3840189.36	3840189.62 0.0135 0.0029
Uranus	5802-12-29 05:31 G	3840558.47	3840558.73	3840558.98 0.0135 0.0003
Jupiter	5803-08-05 05:02 G	3840777.49	3840777.71	3840777.93 0.0500 0.0201
Uranus	5804-01-02 14:24 G	3840927.87	3840928.10	3840928.35 0.0135 0.0036
Uranus	5805-01-05 23:45 G	3841297.28	3841297.49	3841297.71 0.0136 0.0068
Uranus	5806-01-10 09:35 G	3841666.74	3841666.90	3841667.08 0.0136 0.0101
Uranus	5807-01-14 19:55 G	3842036.28	3842036.33	3842036.39 0.0137 0.0133
Jupiter	5809-02-02 06:00 G	3842785.58	3842785.75	3842785.93 0.0529 0.0340
Jupiter	5815-08-09 20:24 G	3845165.12	3845165.35	3845165.59 0.0501 0.0010
Saturn	5817-08-10 11:16 G	3845896.95	3845896.97	3845897.00 0.0270 0.0268
Jupiter	5821-02-06 23:02 G	3847173.23	3847173.46	3847173.68 0.0528 0.0120
Jupiter	5827-08-14 10:48 G	3849552.74	3849552.95	3849553.17 0.0503 0.0197
Jupiter	5833-02-11 19:55 G	3851561.10	3851561.33	3851561.55 0.0526 0.0108
Saturn	5833-02-16 16:19 G	3851565.94	3851566.18	3851566.42 0.0290 0.0023
Uranus	5839-06-09 09:07 G	3853869.83	3853869.88	3853869.97 0.0144 0.0138
Jupiter	5839-08-18 23:02 G	3853940.32	3853940.46	3853940.61 0.0505 0.0392
Uranus	5840-06-13 09:35 G	3854239.73	3854239.90	3854240.10 0.0144 0.0099

Uranus	5841-06-18 09:50 G	3854609.68	3854609.91	3854610.15 0.0144 0.0060
Uranus	5842-06-23 09:35 G	3854979.66	3854979.90	3854980.16 0.0143 0.0021
Uranus	5843-06-28 08:52 G	3855349.62	3855349.87	3855350.13 0.0143 0.0019
Uranus	5844-07-02 07:40 G	3855719.60	3855719.82	3855720.07 0.0143 0.0058
Jupiter	5845-02-16 18:00 G	3855949.07	3855949.25	3855949.42 0.0524 0.0335
Uranus	5845-07-07 06:28 G	3856089.59	3856089.77	3856089.97 0.0142 0.0095
Uranus	5846-07-12 04:33 G	3856459.61	3856459.69	3856459.79 0.0142 0.0132
Saturn	5847-08-18 00:00 G	3856861.25	3856861.50	3856861.74 0.0269 0.0043
Mars	5849-06-10 12:00 G	3857523.90	3857524.00	3857524.10 0.1626 0.1360
Mars	5855-12-09 19:55 G	3859897.17	3859897.33	3859897.48 0.1913 0.1236
Saturn	5862-02-10 17:45 G	3862152.20	3862152.24	3862152.28 0.0290 0.0286
Neptune	5865-03-05 15:35 G	3863271.07	3863271.15	3863271.27 0.0089 0.0081
Neptune	5866-03-08 02:09 G	3863638.43	3863638.59	3863638.79 0.0089 0.0063
Neptune	5867-03-10 12:57 G	3864005.82	3864006.04	3864006.26 0.0089 0.0044
Neptune	5868-03-11 23:31 G	3864373.24	3864373.48	3864373.73 0.0089 0.0026
Neptune	5869-03-14 09:50 G	3864740.66	3864740.91	3864741.17 0.0089 0.0008
Neptune	5870-03-16 20:24 G	3865108.11	3865108.35	3865108.61 0.0089 0.0011
Neptune	5871-03-19 06:57 G	3865475.55	3865475.79	3865476.03 0.0089 0.0029
Neptune	5872-03-20 16:48 G	3865843.01	3865843.20	3865843.44 0.0089 0.0048
Neptune	5873-03-23 03:07 G	3866210.48	3866210.63	3866210.82 0.0089 0.0066
Neptune	5874-03-25 13:11 G	3866578.00	3866578.05	3866578.16 0.0089 0.0084
Jupiter	5874-07-30 19:26 G	3866705.20	3866705.31	3866705.44 0.0497 0.0426
Saturn	5876-08-11 21:07 G	3867448.22	3867448.38	3867448.56 0.0270 0.0196
Uranus	5882-12-13 06:14 G	3869762.66	3869762.76	3869762.88 0.0134 0.0119
Uranus	5883-12-17 14:24 G	3870131.92	3870132.10	3870132.30 0.0134 0.0089
Uranus	5884-12-20 22:33 G	3870501.21	3870501.44	3870501.67 0.0134 0.0057
Uranus	5885-12-25 06:57 G	3870870.55	3870870.79	3870871.04 0.0135 0.0025
Jupiter	5886-08-04 08:09 G	3871092.63	3871092.84	3871093.05 0.0499 0.0235
Uranus	5886-12-29 15:35 G	3871239.90	3871240.15	3871240.41 0.0135 0.0007
Uranus	5888-01-03 00:43 G	3871609.29	3871609.53	3871609.77 0.0135 0.0040

Uranus	5889-01-06 10:04 G	3871978.71	3871978.92	3871979.13 0.0136 0.0072
Uranus	5890-01-10 19:26 G	3872348.17	3872348.31	3872348.49 0.0136 0.0105
Jupiter	5892-02-02 01:55 G	3873100.43	3873100.58	3873100.74 0.0530 0.0392
Saturn	5892-02-19 04:04 G	3873117.46	3873117.67	3873117.91 0.0290 0.0107
Mars	5896-06-04 10:04 G	3874684.86	3874684.92	3874684.99 0.1616 0.1506
Jupiter	5898-08-08 18:14 G	3875480.02	3875480.26	3875480.49 0.0500 0.0047
Jupiter	5904-02-08 02:52 G	3877488.40	3877488.62	3877488.84 0.0528 0.0156
Pluto	5904-03-04 20:52 G	3877514.11	3877514.37	3877514.62 0.0064 0.0001
Saturn	5906-08-20 10:04 G	3878412.71	3878412.92	3878413.16 0.0269 0.0116
Jupiter	5910-08-14 09:35 G	3879867.68	3879867.90	3879868.13 0.0502 0.0154
Jupiter	5916-02-13 00:57 G	3881876.32	3881876.54	3881876.77 0.0526 0.0074
Saturn	5921-02-13 04:48 G	3883703.54	3883703.70	3883703.88 0.0290 0.0205
Jupiter	5922-08-19 03:07 G	3884255.47	3884255.63	3884255.80 0.0505 0.0359
Uranus	5923-06-10 18:14 G	3884551.19	3884551.26	3884551.37 0.0145 0.0135
Uranus	5924-06-14 18:57 G	3884921.11	3884921.29	3884921.49 0.0144 0.0095
Uranus	5925-06-19 18:57 G	3885291.07	3885291.29	3885291.54 0.0144 0.0056
Uranus	5926-06-24 18:43 G	3885661.04	3885661.28	3885661.54 0.0144 0.0017
Uranus	5927-06-29 18:14 G	3886031.01	3886031.26	3886031.52 0.0143 0.0023
Jupiter	5928-02-17 20:09 G	3886264.15	3886264.34	3886264.53 0.0524 0.0294
Uranus	5928-07-03 17:16 G	3886401.00	3886401.22	3886401.46 0.0143 0.0062
Uranus	5929-07-08 16:04 G	3886770.99	3886771.17	3886771.35 0.0142 0.0100
Uranus	5930-07-13 14:09 G	3887141.04	3887141.09	3887141.17 0.0142 0.0137
Saturn	5935-08-15 06:00 G	3888999.53	3888999.75	3888999.97 0.0269 0.0127
Jupiter	5940-02-22 10:48 G	3890651.90	3890651.95	3890652.02 0.0522 0.0502
Neptune	5948-09-05 23:02 G	3893770.34	3893770.46	3893770.62 0.0088 0.0075
Neptune	5949-09-08 12:00 G	3894137.82	3894138.00	3894138.22 0.0088 0.0057
Neptune	5950-09-11 00:43 G	3894505.31	3894505.53	3894505.78 0.0088 0.0038
Saturn	5951-02-21 12:57 G	3894668.86	3894669.04	3894669.24 0.0291 0.0182
Neptune	5951-09-13 13:55 G	3894872.83	3894873.08	3894873.34 0.0088 0.0020
Neptune	5952-09-15 03:07 G	3895240.37	3895240.63	3895240.89 0.0088 0.0001

5953-09-17 15:35 G 3895607.90 3895608.41 0.0088 0.0018 Neptune 3895608.15 5954-09-20 04:19 G 3895975.46 3895975.68 3895975.94 0.0088 0.0037 Neptune 5955-09-22 17:16 G 3896343.03 Neptune 3896343.22 3896343.44 0.0089 0.0055 5956-09-24 06:57 G 3896710.64 3896710.79 3896710.93 0.0089 0.0073 Neptune **Jupiter** 5957-07-30 19:11 G 3897020.22 3897020.30 3897020.39 0.0496 0.0461 Saturn 5965-08-21 19:11 G 3899964.14 3899964.30 3899964.49 0.0269 0.0186 5966-12-14 16:04 G 3900444.05 **Uranus** 3900444.17 3900444.30 0.0134 0.0115 5967-12-18 23:45 G 3900813.31 3900813.49 3900813.71 0.0134 0.0085 Uranus Uranus 5968-12-22 08:09 G 3901182.61 3901182.84 3901183.08 0.0134 0.0053 5969-08-04 08:38 G 3901407.66 3901407.86 3901408.05 0.0498 0.0271 **Jupiter** 5969-12-26 16:33 G 3901551.94 **Uranus** 3901552.19 3901552.44 0.0135 0.0021 **Uranus** 5970-12-31 01:11 G 3901921.30 3901921.55 3901921.80 0.0135 0.0012 **Uranus** 5972-01-04 10:04 G 3902290.70 3902290.92 3902291.17 0.0135 0.0045 **Uranus** 5973-01-07 19:26 G 3902660.11 3902660.31 3902660.53 0.0136 0.0077 3903029.72 **Uranus** 5974-01-12 05:16 G 3903029.59 3903029.89 0.0136 0.0110 **Jupiter** 5975-02-02 08:09 G 3903415.71 3903415.84 3903415.99 0.0531 0.0425 Mars 5975-06-08 11:31 G 3903541.79 3903541.98 3903542.16 0.1618 0.0384 5980-02-15 12:57 G 3905254.82 3905255.04 3905255.25 0.0290 0.0130 Saturn **Jupiter** 5981-08-08 23:31 G 3905795.25 3905795.48 3905795.72 0.0500 0.0077 5987-02-07 06:43 G 3907803.57 3907803.78 3907804.00 0.0528 0.0192 **Jupiter Pluto** 5992-09-03 07:55 G 3909838.58 3909838.83 3909839.09 0.0080 0.0022 Jupiter 5993-08-13 16:19 G 3910182.95 3910183.18 3910183.41 0.0502 0.0125 5994-08-16 12:43 G 3910550.79 3910551.28 0.0269 0.0061 3910551.03 Saturn 5999-02-12 00:28 G 3912191.29 3912191.52 3912191.75 0.0526 0.0028 Jupiter

## 7TH MILLENNIUM CE

## This is a list of transits of Earth in the 7th millennium CE.

FROM MAX- C START MAX END SUNRAD DEPTH S

**TRANSIT** 

TIME

Jupiter 6005-08-18 08:09 G 3914570.66 3914570.84 3914571.02 0.0504 0.0326 **Uranus** 6007-06-11 04:48 G 3915232.60 3915232.70 3915232.82 0.0145 0.0130 **Uranus** 6008-06-15 05:02 G 3915602.52 3915602.71 3915602.92 0.0144 0.0091 **Uranus** 6009-06-20 05:02 G 3915972.48 3915972.71 3915972.96 0.0144 0.0051 Saturn 6010-02-22 19:11 G 3916220.18 3916220.30 3916220.42 0.0291 0.0252 3916342.97 0.0144 0.0011 **Uranus** 6010-06-25 05:02 G 3916342.46 3916342.71 Jupiter 6011-02-16 20:38 G 3916579.16 3916579.36 3916579.56 0.0525 0.0251 **Uranus** 6011-06-30 04:19 G 3916712.44 3916712.68 3916712.94 0.0143 0.0028 6012-07-04 03:35 G 3917082.43 **Uranus** 3917082.65 3917082.88 0.0143 0.0067 **Uranus** 6013-07-09 01:55 G 3917452.43 3917452.58 3917452.77 0.0142 0.0106 **Uranus** 6014-07-14 00:43 G 3917822.53 3917822.53 3917822.54 0.0142 0.0142 6023-02-21 18:14 G 3920967.16 3920967.26 Jupiter 3920967.36 0.0523 0.0471 Saturn 6024-08-23 01:55 G 3921515.51 3921515.58 3921515.68 0.0269 0.0251 6030-03-08 11:45 G 3923538.86 Neptune 3923538.99 3923539.16 0.0089 0.0072 6031-03-10 22:19 G 3923906.25 3923906.43 3923906.65 0.0089 0.0054 Neptune Neptune 6032-03-12 08:38 G 3924273.65 3924273.86 3924274.11 0.0089 0.0036 6033-03-14 19:11 G 3924641.07 3924641.56 0.0089 0.0018 Neptune 3924641.30 Neptune 6034-03-17 06:00 G 3925008.50 3925008.75 3925009.00 0.0089 0.0001 Neptune 6035-03-19 16:04 G 3925375.93 3925376.17 3925376.43 0.0089 0.0019 6036-03-21 02:38 G 3925743.39 3925743.85 0.0089 0.0037 Neptune 3925743.61 6037-03-23 12:57 G 3926110.85 3926111.04 3926111.25 0.0089 0.0055 Neptune Neptune 6038-03-25 23:16 G 3926478.34 3926478.47 3926478.63 0.0089 0.0073 Saturn 6039-02-16 17:45 G 3926806.01 3926806.24 3926806.48 0.0290 0.0061 6040-07-30 01:55 G 3927335.55 3927335.58 3927335.64 0.0496 0.0488 Jupiter **Uranus** 6050-12-15 02:52 G 3931125.50 3931125.62 3931125.78 0.0134 0.0111

Uranus	6051-12-19 11:02 G	3931494.77	3931494.96	3931495.18 0.0134 0.0080
Jupiter	6052-08-03 16:33 G	3931723.01	3931723.19	3931723.39 0.0498 0.0296
Uranus	6052-12-22 18:57 G	3931864.07	3931864.29	3931864.54 0.0134 0.0049
Saturn	6053-08-17 18:00 G	3932102.00	3932102.25	3932102.50 0.0269 0.0003
Uranus	6053-12-27 03:50 G	3932233.41	3932233.66	3932233.91 0.0135 0.0016
Mars	6054-06-10 13:11 G	3932398.89	3932399.05	3932399.22 0.1620 0.0772
Uranus	6054-12-31 12:28 G	3932602.77	3932603.02	3932603.28 0.0135 0.0017
Uranus	6056-01-04 21:21 G	3932972.17	3932972.39	3932972.64 0.0135 0.0050
Uranus	6057-01-08 06:43 G	3933341.60	3933341.78	3933342.00 0.0136 0.0082
Uranus	6058-01-12 17:02 G	3933711.08	3933711.21	3933711.35 0.0136 0.0114
Jupiter	6058-02-01 09:21 G	3933730.78	3933730.89	3933731.00 0.0531 0.0464
Jupiter	6064-08-08 06:43 G	3936110.55	3936110.78	3936111.02 0.0500 0.0103
Jupiter	6070-02-06 07:40 G	3938118.62	3938118.82	3938119.03 0.0529 0.0233
Jupiter	6076-08-12 17:31 G	3940498.00	3940498.23	3940498.47 0.0501 0.0086
Jupiter	6082-02-11 07:26 G	3942506.58	3942506.81	3942507.04 0.0528 0.0004
Saturn	6082-08-12 19:40 G	3942689.20	3942689.32	3942689.47 0.0270 0.0228
Jupiter	6088-08-17 09:50 G	3944885.72	3944885.91	3944886.11 0.0503 0.0287
Uranus	6091-06-11 15:35 G	3945914.05	3945914.15	3945914.30 0.0145 0.0126
Uranus	6092-06-15 16:04 G	3946283.98	3946284.17	3946284.39 0.0144 0.0086
Uranus	6093-06-20 16:19 G	3946653.95	3946654.18	3946654.43 0.0144 0.0046
Jupiter	6094-02-16 06:00 G	3946894.55	3946894.75	3946894.96 0.0525 0.0222
Uranus	6094-06-25 16:04 G	3947023.92	3947024.17	3947024.42 0.0144 0.0006
Uranus	6095-06-30 15:21 G	3947393.90	3947394.14	3947394.40 0.0143 0.0034
Uranus	6096-07-04 14:38 G	3947763.90	3947764.11	3947764.34 0.0143 0.0072
Uranus	6097-07-09 13:11 G	3948133.91	3948134.05	3948134.23 0.0142 0.0110
Saturn	6098-02-17 20:52 G	3948357.13	3948357.37	3948357.62 0.0290 0.0005
Jupiter	6100-08-23 04:04 G	3949273.62	3949273.67	3949273.73 0.0506 0.0490
Jupiter	6106-02-22 02:09 G	3951282.48	3951282.59	3951282.72 0.0523 0.0441
Saturn	6112-08-19 20:38 G	3953653.12	3953653.36	3953653.61 0.0269 0.0061
Neptune	e 6112-09-06 05:16 G	3953670.65	3953670.72	3953670.81 0.0088 0.0084

Neptune	e 6113-09-08 18:00 G	3954038.09	3954038.25	3954038.44 0.0088 0.0066
Neptune	e 6114-09-11 06:57 G	3954405.59	3954405.79	3954406.03 0.0088 0.0048
Neptune	e 6115-09-13 20:09 G	3954773.10	3954773.34	3954773.60 0.0088 0.0029
Neptune	6116-09-15 09:07 G	3955140.62	3955140.88	3955141.14 0.0088 0.0011
Neptune	e 6117-09-17 22:04 G	3955508.17	3955508.42	3955508.69 0.0088 0.0008
Neptune	e 6118-09-20 11:02 G	3955875.71	3955875.96	3955876.21 0.0088 0.0026
Neptune	e 6119-09-23 00:14 G	3956243.28	3956243.51	3956243.74 0.0088 0.0044
Neptune	e 6120-09-24 12:43 G	3956610.86	3956611.03	3956611.23 0.0089 0.0063
Neptune	e 6121-09-27 01:26 G	3956978.48	3956978.56	3956978.69 0.0089 0.0081
Uranus	6134-12-16 13:40 G	3961806.93	3961807.07	3961807.24 0.0134 0.0107
Jupiter	6135-08-04 20:52 G	3962038.20	3962038.37	3962038.55 0.0497 0.0328
Uranus	6135-12-20 21:35 G	3962176.20	3962176.40	3962176.62 0.0134 0.0076
Uranus	6136-12-24 05:45 G	3962545.51	3962545.74	3962545.99 0.0134 0.0044
Uranus	6137-12-28 14:38 G	3962914.85	3962915.11	3962915.36 0.0135 0.0012
Uranus	6139-01-01 23:02 G	3963284.22	3963284.46	3963284.72 0.0135 0.0021
Uranus	6140-01-06 08:24 G	3963653.62	3963653.85	3963654.09 0.0135 0.0054
Uranus	6141-01-09 17:31 G	3964023.05	3964023.23	3964023.44 0.0136 0.0087
Jupiter	6141-02-01 15:07 G	3964046.06	3964046.13	3964046.21 0.0532 0.0499
Saturn	6141-08-14 22:04 G	3964240.24	3964240.42	3964240.62 0.0270 0.0169
Uranus	6142-01-14 03:21 G	3964392.54	3964392.64	3964392.78 0.0136 0.0120
Jupiter	6147-08-09 10:48 G	3966425.73	3966425.95	3966426.18 0.0499 0.0136
Pluto	6152-03-06 21:07 G	3968097.19	3968097.38	3968097.61 0.0064 0.0035
Jupiter	6153-02-06 17:02 G	3968434.02	3968434.21	3968434.42 0.0530 0.0263
Pluto	6153-03-08 08:24 G	3968463.74	3968463.85	3968464.00 0.0064 0.0056
Saturn	6157-02-19 21:35 G	3969908.16	3969908.40	3969908.63 0.0290 0.0065
Jupiter	6159-08-14 02:09 G	3970813.36	3970813.59	3970813.83 0.0501 0.0061
Jupiter	6165-02-11 16:33 G	3972821.96	3972822.19	3972822.42 0.0528 0.0031
Jupiter	6171-08-18 19:55 G	3975201.13	3975201.33	3975201.53 0.0503 0.0263
Saturn	6171-08-21 21:35 G	3975204.19	3975204.40	3975204.64 0.0269 0.0117
Uranus	6175-06-13 04:19 G	3976595.55	3976595.68	3976595.82 0.0145 0.0121

6176-06-17 04:33 G 3976965.49 3976965.69 3976965.91 0.0144 0.0081 Uranus 6177-02-16 11:16 G 3977209.76 3977209.97 3977210.18 0.0525 0.0188 Jupiter Uranus 6177-06-22 04:48 G 3977335.46 3977335.70 3977335.94 0.0144 0.0041 6178-06-27 04:48 G 3977705.44 Uranus 3977705.70 3977705.95 0.0144 0.0002 Uranus 6179-07-02 04:19 G 3978075.44 3978075.68 3978075.93 0.0143 0.0038 Mars 6180-06-07 14:52 G 3978416.97 3978417.12 3978417.28 0.1613 0.0908 6180-07-06 03:21 G 3978445.44 Uranus 3978445.64 3978445.87 0.0143 0.0078 6181-07-11 01:55 G 3978815.46 3978815.58 3978815.75 0.0142 0.0117 Uranus 6183-08-23 12:57 G 3979588.96 Jupiter 3979589.04 3979589.14 0.0505 0.0464 3980494.62 3980494.77 0.0290 0.0234 Saturn 6186-02-14 02:52 G 3980494.48 Jupiter 6189-02-21 06:43 G 3981597.65 3981597.78 3981597.93 0.0523 0.0407 Neptune 6194-03-08 21:07 G 3983439.30 3983439.38 3983439.52 0.0089 0.0081 Neptune 6195-03-11 07:40 G 3983806.66 3983806.82 3983807.02 0.0089 0.0063 6196-03-12 18:14 G 3984174.06 Neptune 3984174.26 3984174.49 0.0089 0.0045 Neptune 6197-03-15 04:48 G 3984541.47 3984541.70 3984541.95 0.0089 0.0027 6198-03-17 15:07 G 3984908.88 3984909.13 3984909.39 0.0089 0.0009 Neptune Neptune 6199-03-20 01:40 G 3985276.32 3985276.57 3985276.82 0.0089 0.0009 6200-03-22 11:45 G 3985643.76 3985643.99 3985644.24 0.0089 0.0027 Neptune Saturn 6200-08-16 22:33 G 3985791.22 3985791.44 3985791.67 0.0270 0.0113 6201-03-24 22:04 G 3986011.22 3986011.42 3986011.65 0.0089 0.0045 Neptune Neptune 6202-03-27 08:09 G 3986378.69 3986378.84 3986379.04 0.0089 0.0063 Neptune 6203-03-29 18:57 G 3986746.19 3986746.29 3986746.40 0.0089 0.0080 3991459.62 0.0290 0.0125 6216-02-22 21:35 G 3991459.19 3991459.40 Saturn Jupiter 6218-08-05 06:00 G 3992353.59 3992353.75 3992353.93 0.0497 0.0351 Mars 6218-12-15 14:52 G 3992485.97 3992486.12 3992486.26 0.1915 0.1294 Uranus 6218-12-18 01:40 G 3992488.41 3992488.57 3992488.73 0.0134 0.0103 Uranus 6219-12-22 09:21 G 3992857.69 3992857.89 3992858.12 0.0134 0.0073 Uranus 6220-12-25 17:45 G 3993227.00 3993227.24 3993227.49 0.0134 0.0040 Uranus 6221-12-30 02:24 G 3993596.35 3993596.60 3993596.86 0.0135 0.0008 Uranus 6223-01-03 11:16 G 3993965.72 3993965.97 3993966.22 0.0135 0.0025

Uranus	6224-01-07 20:09 G	3994335.13	3994335.34	3994335.58 0.0135 0.0059
Jupiter	6224-02-03 00:57 G	3994361.50	3994361.54	3994361.58 0.0532 0.0523
Uranus	6225-01-11 05:45 G	3994704.56	3994704.74	3994704.93 0.0136 0.0091
Uranus	6226-01-15 15:21 G	3995074.06	3995074.14	3995074.26 0.0136 0.0125
Jupiter	6230-08-09 21:21 G	3996741.16	3996741.39	3996741.61 0.0499 0.0157
Saturn	6230-08-23 21:50 G	3996755.22	3996755.41	3996755.60 0.0269 0.0172
Jupiter	6236-02-07 22:48 G	3998749.27	3998749.45	3998749.65 0.0530 0.0295
Jupiter	6242-08-14 12:28 G	4001128.79	4001129.02	4001129.26 0.0501 0.0039
Saturn	6245-02-16 01:40 G	4002045.38	4002045.57	4002045.76 0.0290 0.0177
Jupiter	6248-02-12 21:07 G	4003137.15	4003137.38	4003137.61 0.0528 0.0067
Jupiter	6254-08-19 00:57 G	4005516.33	4005516.54	4005516.75 0.0502 0.0227
Mars	6259-06-11 16:19 G	4007273.99	4007274.18	4007274.37 0.1615 0.0214
Uranus	6259-06-14 17:02 G	4007277.06	4007277.21	4007277.36 0.0145 0.0117
Saturn	6259-08-18 22:04 G	4007342.18	4007342.42	4007342.67 0.0270 0.0059
Jupiter	6260-02-17 18:28 G	4007525.05	4007525.27	4007525.49 0.0527 0.0154
Uranus	6260-06-18 17:02 G	4007647.01	4007647.21	4007647.44 0.0144 0.0077
Uranus	6261-06-23 17:16 G	4008016.99	4008017.22	4008017.48 0.0144 0.0037
Uranus	6262-06-28 17:31 G	4008386.97	4008387.23	4008387.48 0.0144 0.0003
Uranus	6263-07-03 17:02 G	4008756.98	4008757.21	4008757.46 0.0143 0.0044
Uranus	6264-07-07 16:19 G	4009126.99	4009127.18	4009127.40 0.0143 0.0083
Uranus	6265-07-12 15:21 G	4009497.01	4009497.14	4009497.28 0.0142 0.0121
Jupiter	6266-08-23 17:31 G	4009904.11	4009904.23	4009904.36 0.0504 0.0426
Jupiter	6272-02-22 16:48 G	4011913.05	4011913.20	4011913.37 0.0524 0.0377
Saturn	6275-02-23 22:19 G	4013010.25	4013010.43	4013010.62 0.0290 0.0185
Neptune	6277-09-08 22:48 G	4013938.34	4013938.45	4013938.61 0.0088 0.0076
Neptune	6278-09-11 12:00 G	4014305.82	4014306.00	4014306.22 0.0088 0.0057
Neptune	6279-09-14 00:57 G	4014673.32	4014673.54	4014673.79 0.0088 0.0039
Neptune	6280-09-15 13:55 G	4015040.84	4015041.08	4015041.35 0.0088 0.0022
Neptune	6281-09-18 03:07 G	4015408.37	4015408.63	4015408.89 0.0088 0.0003
Neptune	6282-09-20 16:04 G	4015775.92	4015776.17	4015776.44 0.0088 0.0015

Neptune	6283-09-23 04:48 G	4016143.47	4016143.70	4016143.96 0.0088 0.0034
Neptune	6284-09-24 17:31 G	4016511.04	4016511.23	4016511.46 0.0089 0.0052
Neptune	6285-09-27 06:28 G	4016878.63	4016878.77	4016878.96 0.0089 0.0070
Neptune	6286-09-29 19:26 G	4017246.30	4017246.31	4017246.38 0.0089 0.0088
Saturn	6289-08-24 21:21 G	4018306.26	4018306.39	4018306.53 0.0269 0.0226
Jupiter	6301-08-05 16:48 G	4022669.05	4022669.20	4022669.37 0.0497 0.0370
Uranus	6301-12-15 04:48 G	4022800.66	4022800.70	4022800.77 0.0134 0.0131
Uranus	6302-12-19 12:28 G	4023169.87	4023170.02	4023170.21 0.0134 0.0100
Uranus	6303-12-23 20:38 G	4023539.15	4023539.36	4023539.59 0.0134 0.0068
Saturn	6304-02-19 01:26 G	4023596.34	4023596.56	4023596.79 0.0290 0.0117
Uranus	6304-12-27 04:48 G	4023908.47	4023908.70	4023908.96 0.0134 0.0036
Uranus	6305-12-31 13:40 G	4024277.82	4024278.07	4024278.33 0.0135 0.0004
Uranus	6307-01-04 22:19 G	4024647.19	4024647.43	4024647.68 0.0135 0.0030
Uranus	6308-01-09 07:26 G	4025016.59	4025016.81	4025017.04 0.0135 0.0062
Uranus	6309-01-12 16:33 G	4025386.03	4025386.19	4025386.38 0.0136 0.0096
Uranus	6310-01-17 02:24 G	4025755.53	4025755.60	4025755.69 0.0136 0.0128
Jupiter	6313-08-10 04:33 G	4027056.47	4027056.69	4027056.91 0.0498 0.0187
Saturn	6318-08-20 21:35 G	4028893.15	4028893.40	4028893.65 0.0270 0.0005
Jupiter	6319-02-08 03:21 G	4029064.47	4029064.64	4029064.83 0.0531 0.0335
Jupiter	6325-08-14 18:28 G	4031444.03	4031444.27	4031444.51 0.0499 0.0006
Jupiter	6331-02-13 04:33 G	4033452.47	4033452.69	4033452.92 0.0529 0.0102
Saturn	6334-02-26 00:00 G	4034561.39	4034561.50	4034561.63 0.0290 0.0248
Jupiter	6337-08-19 09:07 G	4035831.67	4035831.88	4035832.10 0.0502 0.0201
Mars	6338-06-14 17:31 G	4036131.13	4036131.23	4036131.33 0.1617 0.1351
Jupiter	6343-02-18 04:33 G	4037840.47	4037840.69	4037840.92 0.0527 0.0128
Uranus	6343-06-16 04:33 G	4037958.55	4037958.69	4037958.86 0.0145 0.0113
Uranus	6344-06-20 05:16 G	4038328.50	4038328.72	4038328.94 0.0144 0.0073
Uranus	6345-06-25 05:45 G	4038698.49	4038698.74	4038698.99 0.0144 0.0032
Uranus	6346-06-30 06:00 G	4039068.49	4039068.75	4039069.00 0.0144 0.0008
Uranus	6347-07-05 05:45 G	4039438.51	4039438.74	4039438.99 0.0143 0.0048

6347-08-15 08:24 G 4039479.81 4039479.85 4039479.93 0.0271 0.0262 Saturn 6348-07-09 05:02 G 4039808.52 4039808.71 4039808.92 0.0143 0.0088 Uranus Uranus 6349-07-14 03:50 G 4040178.57 4040178.66 4040178.80 0.0142 0.0127 4040219.62 4040219.76 0.0504 0.0401 Jupiter 6349-08-24 02:52 G 4040219.48 6355-02-22 23:31 G 4042228.31 4042228.48 4042228.66 0.0525 0.0345 Jupiter Neptune 6359-03-12 16:04 G 4043707.04 4043707.17 4043707.34 0.0089 0.0072 Neptune 6360-03-14 02:52 G 4044074.43 4044074.62 4044074.83 0.0089 0.0054 6361-03-16 12:57 G 4044441.83 4044442.04 4044442.29 0.0089 0.0037 Neptune 6362-03-18 23:31 G 4044809.24 Neptune 4044809.48 4044809.74 0.0089 0.0019 Saturn 6363-02-20 02:52 G 4045147.38 4045147.62 4045147.86 0.0289 0.0054 Neptune 6363-03-21 10:04 G 4045176.66 4045176.92 4045177.17 0.0089 0.0001 6364-03-22 20:09 G 4045544.11 4045544.34 4045544.60 0.0089 0.0017 Neptune Neptune 6365-03-25 06:14 G 4045911.55 4045911.76 4045912.02 0.0089 0.0035 Neptune 6366-03-27 16:48 G 4046279.01 4046279.20 4046279.42 0.0089 0.0052 4046646.62 4046646.80 0.0089 0.0070 Neptune 6367-03-30 02:52 G 4046646.49 6368-03-31 13:26 G 4047014.03 4047014.06 4047014.13 0.0089 0.0087 Neptune Saturn 6377-08-21 21:35 G 4050444.16 4050444.40 4050444.65 0.0271 0.0051 6384-08-05 00:28 G 4052984.38 4052984.52 4052984.66 0.0495 0.0396 Jupiter Mars 6385-06-08 18:57 G 4053292.21 4053292.29 4053292.38 0.1609 0.1412 Uranus 6385-12-15 17:16 G 4053482.16 4053482.22 4053482.32 0.0133 0.0127 Uranus 6386-12-20 00:57 G 4053851.38 4053851.54 4053851.74 0.0134 0.0096 6387-12-24 09:07 G 4054220.67 Uranus 4054220.88 4054221.12 0.0134 0.0064 **Uranus** 6388-12-27 17:31 G 4054589.99 4054590.23 4054590.48 0.0134 0.0032 Uranus 6390-01-01 02:09 G 4054959.34 4054959.59 4054959.85 0.0135 0.0002 Uranus 6391-01-05 10:48 G 4055328.71 4055328.95 4055329.20 0.0135 0.0034 Uranus 6392-01-09 19:26 G 4055698.11 4055698.31 4055698.55 0.0135 0.0068 6393-01-13 05:02 G 4056067.54 4056067.71 4056067.88 0.0136 0.0100 Uranus Uranus 6394-01-17 14:09 G 4056437.06 4056437.09 4056437.16 0.0136 0.0134 Jupiter 6396-08-09 12:00 G 4057371.78 4057372.00 4057372.21 0.0497 0.0213 6401-03-11 08:52 G 4059046.65 4059046.87 4059047.14 0.0064 0.0020 Pluto

6402-02-07 12:14 G 4059379.85 4059380.01 4059380.18 0.0532 0.0361 Jupiter 6406-08-16 09:50 G 4061030.75 4061030.91 4061031.07 0.0271 0.0204 Saturn 6408-08-14 02:52 G 4061759.38 4061759.62 4061759.85 0.0499 0.0020 Jupiter 6414-02-12 10:48 G 4063767.73 4063768.17 0.0529 0.0134 Jupiter 4063767.95 6420-08-18 18:14 G 4066147.04 4066147.26 4066147.49 0.0501 0.0176 Jupiter Saturn 6422-02-21 07:11 G 4066698.56 4066698.80 4066699.05 0.0289 0.0015 Jupiter 6426-02-17 07:55 G 4068155.61 4068155.83 4068156.06 0.0527 0.0090 6427-06-16 16:04 G 4068640.03 4068640.36 0.0145 0.0109 Uranus 4068640.17 4069010.20 Uranus 6428-06-20 16:48 G 4069009.99 4069010.44 0.0144 0.0069 4069380.49 0.0144 0.0027 Uranus 6429-06-25 17:45 G 4069379.99 4069380.24 Uranus 6430-06-30 18:00 G 4069750.00 4069750.25 4069750.50 0.0144 0.0013 **Uranus** 6431-07-05 17:45 G 4070120.01 4070120.24 4070120.49 0.0143 0.0054 Uranus 6432-07-09 17:16 G 4070490.04 4070490.22 4070490.42 0.0143 0.0093 Jupiter 6432-08-23 08:38 G 4070534.70 4070534.86 4070535.03 0.0503 0.0364 **Uranus** 6433-07-14 16:04 G 4070860.09 4070860.17 4070860.28 0.0143 0.0132 Saturn 6436-08-22 22:48 G 4071995.23 4071995.45 4071995.69 0.0271 0.0110 4072543.60 4072543.79 0.0526 0.0301 Jupiter 6438-02-22 02:24 G 4072543.41 6441-09-09 03:21 G 4073838.59 4073838.64 4073838.74 0.0088 0.0085 Neptune Neptune 6442-09-11 16:33 G 4074206.03 4074206.19 4074206.37 0.0088 0.0067 6443-09-14 05:02 G 4074573.52 4074573.71 4074573.96 0.0088 0.0050 Neptune Neptune 6444-09-15 18:14 G 4074941.03 4074941.26 4074941.52 0.0088 0.0031 6445-09-18 07:26 G 4075308.56 4075309.08 0.0088 0.0014 Neptune 4075308.81 4075676.36 4075676.62 0.0088 0.0005 6446-09-20 20:38 G 4075676.10 Neptune 6447-09-23 09:21 G 4076043.65 4076043.89 4076044.15 0.0088 0.0023 Neptune Neptune 6448-09-24 22:19 G 4076411.21 4076411.43 4076411.68 0.0088 0.0041 Neptune 6449-09-27 11:02 G 4076778.79 4076778.96 4076779.18 0.0089 0.0059 6450-02-26 23:45 G 4076931.46 4076931.49 4076931.53 0.0524 0.0518 Jupiter Neptune 6450-09-30 00:28 G 4077146.40 4077146.52 4077146.66 0.0089 0.0076 Saturn 6451-02-15 19:26 G 4077285.22 4077285.31 4077285.42 0.0288 0.0262 Mars 6464-06-10 19:40 G 4082149.14 4082149.32 4082149.51 0.1610 0.0313

Saturn	6465-08-17 12:57 G	4082581.84	4082582.04	4082582.26 0.0271 0.0143
Jupiter	6467-08-05 07:11 G	4083299.68	4083299.80	4083299.92 0.0495 0.0422
Uranus	6469-12-16 06:00 G	4084163.65	4084163.75	4084163.85 0.0133 0.0122
Uranus	6470-12-20 13:26 G	4084532.88	4084533.06	4084533.26 0.0134 0.0091
Uranus	6471-12-24 21:21 G	4084902.17	4084902.39	4084902.63 0.0134 0.0059
Uranus	6472-12-28 05:45 G	4085271.49	4085271.74	4085271.99 0.0134 0.0027
Uranus	6474-01-01 14:09 G	4085640.84	4085641.09	4085641.35 0.0134 0.0006
Uranus	6475-01-05 22:33 G	4086010.20	4086010.44	4086010.68 0.0135 0.0039
Uranus	6476-01-10 07:11 G	4086379.60	4086379.80	4086380.02 0.0135 0.0072
Uranus	6477-01-13 16:33 G	4086749.03	4086749.19	4086749.35 0.0136 0.0105
Jupiter	6479-08-09 20:24 G	4087687.14	4087687.35	4087687.56 0.0497 0.0236
Saturn	6481-02-22 14:24 G	4088249.87	4088250.10	4088250.33 0.0289 0.0088
Jupiter	6485-02-06 14:09 G	4089694.94	4089695.09	4089695.24 0.0532 0.0400
Pluto	6489-09-09 20:09 G	4091371.09	4091371.34	4091371.61 0.0080 0.0010
Jupiter	6491-08-14 09:21 G	4092074.66	4092074.89	4092075.13 0.0498 0.0052
Saturn	6495-08-25 02:09 G	4093546.40	4093546.59	4093546.79 0.0271 0.0170
Jupiter	6497-02-11 09:35 G	4094082.69	4094082.90	4094083.12 0.0531 0.0184
Mars	6502-12-16 15:50 G	4096215.97	4096216.16	4096216.35 0.1921 0.0571
Jupiter	6503-08-19 22:48 G	4096462.22	4096462.45	4096462.68 0.0500 0.0139
Jupiter	6509-02-17 09:21 G	4098470.67	4098470.89	4098471.12 0.0529 0.0045
Saturn	6510-02-18 05:31 G	4098836.54	4098836.73	4098836.91 0.0288 0.0183
Uranus	6510-06-13 01:55 G	4098951.58	4098951.58	4098951.63 0.0145 0.0145
Uranus	6511-06-18 03:07 G	4099321.47	4099321.63	4099321.82 0.0145 0.0104
Uranus	6512-06-22 03:50 G	4099691.45	4099691.66	4099691.91 0.0145 0.0064
Uranus	6513-06-27 04:48 G	4100061.45	4100061.70	4100061.96 0.0144 0.0023
Uranus	6514-07-02 05:16 G	4100431.47	4100431.72	4100431.98 0.0144 0.0019
Uranus	6515-07-07 05:16 G	4100801.50	4100801.72	4100801.96 0.0143 0.0059
Jupiter	6515-08-24 12:00 G	4100849.83	4100850.00	4100850.18 0.0502 0.0330
Uranus	6516-07-11 04:48 G	4101171.52	4101171.70	4101171.89 0.0143 0.0098
Uranus	6517-07-16 03:50 G	4101541.60	4101541.66	4101541.74 0.0143 0.0137

6521-02-22 09:07 G 4102858.68 4102858.88 4102859.07 0.0526 0.0270 Jupiter Neptune 6523-03-12 23:45 G 4103607.41 4103607.49 4103607.62 0.0089 0.0082 Neptune 6524-03-14 10:19 G 4103974.78 4103974.93 4103975.13 0.0089 0.0064 6524-08-19 18:14 G 4104133.02 4104133.26 4104133.50 0.0271 0.0078 Saturn 6525-03-16 21:07 G 4104342.18 4104342.38 4104342.61 0.0089 0.0046 Neptune Neptune 6526-03-19 07:26 G 4104709.58 4104709.81 4104710.06 0.0089 0.0029 Neptune 6527-03-21 18:14 G 4105077.01 4105077.26 4105077.51 0.0089 0.0011 6528-03-23 04:19 G 4105444.43 4105444.68 4105444.94 0.0089 0.0007 Neptune Neptune 6529-03-25 14:24 G 4105811.87 4105812.10 4105812.36 0.0089 0.0024 6530-03-28 00:57 G 4106179.32 4106179.54 4106179.77 0.0089 0.0041 Neptune Neptune 6531-03-30 10:48 G 4106546.78 4106546.95 4106547.16 0.0089 0.0059 6532-03-31 21:07 G 4106914.27 4106914.38 4106914.53 0.0089 0.0076 Neptune Jupiter 6533-02-27 04:04 G 4107246.60 4107246.67 4107246.77 0.0524 0.0482 Saturn 6540-02-25 23:45 G 4109801.30 4109801.49 4109801.70 0.0289 0.0167 Mars 6543-06-14 21:07 G 4111006.22 4111006.38 4111006.54 0.1612 0.0807 Jupiter 6550-08-05 14:09 G 4113615.00 4113615.09 4113615.19 0.0495 0.0449 6553-12-17 18:43 G 4114845.19 4114845.28 4114845.43 0.0133 0.0118 Uranus 6554-08-27 07:26 G 4115097.70 4115097.81 4115097.95 0.0271 0.0235 Saturn Uranus 6554-12-22 02:38 G 4115214.43 4115214.61 4115214.82 0.0134 0.0086 6555-12-26 10:48 G 4115583.73 4115583.95 4115584.19 0.0134 0.0054 **Uranus Uranus** 6556-12-29 19:11 G 4115953.05 4115953.30 4115953.55 0.0134 0.0021 6558-01-03 03:21 G 4116322.39 4116322.64 4116322.90 0.0134 0.0011 Uranus 6559-01-07 11:31 G 4116691.76 4116691.98 4116692.23 0.0135 0.0045 Uranus Uranus 6560-01-11 20:24 G 4117061.15 4117061.35 4117061.57 0.0135 0.0078 Uranus 6561-01-15 05:16 G 4117430.59 4117430.72 4117430.88 0.0136 0.0111 Jupiter 6562-08-10 01:11 G 4118002.36 4118002.55 4118002.76 0.0496 0.0268 Jupiter 6568-02-07 11:45 G 4120009.87 4120009.99 4120010.11 0.0533 0.0451 Saturn 6569-02-19 17:16 G 4120388.00 4120388.22 4120388.45 0.0288 0.0101 Jupiter 6574-08-14 11:31 G 4122389.75 4122389.98 4122390.21 0.0498 0.0086 Jupiter 6580-02-12 14:24 G 4124397.89 4124398.10 4124398.31 0.0531 0.0217

6583-08-22 01:40 G 4125684.32 4125684.57 4125684.82 0.0271 0.0011 Saturn 6586-08-19 01:40 G 4126777.34 4126777.57 4126777.80 0.0500 0.0105 Jupiter Jupiter 6592-02-17 13:11 G 4128785.82 4128786.05 4128786.28 0.0529 0.0011 6594-06-13 14:38 G 4129633.06 4129633.11 4129633.19 0.0145 0.0140 **Uranus** Uranus 6595-06-18 15:50 G 4130002.99 4130003.16 4130003.36 0.0145 0.0099 Uranus 6596-06-22 16:48 G 4130372.97 4130373.20 4130373.43 0.0145 0.0058 Uranus 6597-06-27 17:31 G 4130742.98 4130743.23 4130743.48 0.0144 0.0017 6598-07-02 17:45 G 4131112.99 4131113.24 4131113.50 0.0144 0.0024 Uranus Jupiter 6598-08-23 17:16 G 4131165.04 4131165.22 4131165.42 0.0502 0.0298 6599-02-27 12:28 G 4131352.91 4131353.02 4131353.14 0.0289 0.0251 Saturn Uranus 6599-07-07 17:31 G 4131483.01 4131483.23 4131483.47 0.0144 0.0065 **Uranus** 6600-07-12 17:02 G 4131853.05 4131853.21 4131853.39 0.0143 0.0104 Jupiter 6604-02-23 09:07 G 4133173.68 4133173.88 4133174.09 0.0527 0.0226 Neptune 6606-09-12 19:55 G 4134106.22 4134106.33 4134106.48 0.0088 0.0077 Neptune 6607-09-15 08:24 G 4134473.68 4134473.85 4134474.06 0.0088 0.0059 Neptune 6608-09-16 21:35 G 4134841.18 4134841.40 4134841.64 0.0088 0.0042 Neptune 6609-09-19 10:48 G 4135208.70 4135208.95 4135209.20 0.0088 0.0024 6610-08-29 09:21 G 4135552.84 4135552.89 4135552.94 0.0504 0.0490 Jupiter Neptune 6610-09-21 23:31 G 4135576.22 4135576.48 4135576.75 0.0088 0.0006 6611-09-24 12:43 G 4135943.77 4135944.03 4135944.29 0.0088 0.0012 Neptune Saturn 6612-08-16 23:45 G 4136271.39 4136271.49 4136271.60 0.0272 0.0246 Neptune 6612-09-26 01:26 G 4136311.33 4136311.56 4136311.82 0.0088 0.0029 Neptune 6613-09-28 14:52 G 4136678.90 4136679.12 4136679.34 0.0088 0.0047 Neptune 6614-10-01 03:21 G 4137046.49 4137046.64 4137046.84 0.0088 0.0065 Neptune 6615-10-03 16:04 G 4137414.11 4137414.17 4137414.30 0.0089 0.0083 Jupiter 6616-02-28 01:26 G 4137561.43 4137561.56 4137561.69 0.0525 0.0430 6628-02-23 06:57 G 4141939.55 4141939.79 4141940.03 0.0288 0.0016 Saturn Jupiter 6633-08-05 14:52 G 4143930.08 4143930.12 4143930.18 0.0494 0.0482 Uranus 6637-12-19 08:09 G 4145526.72 4145526.84 4145526.99 0.0133 0.0113 Uranus 6638-12-23 16:19 G 4145895.98 4145896.18 4145896.39 0.0134 0.0081

6639-12-28 00:00 G 4146265.27 4146265.50 4146265.75 0.0134 0.0049 Uranus 6640-12-31 08:09 G 4146634.59 4146634.84 4146635.10 0.0134 0.0016 Uranus **Uranus** 6642-01-04 16:19 G 4147003.93 4147004.18 4147004.43 0.0134 0.0017 6642-08-24 11:16 G 4147235.73 4147235.97 4147236.22 0.0271 0.0061 Saturn **Uranus** 6643-01-09 00:28 G 4147373.29 4147373.52 4147373.76 0.0135 0.0050 **Uranus** 6644-01-13 08:52 G 4147742.69 4147742.87 4147743.09 0.0135 0.0083 **Uranus** 6645-01-16 18:00 G 4148112.13 4148112.25 4148112.39 0.0136 0.0116 Jupiter 6645-08-10 02:38 G 4148317.43 4148317.61 4148317.80 0.0496 0.0301 Pluto 6649-03-14 13:26 G 4149629.80 4149630.06 4149630.31 0.0064 0.0007 Jupiter 6651-02-07 14:52 G 4150325.03 4150325.12 4150325.21 0.0533 0.0486 Jupiter 6657-08-14 16:04 G 4152704.94 4152705.17 4152705.40 0.0498 0.0116 6663-02-12 13:40 G 4154712.87 4154713.07 4154713.27 0.0531 0.0261 Jupiter Mars 6669-06-12 01:11 G 4157024.39 4157024.55 4157024.71 0.1606 0.0801 Jupiter 6669-08-19 06:14 G 4157092.53 4157092.76 4157093.00 0.0499 0.0071 Saturn 6671-08-19 08:38 G 4157822.68 4157822.86 4157823.06 0.0272 0.0176 6675-02-17 07:40 G 4159100.59 4159100.82 4159101.05 0.0530 0.0048 Jupiter Uranus 6678-06-15 03:07 G 4160314.56 4160314.63 4160314.74 0.0145 0.0135 Uranus 6679-06-20 04:33 G 4160684.50 4160684.69 4160684.88 0.0145 0.0094 Uranus 6680-06-24 05:16 G 4161054.49 4161054.72 4161054.96 0.0145 0.0053 6681-06-29 06:14 G 4161424.51 4161424.76 4161425.01 0.0144 0.0012 **Uranus** Jupiter 6681-08-23 19:40 G 4161480.12 4161480.32 4161480.52 0.0501 0.0260 6682-07-04 06:14 G 4161794.52 4161794.76 4161795.02 0.0144 0.0030 Uranus 6683-07-09 06:14 G 4162164.55 4162164.76 4162164.99 0.0144 0.0071 Uranus Uranus 6684-07-13 05:31 G 4162534.59 4162534.73 4162534.91 0.0143 0.0110 Jupiter 6687-02-22 05:45 G 4163488.52 4163488.74 4163488.96 0.0528 0.0174 Saturn 6687-02-24 21:35 G 4163491.17 4163491.40 4163491.64 0.0288 0.0071 Neptune 6688-03-14 17:16 G 4163875.10 4163875.22 4163875.39 0.0089 0.0073 Neptune 6689-03-17 03:50 G 4164242.49 4164242.66 4164242.88 0.0089 0.0056 Neptune 6690-03-19 14:52 G 4164609.90 4164610.12 4164610.36 0.0089 0.0038 Neptune 6691-03-22 01:26 G 4164977.32 4164977.56 4164977.81 0.0089 0.0021

6692-03-23 12:00 G 4165344.74 4165345.00 4165345.25 0.0089 0.0004 Neptune 6693-03-25 22:04 G 4165712.18 4165712.42 4165712.68 0.0089 0.0014 Neptune 6693-08-28 06:57 G 4165867.70 4165867.79 4165867.91 0.0503 0.0447 Jupiter 6694-03-28 08:24 G 4166079.62 4166079.85 4166080.09 0.0089 0.0031 Neptune 6695-03-30 18:43 G 4166447.07 4166447.28 4166447.50 0.0089 0.0048 Neptune Neptune 6696-04-01 05:02 G 4166814.54 4166814.71 4166814.88 0.0089 0.0065 Neptune 6697-04-03 15:07 G 4167182.05 4167182.13 4167182.23 0.0089 0.0082 6699-02-27 05:02 G 4167876.56 4167876.71 4167876.86 0.0526 0.0395 Jupiter Saturn 6701-08-26 21:50 G 4168787.20 4168787.41 4168787.64 0.0271 0.0134 6716-02-20 01:26 G 4174077.41 4174077.56 4174077.71 0.0288 0.0226 Saturn Uranus 6721-12-20 22:19 G 4176208.30 4176208.43 4176208.60 0.0133 0.0108 **Uranus** 6722-12-25 06:28 G 4176577.56 4176577.77 4176577.98 0.0134 0.0076 Uranus 6723-12-29 13:55 G 4176946.85 4176947.08 4176947.33 0.0134 0.0044 Uranus 6725-01-01 22:04 G 4177316.17 4177316.42 4177316.68 0.0134 0.0011 Uranus 6726-01-06 06:00 G 4177685.50 4177685.75 4177686.00 0.0134 0.0022 Uranus 6727-01-10 14:09 G 4178054.87 4178055.09 4178055.33 0.0135 0.0056 6728-01-14 22:48 G 4178424.27 4178424.45 4178424.65 0.0135 0.0089 Uranus 6728-08-10 07:40 G 4178632.65 4178632.82 4178633.00 0.0496 0.0330 Jupiter Uranus 6729-01-18 07:26 G 4178793.73 4178793.81 4178793.95 0.0136 0.0122 6730-08-21 18:43 G 4179374.06 4179374.28 4179374.52 0.0271 0.0105 Saturn Pluto 6737-09-13 17:31 G 4181954.02 4181954.23 4181954.46 0.0080 0.0044 Jupiter 6740-08-14 19:11 G 4183020.08 4183020.30 4183020.53 0.0497 0.0148 Jupiter 6746-02-12 08:24 G 4185027.66 4185027.85 4185028.03 0.0532 0.0314 Saturn 6746-02-27 11:02 G 4185042.76 4185042.96 4185043.17 0.0289 0.0155 Mars 6748-06-15 01:26 G 4185881.38 4185881.56 4185881.75 0.1608 0.0297 Jupiter 6752-08-19 04:19 G 4187407.45 4187407.68 4187407.92 0.0499 0.0030 Jupiter 6758-02-17 10:19 G 4189415.71 4189415.93 4189416.16 0.0530 0.0085 Saturn 6760-08-28 09:21 G 4190338.73 4190338.89 4190339.05 0.0270 0.0207 Uranus 6762-06-16 17:45 G 4190996.15 4190996.24 4190996.36 0.0145 0.0130 Uranus 6763-06-21 19:11 G 4191366.10 4191366.30 4191366.50 0.0145 0.0089

6764-06-25 19:55 G 4191736.10 4191736.33 4191736.57 0.0145 0.0048 Uranus 6764-08-23 18:28 G 4191795.06 4191795.27 4191795.49 0.0501 0.0221 Jupiter Uranus 6765-06-30 20:52 G 4192106.11 4192106.37 4192106.62 0.0144 0.0006 6766-07-05 20:52 G 4192476.13 4192476.37 4192476.62 0.0144 0.0035 Uranus Uranus 6767-07-10 20:52 G 4192846.15 4192846.37 4192846.59 0.0144 0.0076 Uranus 6768-07-14 19:55 G 4193216.20 4193216.33 4193216.50 0.0143 0.0116 Jupiter 6770-02-22 09:21 G 4193803.67 4193803.89 4193804.12 0.0528 0.0138 Neptune 6770-09-12 23:31 G 4194006.43 4194006.48 4194006.54 0.0088 0.0086 Neptune 6771-09-15 12:14 G 4194373.85 4194374.01 4194374.18 0.0088 0.0069 Neptune 6772-09-17 00:43 G 4194741.33 4194741.53 4194741.76 0.0088 0.0052 Neptune 6773-09-19 13:26 G 4195108.83 4195109.06 4195109.31 0.0088 0.0034 Neptune 6774-09-22 02:38 G 4195476.35 4195476.61 4195476.87 0.0088 0.0017 6775-02-21 14:23 G 4195628.90 4195629.10 4195629.32 0.0288 0.0143 Saturn Neptune 6775-09-24 15:21 G 4195843.88 4195844.14 4195844.40 0.0088 0.0001 Jupiter 6776-08-28 10:48 G 4196182.82 4196182.95 4196183.09 0.0503 0.0413 Neptune 6776-09-26 04:19 G 4196211.43 4196211.68 4196211.95 0.0088 0.0018 Neptune 6777-09-28 17:16 G 4196578.99 4196579.22 4196579.47 0.0088 0.0036 Neptune 6778-10-01 06:00 G 4196946.56 4196946.75 4196946.98 0.0088 0.0054 Neptune 6779-10-03 18:57 G 4197314.16 4197314.29 4197314.47 0.0089 0.0071 6780-10-05 08:23 G 4197681.83 4197681.85 4197681.90 0.0089 0.0088 Neptune Jupiter 6782-02-27 05:31 G 4198191.57 4198191.73 4198191.91 0.0526 0.0353 6786-12-17 15:50 G 4199945.96 4199946.16 4199946.37 0.1926 0.0193 Mars 6789-08-23 04:48 G 4200925.45 4200925.70 4200925.95 0.0271 0.0033 Saturn Saturn 6805-02-28 23:02 G 4206594.33 4206594.46 4206594.61 0.0289 0.0236 Uranus 6805-12-21 12:14 G 4206889.86 4206890.01 4206890.18 0.0133 0.0104 Uranus 6806-12-25 19:55 G 4207259.12 4207259.33 4207259.55 0.0134 0.0072 6807-12-30 03:36 G 4207628.41 4207628.65 4207628.90 0.0134 0.0039 Uranus Uranus 6809-01-02 11:31 G 4207997.73 4207997.98 4207998.24 0.0134 0.0006 Uranus 6810-01-06 19:26 G 4208367.07 4208367.31 4208367.56 0.0134 0.0027 Uranus 6811-01-11 03:36 G 4208736.43 4208736.65 4208736.89 0.0135 0.0060

6811-08-10 06:43 G 4208947.63 4208947.78 4208947.94 0.0495 0.0366 Jupiter 6812-01-15 12:14 G 4209105.84 4209106.01 4209106.20 0.0135 0.0093 Uranus Uranus 6813-01-18 20:52 G 4209475.30 4209475.37 4209475.48 0.0135 0.0127 6818-08-18 06:00 G 4211512.70 4211512.75 4211512.82 0.0272 0.0264 Saturn 6823-08-14 18:57 G 4213335.07 4213335.29 4213335.51 0.0497 0.0185 Jupiter Mars 6827-06-18 02:52 G 4214738.53 4214738.62 4214738.71 0.1610 0.1412 Jupiter 6829-02-11 12:43 G 4215342.86 4215343.03 4215343.21 0.0533 0.0349 6834-02-23 01:55 G 4217180.34 4217180.58 4217180.82 0.0288 0.0063 Saturn Jupiter 6835-08-19 08:23 G 4217722.62 4217722.85 4217723.09 0.0498 0.0007 6841-02-16 12:00 G 4219730.77 4219731.00 4219731.22 0.0530 0.0124 Jupiter Uranus 6846-06-17 06:28 G 4221677.66 4221677.77 4221677.91 0.0145 0.0127 Uranus 6847-06-22 07:40 G 4222047.63 4222047.82 4222048.04 0.0145 0.0085 Jupiter 6847-08-24 00:00 G 4222110.28 4222110.50 4222110.72 0.0500 0.0189 6848-06-26 08:38 G 4222417.63 4222417.86 4222418.11 0.0145 0.0044 Uranus Saturn 6848-08-24 13:55 G 4222476.84 4222477.08 4222477.33 0.0271 0.0037 Uranus 6849-07-01 09:36 G 4222787.65 4222787.90 4222788.16 0.0144 0.0003 6850-07-06 09:36 G 4223157.67 4223157.90 4223158.16 0.0144 0.0041 Uranus Uranus 6851-07-11 09:50 G 4223527.71 4223527.91 4223528.13 0.0144 0.0081 Neptune 6852-03-14 23:31 G 4223775.40 4223775.48 4223775.59 0.0089 0.0082 6852-07-15 09:21 G 4223897.76 4223897.89 4223898.03 0.0143 0.0121 **Uranus** Jupiter 6853-02-21 06:14 G 4224118.53 4224118.76 4224118.99 0.0528 0.0089 Neptune 6853-03-17 10:19 G 4224142.77 4224142.93 4224143.12 0.0089 0.0065 6854-03-19 21:07 G 4224510.17 4224510.38 4224510.60 0.0089 0.0048 Neptune 6855-03-22 07:40 G 4224877.59 4224877.82 4224878.07 0.0089 0.0031 Neptune Neptune 6856-03-23 18:14 G 4225245.02 4225245.26 4225245.52 0.0089 0.0014 Neptune 6857-03-26 04:48 G 4225612.45 4225612.70 4225612.96 0.0089 0.0003 Neptune 6858-03-28 14:52 G 4225979.89 4225980.12 4225980.39 0.0089 0.0021 Neptune 6859-03-31 01:11 G 4226347.34 4226347.55 4226347.80 0.0089 0.0038 Jupiter 6859-08-28 14:09 G 4226497.94 4226498.09 4226498.25 0.0502 0.0379 Neptune 6860-04-01 11:16 G 4226714.79 4226714.97 4226715.19 0.0089 0.0055

6861-04-03 21:50 G 4227082.27 4227082.41 4227082.57 0.0089 0.0071 Neptune 6862-04-06 07:55 G 4227449.82 4227449.83 4227449.88 0.0089 0.0088 Neptune Jupiter 6865-02-26 03:07 G 4228506.45 4228506.63 4228506.82 0.0527 0.0306 6874-06-12 07:26 G 4231899.69 Mars 4231899.81 4231899.92 0.1603 0.1266 Jupiter 6877-03-03 01:55 G 4232894.56 4232894.58 4232894.62 0.0525 0.0518 Saturn 6877-08-19 16:04 G 4233064.00 4233064.17 4233064.35 0.0271 0.0192 **Uranus** 6888-12-17 18:28 G 4237202.26 4237202.27 4237202.34 0.0133 0.0132 6889-12-22 02:09 G 4237571.44 4237571.59 4237571.78 0.0133 0.0100 Uranus **Uranus** 6890-12-26 10:04 G 4237940.70 4237940.92 4237941.14 0.0134 0.0067 6891-12-30 17:31 G 4238309.99 4238310.23 **Uranus** 4238310.48 0.0134 0.0035 **Uranus** 6893-01-03 01:26 G 4238679.31 4238679.56 4238679.82 0.0134 0.0002 6893-02-24 10:48 G 4238731.71 4238731.95 4238732.20 0.0289 0.0014 Saturn **Uranus** 6894-01-07 09:21 G 4239048.64 4239048.89 4239049.14 0.0134 0.0032 Jupiter 6894-08-09 12:14 G 4239262.87 4239263.01 4239263.15 0.0495 0.0393 Uranus 6895-01-11 17:31 G 4239418.02 4239418.23 4239418.46 0.0135 0.0065 **Uranus** 6896-01-16 01:55 G 4239787.43 4239787.58 4239787.77 0.0135 0.0098 6897-01-19 10:48 G 4240156.91 4240156.95 4240157.03 0.0135 0.0131 Uranus Pluto 6897-03-16 17:02 G 4240213.02 4240213.21 4240213.46 0.0064 0.0032 **Pluto** 6898-03-18 04:19 G 4240579.60 4240579.68 4240579.81 0.0064 0.0059 Jupiter 6906-08-15 01:26 G 4243650.35 4243650.56 4243650.77 0.0496 0.0212 Saturn 6907-08-27 21:50 G 4244028.19 4244028.41 4244028.64 0.0271 0.0104 Jupiter 6912-02-12 10:33 G 4245657.79 4245657.94 4245658.10 0.0533 0.0393 Jupiter 6918-08-19 14:09 G 4248037.86 4248038.09 4248038.33 0.0498 0.0029 6922-02-19 23:45 G 4249318.41 4249318.49 4249318.61 0.0288 0.0264 Saturn Jupiter 6924-02-17 10:04 G 4250045.70 4250045.92 4250046.14 0.0531 0.0169 Uranus 6930-06-18 20:23 G 4252359.23 4252359.35 4252359.50 0.0145 0.0122 6930-08-23 23:31 G 4252425.26 4252425.48 4252425.71 0.0499 0.0149 Jupiter Uranus 6931-06-23 21:36 G 4252729.20 4252729.40 4252729.62 0.0145 0.0080 Uranus 6932-06-27 22:48 G 4253099.20 4253099.45 4253099.69 0.0145 0.0038 6933-07-02 23:31 G 4253469.22 4253469.48 4253469.73 0.0144 0.0004 Uranus

6934-07-07 23:31 G 4253839.24 4253839.48 4253839.73 0.0144 0.0045 Uranus 6935-07-12 23:16 G 4254209.28 4254209.47 4254209.69 0.0144 0.0087 Uranus 6935-09-15 14:38 G 4254274.02 4254274.11 4254274.25 0.0088 0.0079 Neptune 6936-02-22 10:48 G 4254433.73 4254433.95 4254434.18 0.0530 0.0056 Jupiter **Uranus** 6936-07-16 22:48 G 4254579.35 4254579.45 4254579.59 0.0143 0.0127 Saturn 6936-08-22 00:00 G 4254615.29 4254615.50 4254615.73 0.0271 0.0124 Neptune 6936-09-17 03:21 G 4254641.47 4254641.64 4254641.85 0.0088 0.0061 6937-09-19 16:04 G 4255008.97 4255009.17 4255009.42 0.0088 0.0045 Neptune Neptune 6938-09-22 04:48 G 4255376.47 4255376.70 4255376.96 0.0088 0.0027 6939-09-24 18:00 G 4255743.99 4255744.25 4255744.51 0.0088 0.0010 Neptune Neptune 6940-09-26 06:57 G 4256111.53 4256111.79 4256112.05 0.0088 0.0007 6941-09-28 19:40 G 4256479.07 4256479.32 4256479.58 0.0088 0.0025 Neptune 6942-08-28 14:38 G 4256812.94 4256813.11 4256813.29 0.0501 0.0339 Neptune 6942-10-01 08:52 G 4256846.64 4256846.87 4256847.10 0.0088 0.0042 Neptune 6943-10-03 21:21 G 4257214.22 4257214.39 4257214.61 0.0088 0.0060 6944-10-05 10:19 G 4257581.83 4257581.93 4257582.09 0.0088 0.0077 Neptune 6948-02-27 10:33 G 4258821.75 4258821.94 4258822.14 0.0527 0.0274 Jupiter 6952-02-27 16:48 G 4260282.97 4260283.20 4260283.43 0.0289 0.0083 Saturn Mars 6953-06-15 08:09 G 4260756.66 4260756.84 4260757.03 0.1604 0.0177 6960-03-03 07:26 G 4263209.73 4263209.81 4263209.90 0.0525 0.0485 Jupiter Saturn 6966-08-29 03:50 G 4265579.48 4265579.66 4265579.87 0.0270 0.0169 Uranus 6972-12-19 08:52 G 4267883.81 4267883.87 4267883.97 0.0133 0.0127 6973-12-23 16:19 G 4268253.01 4268253.18 4268253.37 0.0133 0.0094 Uranus Uranus 6974-12-27 23:45 G 4268622.28 4268622.49 4268622.73 0.0133 0.0062 Uranus 6976-01-01 07:26 G 4268991.57 4268991.81 4268992.06 0.0134 0.0029 Uranus 6977-01-04 15:07 G 4269360.88 4269361.13 4269361.39 0.0134 0.0004 6977-08-09 19:40 G 4269578.20 4269578.32 4269578.45 0.0494 0.0415 Jupiter Uranus 6978-01-08 23:02 G 4269730.22 4269730.46 4269730.71 0.0134 0.0037 Uranus 6979-01-13 07:11 G 4270099.59 4270099.80 4270100.03 0.0135 0.0070 Uranus 6980-01-17 15:36 G 4270469.00 4270469.15 4270469.32 0.0135 0.0103

Saturn 6981-02-21 03:50 G 4270869.49 4270869.66 4270869.84 0.0288 0.0198

Jupiter 6989-08-14 04:04 G 4273965.47 4273965.67 4273965.88 0.0495 0.0245

Jupiter 6995-02-11 14:38 G 4275972.98 4275973.11 4275973.25 0.0534 0.0430

Saturn 6995-08-24 05:31 G 4276166.50 4276166.73 4276166.98 0.0271 0.0060

## 8TH MILLENNIUM CE

## This is a list of transits of Earth in the 8th millennium CE.

FROM MAX- C START MAX END SUNRAD DEPTH S

TRANSIT

TIME

7001-08-19 16:48 G 4278352.97 4278353.20 4278353.44 0.0497 0.0064 **Jupiter** 7007-02-17 17:45 G 4280361.02 4280361.24 4280361.45 0.0532 0.0200 **Jupiter** 7011-03-01 20:38 G 4281834.16 4281834.36 4281834.58 0.0289 0.0148 Saturn **Jupiter** 7013-08-24 06:57 G 4282740.56 4282740.79 4282741.02 0.0499 0.0122 7014-06-20 07:26 G 4283040.67 4283040.96 0.0145 0.0118 **Uranus** 4283040.81 **Uranus** 7015-06-25 08:23 G 4283410.65 4283410.85 4283411.08 0.0145 0.0076 **Uranus** 7016-06-29 09:21 G 4283780.66 4283780.89 4283781.15 0.0145 0.0034 Neptune 7017-03-18 16:19 G 4284043.06 4284043.18 4284043.33 0.0089 0.0075 7017-07-04 10:33 G 4284150.68 4284150.94 4284151.19 0.0145 0.0008 Uranus 7018-03-21 02:38 G 4284410.45 4284410.61 4284410.83 0.0089 0.0058 Neptune **Uranus** 7018-07-09 10:33 G 4284520.71 4284520.94 4284521.18 0.0144 0.0050 Jupiter 7019-02-22 18:14 G 4284749.03 4284749.26 4284749.49 0.0530 0.0027 7019-03-23 13:40 G 4284777.86 4284778.07 4284778.31 0.0089 0.0041 Neptune **Uranus** 7019-07-14 10:48 G 4284890.76 4284890.95 4284891.15 0.0144 0.0091 Neptune 7020-03-25 00:14 G 4285145.28 4285145.51 4285145.77 0.0089 0.0024

Uranus	7020-07-18 10:04 G	4285260.84	4285260.92	4285261.05 0.0143 0.0132
Neptune	7021-03-27 11:16 G	4285512.72	4285512.97	4285513.23 0.0089 0.0007
Neptune	7022-03-29 21:50 G	4285880.16	4285880.41	4285880.66 0.0089 0.0010
Neptune	7023-04-01 08:09 G	4286247.60	4286247.84	4286248.09 0.0089 0.0027
Neptune	7024-04-02 18:14 G	4286615.05	4286615.26	4286615.49 0.0089 0.0044
Neptune	7025-04-05 04:19 G	4286982.52	4286982.68	4286982.89 0.0089 0.0061
Jupiter	7025-08-28 23:16 G	4287128.29	4287128.47	4287128.66 0.0501 0.0314
Saturn	7025-08-31 08:09 G	4287130.71	4287130.84	4287130.97 0.0270 0.0229
Neptune	7026-04-07 14:52 G	4287350.01	4287350.12	4287350.25 0.0089 0.0077
Jupiter	7031-02-27 13:11 G	4289136.85	4289137.05	4289137.26 0.0527 0.0238
Mars	7032-06-18 08:23 G	4289613.70	4289613.85	4289614.00 0.1606 0.0919
Saturn	7040-02-24 05:16 G	4292420.51	4292420.72	4292420.93 0.0288 0.0138
Jupiter	7043-03-04 10:04 G	4293524.80	4293524.92	4293525.04 0.0526 0.0448
Saturn	7054-08-26 09:21 G	4297717.64	4297717.89	4297718.14 0.0271 0.0004
Uranus	7056-12-20 23:02 G	4298565.38	4298565.46	4298565.59 0.0133 0.0121
Uranus	7057-12-25 06:14 G	4298934.59	4298934.76	4298934.97 0.0133 0.0090
Uranus	7058-12-29 14:09 G	4299303.86	4299304.09	4299304.32 0.0133 0.0057
Uranus	7060-01-02 21:36 G	4299673.15	4299673.40	4299673.65 0.0134 0.0024
Jupiter	7060-08-10 00:57 G	4299893.45	4299893.54	4299893.65 0.0493 0.0444
Uranus	7061-01-06 05:16 G	4300042.47	4300042.72	4300042.98 0.0134 0.0009
Uranus	7062-01-10 12:57 G	4300411.81	4300412.04	4300412.29 0.0134 0.0043
Uranus	7063-01-14 21:21 G	4300781.19	4300781.39	4300781.61 0.0135 0.0076
Uranus	7064-01-19 05:45 G	4301150.61	4301150.74	4301150.91 0.0135 0.0109
Saturn	7070-03-02 22:48 G	4303385.29	4303385.45	4303385.62 0.0288 0.0210
Mars	7070-12-18 16:19 G	4303676.01	4303676.18	4303676.36 0.1931 0.0958
Jupiter	7072-08-14 12:28 G	4304280.83	4304281.02	4304281.22 0.0495 0.0268
Jupiter	7078-02-11 23:02 G	4306288.34	4306288.46	4306288.58 0.0534 0.0456
Saturn	7083-08-20 19:26 G	4308304.23	4308304.31	4308304.40 0.0272 0.0255
Jupiter	7084-08-19 02:38 G	4308668.38	4308668.61	4308668.84 0.0497 0.0085
Jupiter	7090-02-16 21:50 G	4310676.21	4310676.41	4310676.62 0.0532 0.0234

Jupiter 7096-08-23 16:19 G 4313055.95 4313056.18 4313056.42 0.0499 0.0101 7098-06-20 19:55 G 4313722.19 4313722.33 4313722.51 0.0145 0.0113 Uranus Saturn 7099-02-25 05:31 G 4313971.50 4313971.73 4313971.97 0.0288 0.0079 7099-06-25 21:21 G 4314092.17 4314092.39 4314092.62 0.0145 0.0070 Uranus Neptune 7099-09-15 17:45 G 4314174.23 4314174.24 4314174.30 0.0088 0.0087 Uranus 7100-06-30 22:19 G 4314462.18 4314462.43 4314462.68 0.0145 0.0028 Neptune 7100-09-18 06:43 G 4314541.64 4314541.78 4314541.95 0.0088 0.0071 7101-07-05 23:02 G 4314832.21 4314832.46 4314832.71 0.0145 0.0014 Uranus Neptune 7101-09-20 18:43 G 4314909.10 4314909.28 4314909.51 0.0088 0.0055 Jupiter 7102-02-22 21:07 G 4315064.15 4315064.38 4315064.61 0.0530 0.0013 Uranus 7102-07-10 23:16 G 4315202.24 4315202.47 4315202.71 0.0144 0.0055 Neptune 7102-09-23 07:40 G 4315276.60 4315276.82 4315277.08 0.0088 0.0038 Uranus 7103-07-15 23:16 G 4315572.30 4315572.47 4315572.67 0.0144 0.0097 Neptune 7103-09-25 20:38 G 4315644.11 4315644.36 4315644.62 0.0088 0.0020 Uranus 7104-07-19 23:02 G 4315942.40 4315942.46 4315942.55 0.0143 0.0137 Neptune 7104-09-27 09:21 G 4316011.63 4316011.89 4316012.15 0.0088 0.0003 Neptune 7105-09-29 22:04 G 4316379.16 4316379.42 4316379.68 0.0088 0.0014 Neptune 7106-10-02 11:02 G 4316746.71 4316746.96 4316747.21 0.0088 0.0031 Neptune 7107-10-05 00:00 G 4317114.28 4317114.50 4317114.72 0.0088 0.0048 Jupiter 7108-08-29 03:36 G 4317443.46 4317443.65 4317443.85 0.0500 0.0278 Neptune 7108-10-06 12:43 G 4317481.87 4317482.03 4317482.22 0.0088 0.0065 Neptune 7109-10-09 01:40 G 4317849.49 4317849.57 4317849.68 0.0088 0.0082 Saturn 7113-08-28 10:33 G 4319268.71 4319268.94 4319269.19 0.0272 0.0060 Jupiter 7114-02-27 19:55 G 4319452.12 4319452.33 4319452.54 0.0529 0.0203 Jupiter 7120-09-02 18:57 G 4321831.21 4321831.29 4321831.38 0.0502 0.0467 Jupiter 7126-03-04 19:55 G 4323840.19 4323840.33 4323840.47 0.0526 0.0418 Saturn 7129-03-04 23:31 G 4324936.39 4324936.48 4324936.56 0.0288 0.0269 Uranus 7140-12-22 13:26 G 4329246.96 4329247.06 4329247.20 0.0133 0.0116 Uranus 7141-12-26 20:38 G 4329616.18 4329616.36 4329616.58 0.0133 0.0084 Saturn 7142-08-22 20:09 G 4329855.18 4329855.34 4329855.51 0.0272 0.0199

7142-12-31 04:19 G 4329985.45 4329985.68 4329985.92 0.0133 0.0052 Uranus Jupiter 7143-08-11 11:16 G 4330208.89 4330208.97 4330209.05 0.0493 0.0462 Uranus 7144-01-04 11:45 G 4330354.74 4330354.99 4330355.25 0.0134 0.0019 Uranus 7145-01-07 19:26 G 4330724.07 4330724.31 4330724.57 0.0134 0.0015 Pluto 7145-03-21 01:11 G 4330796.39 4330796.55 4330796.75 0.0064 0.0046 Uranus 7146-01-12 03:21 G 4331093.41 4331093.64 4331093.89 0.0134 0.0048 7146-03-22 12:14 G 4331162.85 4331163.01 4331163.22 0.0064 0.0045 Pluto Uranus 7147-01-16 12:00 G 4331462.80 4331463.00 4331463.20 0.0135 0.0081 Uranus 7148-01-20 20:23 G 4331832.22 4331832.35 4331832.49 0.0135 0.0114 Jupiter 7155-08-15 23:16 G 4334596.28 4334596.47 4334596.66 0.0495 0.0287 Saturn 7158-02-27 04:48 G 4335522.46 4335522.70 4335522.94 0.0288 0.0022 Mars 7158-06-16 14:52 G 4335631.95 4335632.12 4335632.30 0.1601 0.0631 Jupiter 7161-02-12 02:23 G 4336603.51 4336603.60 4336603.69 0.0534 0.0491 Jupiter 7167-08-20 09:36 G 4338983.67 4338983.90 4338984.13 0.0496 0.0115 Saturn 7172-08-29 10:48 G 4340819.73 4340819.95 4340820.18 0.0272 0.0114 Jupiter 7173-02-17 02:09 G 4340991.40 4340991.59 4340991.79 0.0533 0.0273 Jupiter 7179-08-24 22:33 G 4343371.21 4343371.44 4343371.67 0.0498 0.0068 Neptune 7181-03-18 21:21 G 4343943.34 4343943.39 4343943.50 0.0089 0.0084 Neptune 7182-03-21 08:23 G 4344310.70 4344310.85 4344311.03 0.0089 0.0067 7182-06-22 06:57 G 4344403.64 4344403.79 4344403.98 0.0145 0.0109 Uranus Neptune 7183-03-23 19:11 G 4344678.10 4344678.30 4344678.51 0.0089 0.0050 7183-06-27 08:09 G 4344773.63 4344773.84 4344774.08 0.0145 0.0066 Uranus Neptune 7184-03-25 05:45 G 4345045.52 4345045.74 4345045.99 0.0089 0.0034 Uranus 7184-07-01 09:07 G 4345143.64 4345143.88 4345144.14 0.0145 0.0024 Jupiter 7185-02-22 05:02 G 4345379.48 4345379.71 4345379.94 0.0531 0.0045 Neptune 7185-03-27 16:33 G 4345412.95 4345413.19 4345413.45 0.0089 0.0017 Uranus 7185-07-06 10:04 G 4345513.67 4345513.92 4345514.17 0.0145 0.0019 Neptune 7186-03-30 03:21 G 4345780.39 4345780.64 4345780.90 0.0089 0.0001 Uranus 7186-07-11 10:19 G 4345883.70 4345883.93 4345884.16 0.0144 0.0061 Neptune 7187-04-01 13:40 G 4346147.83 4346148.07 4346148.33 0.0089 0.0017

7187-07-16 10:19 G 4346253.77 4346253.93 4346254.13 0.0144 0.0102 Uranus Neptune 7188-04-03 00:00 G 4346515.29 4346515.50 4346515.76 0.0089 0.0034 Uranus 7188-07-20 10:19 G 4346623.91 4346623.93 4346623.98 0.0143 0.0142 Neptune 7189-04-05 10:48 G 4346882.75 4346882.95 4346883.17 0.0089 0.0050 7190-04-07 20:52 G 4347250.23 4347250.37 4347250.56 0.0089 0.0067 Neptune 7191-04-10 07:11 G 4347617.73 4347617.80 4347617.91 0.0089 0.0083 Jupiter 7191-08-29 12:43 G 4347758.82 4347759.03 4347759.23 0.0500 0.0253 7197-02-27 06:00 G 4349767.54 4349767.75 4349767.97 0.0529 0.0178 Jupiter Saturn 7201-08-23 19:40 G 4351406.12 4351406.32 4351406.54 0.0272 0.0145 Jupiter 7203-09-03 05:02 G 4352146.61 4352146.71 4352146.82 0.0502 0.0444 Jupiter 7209-03-04 02:23 G 4354155.44 4354155.60 4354155.75 0.0527 0.0387 7217-02-28 04:33 G 4357073.46 4357073.69 4357073.94 0.0288 0.0037 Saturn Uranus 7224-12-23 03:50 G 4359928.53 4359928.66 4359928.81 0.0133 0.0111 Uranus 7225-12-27 11:16 G 4360297.77 4360297.97 4360298.18 0.0133 0.0079 Jupiter 7226-08-10 20:09 G 4360524.31 4360524.34 4360524.38 0.0493 0.0486 **Uranus** 7226-12-31 18:28 G 4360667.05 4360667.27 4360667.52 0.0134 0.0047 Uranus 7228-01-05 02:09 G 4361036.34 4361036.59 4361036.84 0.0134 0.0013 Uranus 7229-01-08 10:04 G 4361405.67 4361405.92 4361406.17 0.0134 0.0020 Uranus 7230-01-12 18:00 G 4361775.02 4361775.25 4361775.49 0.0134 0.0053 7231-01-17 02:23 G 4362144.41 4362144.60 4362144.80 0.0135 0.0087 Uranus Saturn 7231-08-31 10:19 G 4362370.74 4362370.93 4362371.13 0.0272 0.0168 Uranus 7232-01-21 10:48 G 4362513.85 4362513.95 4362514.08 0.0135 0.0120 7234-09-20 23:31 G 4363487.31 4363487.48 4363487.70 0.0079 0.0054 Pluto 7237-06-18 15:36 G 4364488.97 4364489.15 4364489.33 0.1602 0.0458 Mars Jupiter 7238-08-15 07:11 G 4364911.62 4364911.80 4364911.99 0.0494 0.0313 Jupiter 7244-02-12 07:26 G 4366918.79 4366918.81 4366918.86 0.0536 0.0528 7246-02-22 13:40 G 4367659.96 4367660.07 4367660.22 0.0286 0.0240 Saturn Jupiter 7250-08-19 18:14 G 4369299.03 4369299.26 4369299.49 0.0496 0.0138 Jupiter 7256-02-17 12:00 G 4371306.81 4371307.00 4371307.19 0.0534 0.0297 Saturn 7260-08-24 19:40 G 4372957.09 4372957.32 4372957.56 0.0272 0.0090

Jupiter 7262-08-24 08:09 G 4373686.61 4373686.84 4373687.08 0.0498 0.0047 Neptune 7264-09-17 09:50 G 4374441.81 4374441.91 4374442.03 0.0088 0.0079 Uranus 7265-06-17 20:23 G 4374715.34 4374715.35 4374715.38 0.0146 0.0145 Neptune 7265-09-19 22:19 G 4374809.27 4374809.43 4374809.64 0.0088 0.0063 **Uranus** 7266-06-22 21:07 G 4375085.22 4375085.38 4375085.58 0.0145 0.0104 Neptune 7266-09-22 11:16 G 4375176.76 4375176.97 4375177.20 0.0088 0.0047 Uranus 7267-06-27 22:19 G 4375455.21 4375455.43 4375455.67 0.0145 0.0061 Neptune 7267-09-25 00:14 G 4375544.26 4375544.51 4375544.76 0.0088 0.0030 Jupiter 7268-02-22 11:45 G 4375694.76 4375694.99 4375695.22 0.0531 0.0075 7268-07-01 23:31 G 4375825.23 4375825.48 4375825.73 0.0145 0.0018 Uranus Neptune 7268-09-26 12:43 G 4375911.78 4375912.03 4375912.30 0.0088 0.0013 Uranus 7269-07-07 00:00 G 4376195.25 4376195.50 4376195.75 0.0145 0.0024 Neptune 7269-09-29 01:26 G 4376279.30 4376279.56 4376279.83 0.0088 0.0004 Uranus 7270-07-12 00:14 G 4376565.30 4376565.51 4376565.75 0.0144 0.0066 Neptune 7270-10-01 14:09 G 4376646.84 4376647.09 4376647.35 0.0088 0.0021 Uranus 7271-07-17 00:28 G 4376935.37 4376935.52 4376935.71 0.0144 0.0108 Neptune 7271-10-04 02:38 G 4377014.39 4377014.61 4377014.87 0.0088 0.0038 Neptune 7272-10-05 15:50 G 4377381.96 4377382.16 4377382.37 0.0088 0.0054 Neptune 7273-10-08 04:19 G 4377749.54 4377749.68 4377749.86 0.0088 0.0071 Jupiter 7274-08-28 22:48 G 4378074.24 4378074.45 4378074.66 0.0500 0.0231 Neptune 7274-10-10 17:02 G 4378117.21 4378117.21 4378117.29 0.0088 0.0088 7276-03-01 06:14 G 4378624.53 4378624.76 4378624.99 0.0288 0.0098 Saturn Jupiter 7280-02-27 10:04 G 4380082.70 4380082.92 4380083.15 0.0529 0.0142 Jupiter 7286-09-02 11:45 G 4382461.87 4382461.99 4382462.14 0.0501 0.0410 Saturn 7290-09-01 09:36 G 4383921.77 4383921.90 4383922.06 0.0272 0.0222 Jupiter 7292-03-03 06:28 G 4384470.60 4384470.77 4384470.94 0.0528 0.0348 7305-02-24 17:45 G 4389211.05 4389211.24 4389211.43 0.0286 0.0174 Saturn Uranus 7308-12-24 17:45 G 4390610.11 4390610.24 4390610.41 0.0133 0.0107 Uranus 7309-12-29 01:26 G 4390979.35 4390979.56 4390979.78 0.0133 0.0074 Uranus 7311-01-02 08:52 G 4391348.64 4391348.87 4391349.12 0.0133 0.0042

7312-01-06 16:33 G 4391717.94 4391718.19 4391718.45 0.0134 0.0008 Uranus 7313-01-10 00:28 G 4392087.28 4392087.52 4392087.78 0.0134 0.0025 Uranus Uranus 7314-01-14 08:23 G 4392456.63 4392456.85 4392457.09 0.0134 0.0059 7315-01-18 16:48 G 4392826.03 4392826.20 4392826.40 0.0135 0.0093 **Uranus** Uranus 7316-01-23 01:11 G 4393195.48 4393195.55 4393195.66 0.0135 0.0126 Mars 7316-06-21 15:50 G 4393346.12 4393346.16 4393346.21 0.1604 0.1549 Saturn 7319-08-27 20:38 G 4394508.11 4394508.36 4394508.61 0.0272 0.0034 Jupiter 7321-08-15 16:04 G 4395226.99 4395227.17 4395227.34 0.0494 0.0334 Jupiter 7333-08-20 04:19 G 4399614.46 4399614.68 4399614.90 0.0496 0.0158 7335-03-04 09:21 G 4400175.70 Saturn 4400175.89 4400176.10 0.0288 0.0163 Jupiter 7339-02-17 15:07 G 4401621.95 4401622.13 4401622.31 0.0534 0.0332 Jupiter 7345-08-24 16:04 G 4404001.94 4404002.17 4404002.41 0.0497 0.0018 Neptune 7346-03-21 13:55 G 4404210.98 4404211.08 4404211.24 0.0089 0.0077 Neptune 7347-03-24 00:43 G 4404578.37 4404578.53 4404578.74 0.0089 0.0060 Neptune 7348-03-25 11:31 G 4404945.78 4404945.98 4404946.22 0.0089 0.0043 7348-08-21 16:33 G 4405095.17 4405095.19 4405095.23 0.0274 0.0270 Saturn Neptune 7349-03-27 22:19 G 4405313.20 4405313.43 4405313.69 0.0089 0.0027 7349-06-19 08:38 G 4405396.80 4405396.86 4405396.92 0.0145 0.0141 Uranus Neptune 7350-03-30 09:07 G 4405680.63 4405680.88 4405681.14 0.0089 0.0010 7350-06-24 09:21 G 4405766.72 4405766.89 4405767.09 0.0145 0.0100 **Uranus** Jupiter 7351-02-22 12:14 G 4406009.79 4406010.01 4406010.23 0.0533 0.0120 Neptune 7351-04-01 19:40 G 4406048.07 4406048.32 4406048.58 0.0089 0.0007 7351-06-29 10:19 G 4406136.71 4406136.93 4406137.18 0.0145 0.0057 **Uranus** Neptune 7352-04-03 06:14 G 4406415.52 4406415.76 4406416.01 0.0089 0.0023 Uranus 7352-07-03 11:31 G 4406506.72 4406506.98 4406507.23 0.0145 0.0014 Neptune 7353-04-05 16:33 G 4406782.98 4406783.19 4406783.44 0.0089 0.0040 7353-07-08 12:14 G 4406876.76 4406877.01 4406877.26 0.0145 0.0028 Uranus Neptune 7354-04-08 03:07 G 4407150.45 4407150.63 4407150.84 0.0089 0.0056 Uranus 7354-07-13 12:28 G 4407246.81 4407247.02 4407247.25 0.0144 0.0071 Mars 7354-12-19 15:21 G 4407406.06 4407406.14 4407406.21 0.1935 0.1786

Neptune 7355-04-10 13:40 G 4407517.93 4407518.07 4407518.23 0.0089 0.0072 7355-07-18 12:57 G 4407616.89 4407617.04 4407617.21 0.0144 0.0112 Uranus Neptune 7356-04-11 23:45 G 4407885.49 4407885.49 4407885.54 0.0089 0.0089 7357-08-29 05:02 G 4408389.49 4408389.71 4408389.93 0.0498 0.0199 Jupiter 7363-02-27 13:40 G 4410397.85 4410398.07 4410398.30 0.0531 0.0102 Jupiter Mars 7363-06-16 22:48 G 4410507.31 4410507.45 4410507.59 0.1598 0.1064 Saturn 7364-02-26 23:45 G 4410762.27 4410762.49 4410762.72 0.0286 0.0104 Jupiter 7369-09-02 17:45 G 4412777.09 4412777.24 4412777.39 0.0500 0.0380 Jupiter 7375-03-04 14:38 G 4414785.93 4414786.11 4414786.29 0.0528 0.0320 7378-08-28 22:48 G 4416059.20 4416059.45 4416059.70 0.0272 0.0025 Saturn Jupiter 7387-03-09 11:31 G 4419173.97 4419173.98 4419173.98 0.0526 0.0525 7392-12-25 07:26 G 4421291.67 4421291.81 4421292.00 0.0133 0.0103 **Uranus** Pluto 7393-03-23 08:52 G 4421379.80 4421379.87 4421380.00 0.0064 0.0059 Uranus 7393-12-29 14:52 G 4421660.92 4421661.12 4421661.36 0.0133 0.0071 Saturn 7394-03-05 15:36 G 4421727.02 4421727.15 4421727.30 0.0288 0.0233 Pluto 7394-03-24 20:09 G 4421746.13 4421746.34 4421746.58 0.0064 0.0031 Uranus 7395-01-02 23:02 G 4422030.22 4422030.46 4422030.70 0.0133 0.0037 7396-01-07 06:28 G 4422399.52 4422399.77 4422400.03 0.0134 0.0005 Uranus Uranus 7397-01-10 14:38 G 4422768.87 4422769.11 4422769.36 0.0134 0.0030 7398-01-14 22:33 G 4423138.23 4423138.44 4423138.68 0.0134 0.0064 Uranus Uranus 7399-01-19 06:57 G 4423507.63 4423507.79 4423507.98 0.0135 0.0098 7400-01-23 15:21 G 4423877.10 4423877.14 4423877.22 0.0135 0.0131 **Uranus** Jupiter 7404-08-16 00:28 G 4425542.37 4425542.52 4425542.69 0.0493 0.0359 7407-08-24 18:57 G 4426646.14 4426646.29 4426646.45 0.0274 0.0212 Saturn Jupiter 7416-08-20 11:02 G 4429929.74 4429929.96 4429930.18 0.0495 0.0186 Jupiter 7422-02-17 14:38 G 4431936.95 4431937.11 4431937.28 0.0535 0.0378 7423-03-01 08:09 G 4432313.60 4432313.84 4432314.08 0.0286 0.0030 Saturn Jupiter 7428-08-24 20:52 G 4434317.14 4434317.37 4434317.61 0.0496 0.0012 Neptune 7428-09-18 13:26 G 4434342.06 4434342.06 4434342.10 0.0088 0.0088 Neptune 7429-09-21 02:23 G 4434709.46 4434709.60 4434709.76 0.0088 0.0072

7430-09-23 14:52 G 4435076.93 4435077.12 4435077.34 0.0088 0.0056 Neptune 7431-09-26 03:21 G 4435444.43 4435444.64 4435444.90 0.0088 0.0040 Neptune Neptune 7432-09-27 16:19 G 4435811.93 4435812.18 4435812.44 0.0088 0.0023 7433-06-20 22:19 G 4436078.35 4436078.43 4436078.52 0.0145 0.0137 **Uranus** 7433-09-30 05:02 G 4436179.46 4436179.71 4436179.98 0.0088 0.0007 Mars 7433-12-24 13:11 G 4436264.98 4436265.05 4436265.14 0.1932 0.1772 Jupiter 7434-02-22 18:43 G 4436325.06 4436325.28 4436325.50 0.0533 0.0150 7434-06-25 23:16 G 4436448.29 4436448.47 4436448.67 0.0145 0.0095 Uranus Neptune 7434-10-02 17:45 G 4436546.98 4436547.24 4436547.50 0.0088 0.0010 7435-07-01 00:14 G 4436818.28 4436818.51 4436818.76 0.0145 0.0052 **Uranus** Neptune 7435-10-05 06:00 G 4436914.52 4436914.75 4436915.02 0.0088 0.0028 **Uranus** 7436-07-05 01:26 G 4437188.31 4437188.56 4437188.81 0.0145 0.0009 Neptune 7436-10-06 18:57 G 4437282.07 4437282.29 4437282.53 0.0088 0.0044 **Uranus** 7437-07-10 02:09 G 4437558.35 4437558.59 4437558.84 0.0144 0.0034 Saturn 7437-08-31 03:07 G 4437610.40 4437610.63 4437610.87 0.0272 0.0087 Neptune 7437-10-09 08:09 G 4437649.65 4437649.84 4437650.03 0.0088 0.0060 7438-07-15 02:38 G 4437928.41 4437928.61 4437928.84 0.0144 0.0076 **Uranus** Neptune 7438-10-11 20:23 G 4438017.24 4438017.35 4438017.50 0.0088 0.0077 Uranus 7439-07-20 02:52 G 4438298.50 4438298.62 4438298.79 0.0144 0.0118 Jupiter 7440-08-29 10:19 G 4438704.71 4438704.93 4438705.15 0.0498 0.0170 Mars 7442-06-19 23:02 G 4439364.28 4439364.46 4439364.65 0.1599 0.0030 Jupiter 7446-02-27 18:43 G 4440713.05 4440713.28 4440713.51 0.0531 0.0068 Jupiter 7452-09-03 00:57 G 4443092.38 4443092.54 4443092.71 0.0500 0.0353 Jupiter 7458-03-04 16:19 G 4445100.99 4445101.18 4445101.38 0.0529 0.0280 Saturn 7466-08-25 23:31 G 4448197.28 4448197.48 4448197.69 0.0273 0.0150 Jupiter 7470-03-09 09:50 G 4449488.82 4449488.91 4449489.01 0.0527 0.0479 7475-12-23 14:09 G 4451604.05 4451604.09 4451604.14 0.0133 0.0130 **Uranus** Uranus 7476-12-26 21:36 G 4451973.24 4451973.40 4451973.58 0.0133 0.0098 Uranus 7477-12-31 05:02 G 4452342.50 4452342.71 4452342.94 0.0133 0.0066 Uranus 7479-01-04 12:43 G 4452711.79 4452712.03 4452712.28 0.0133 0.0032

7480-01-08 20:38 G 4453081.10 4453081.36 4453081.61 0.0134 0.0001 **Uranus** 7481-01-12 04:33 G 4453450.45 4453450.69 4453450.94 0.0134 0.0035 Uranus **Uranus** 7482-01-16 12:28 G 4453819.82 4453820.02 4453820.25 0.0134 0.0069 7482-03-02 19:11 G 4453865.06 4453865.30 4453865.54 0.0286 0.0048 Saturn Pluto 7482-09-24 04:19 G 4454070.46 4454070.68 4454070.95 0.0080 0.0029 Uranus 7483-01-20 20:38 G 4454189.22 4454189.36 4454189.55 0.0135 0.0103 Jupiter 7487-08-16 03:50 G 4455857.53 4455857.66 4455857.82 0.0493 0.0387 7496-09-01 09:36 G 4459161.71 4459161.90 4459162.12 0.0272 0.0154 Saturn Jupiter 7499-08-20 14:52 G 4460244.91 4460245.12 4460245.34 0.0494 0.0215 Jupiter 7505-02-17 18:57 G 4462252.14 4462252.29 4462252.44 0.0535 0.0410 Neptune 7510-03-22 20:09 G 4464111.27 4464111.34 4464111.43 0.0089 0.0085 Saturn 7511-02-26 00:28 G 4464451.39 4464451.52 4464451.66 0.0286 0.0237 Neptune 7511-03-25 06:57 G 4464478.63 4464478.79 4464478.96 0.0089 0.0068 Jupiter 7511-08-26 03:21 G 4464632.40 4464632.64 4464632.87 0.0496 0.0039 Neptune 7512-03-26 17:31 G 4464846.04 4464846.23 4464846.45 0.0089 0.0052 Neptune 7513-03-29 04:19 G 4465213.46 4465213.68 4465213.92 0.0089 0.0036 Neptune 7514-03-31 15:07 G 4465580.88 4465581.13 4465581.38 0.0089 0.0020 Neptune 7515-04-03 01:55 G 4465948.32 4465948.58 4465948.83 0.0089 0.0003 Neptune 7516-04-04 12:28 G 4466315.77 4466316.02 4466316.27 0.0089 0.0013 Jupiter 7517-02-22 18:57 G 4466640.08 4466640.29 4466640.51 0.0533 0.0190 Neptune 7517-04-06 22:48 G 4466683.22 4466683.45 4466683.70 0.0089 0.0030 7517-06-22 09:07 G 4466759.79 4466759.88 4466759.99 0.0145 0.0133 **Uranus** Neptune 7518-04-09 09:21 G 4467050.69 4467050.89 4467051.12 0.0089 0.0046 Uranus 7518-06-27 10:19 G 4467129.74 4467129.93 4467130.13 0.0145 0.0091 Neptune 7519-04-11 19:55 G 4467418.17 4467418.33 4467418.53 0.0089 0.0062 Uranus 7519-07-02 11:16 G 4467499.74 4467499.97 4467500.22 0.0145 0.0048 Neptune 7520-04-13 06:28 G 4467785.67 4467785.77 4467785.91 0.0089 0.0078 Uranus 7520-07-06 12:14 G 4467869.76 4467870.01 4467870.27 0.0145 0.0005 7521-06-22 23:16 G 4468221.33 4468221.47 4468221.60 0.1600 0.1089 Mars Uranus 7521-07-11 12:57 G 4468239.81 4468240.04 4468240.30 0.0144 0.0039

Uranus	7522-07-16 13:40 G	4468609.87	4468610.07	4468610.29 0.0144 0.0081
Uranus	7523-07-21 13:55 G	4468979.96	4468980.08	4468980.23 0.0144 0.0122
Jupiter	7523-08-30 16:19 G	4469019.96	4469020.18	4469020.41 0.0498 0.0140
Saturn	7525-08-28 06:00 G	4469748.52	4469748.75	4469749.00 0.0273 0.0085
Jupiter	7529-02-27 14:09 G	4471027.86	4471028.09	4471028.33 0.0532 0.0020
Jupiter	7535-09-04 04:48 G	4473407.53	4473407.70	4473407.89 0.0499 0.0319
Jupiter	7541-03-04 13:40 G	4475415.87	4475416.07	4475416.28 0.0530 0.0233
Saturn	7541-03-05 07:26 G	4475416.60	4475416.81	4475417.03 0.0286 0.0129
Jupiter	7547-09-08 16:04 G	4477795.13	4477795.17	4477795.20 0.0501 0.0495
Jupiter	7553-03-09 14:09 G	4479803.98	4479804.09	4479804.22 0.0528 0.0447
Saturn	7555-09-04 18:57 G	4480713.16	4480713.29	4480713.44 0.0272 0.0223
Uranus	7559-12-25 02:52 G	4482285.57	4482285.62	4482285.73 0.0133 0.0126
Uranus	7560-12-28 11:02 G	4482654.79	4482654.96	4482655.15 0.0133 0.0093
Uranus	7562-01-01 18:28 G	4483024.05	4483024.27	4483024.50 0.0133 0.0060
Uranus	7563-01-06 02:09 G	4483393.35	4483393.59	4483393.85 0.0133 0.0028
Uranus	7564-01-10 10:04 G	4483762.67	4483762.92	4483763.18 0.0134 0.0007
Uranus	7565-01-13 18:14 G	4484132.02	4484132.26	4484132.50 0.0134 0.0040
Uranus	7566-01-18 01:55 G	4484501.38	4484501.58	4484501.80 0.0134 0.0074
Uranus	7567-01-22 10:19 G	4484870.79	4484870.93	4484871.09 0.0134 0.0108
Mars	7568-06-17 07:11 G	4485382.74	4485382.80	4485382.87 0.1596 0.1487
Saturn	7570-02-27 13:11 G	4486002.85	4486003.05	4486003.26 0.0286 0.0156
Jupiter	7570-08-16 09:50 G	4486172.78	4486172.91	4486173.03 0.0493 0.0412
Jupiter	7582-08-20 21:07 G	4490560.17	4490560.38	4490560.58 0.0494 0.0241
Saturn	7584-08-29 14:38 G	4491299.87	4491300.11	4491300.36 0.0273 0.0016
Jupiter	7588-02-17 12:14 G	4492566.90	4492567.01	4492567.13 0.0536 0.0463
Neptune	7593-09-21 06:43 G	4494609.70	4494609.78	4494609.92 0.0088 0.0080
Jupiter	7594-08-25 07:40 G	4494947.59	4494947.82	4494948.05 0.0495 0.0068
Neptune	7594-09-23 20:09 G	4494977.16	4494977.34	4494977.52 0.0088 0.0064
Neptune	7595-09-26 08:38 G	4495344.64	4495344.86	4495345.08 0.0088 0.0048
Neptune	7596-09-27 21:07 G	4495712.15	4495712.38	4495712.63 0.0088 0.0032

7597-09-30 09:50 G 4496079.66 4496079.91 4496080.18 0.0088 0.0016 Neptune 7598-10-02 22:48 G 4496447.18 4496447.45 4496447.71 0.0088 0.0002 Neptune Neptune 7599-10-05 11:02 G 4496814.71 4496814.96 4496815.23 0.0088 0.0018 7600-02-22 13:40 G 4496954.87 4496955.07 4496955.28 0.0534 0.0241 Jupiter Saturn 7600-03-06 20:52 G 4496968.22 4496968.37 4496968.54 0.0287 0.0212 Neptune 7600-10-07 00:00 G 4497182.26 4497182.50 4497182.75 0.0088 0.0034 **Uranus** 7601-06-22 20:52 G 4497441.27 4497441.37 4497441.50 0.0145 0.0129 Neptune 7601-10-09 12:43 G 4497549.82 4497550.03 4497550.25 0.0088 0.0050 **Uranus** 7602-06-27 21:50 G 4497811.23 4497811.41 4497811.64 0.0145 0.0087 7602-10-12 00:57 G 4497917.39 4497917.54 4497917.74 0.0088 0.0067 Neptune **Uranus** 7603-07-02 23:02 G 4498181.23 4498181.46 4498181.71 0.0145 0.0043 Neptune 7603-10-14 13:26 G 4498285.00 4498285.06 4498285.19 0.0088 0.0083 **Uranus** 7604-07-07 00:28 G 4498551.26 4498551.52 4498551.77 0.0145 0.0002 **Uranus** 7605-07-12 00:57 G 4498921.31 4498921.54 4498921.80 0.0144 0.0044 **Uranus** 7606-07-17 01:55 G 4499291.38 4499291.58 4499291.78 0.0144 0.0086 Jupiter 7606-08-29 16:04 G 4499334.94 4499335.17 4499335.40 0.0497 0.0103 **Uranus** 7607-07-22 02:09 G 4499661.48 4499661.59 4499661.71 0.0144 0.0127 7612-02-27 17:02 G 4501342.98 4501343.21 4501343.44 0.0532 0.0019 Jupiter Saturn 7613-08-24 12:14 G 4501886.93 4501887.01 4501887.12 0.0274 0.0252 7618-09-03 05:16 G 4503722.53 4503722.72 4503722.92 0.0499 0.0282 Jupiter Jupiter 7624-03-03 17:02 G 4505731.00 4505731.21 4505731.43 0.0530 0.0197 7629-03-01 02:23 G 4507554.36 4507554.60 4507554.83 0.0286 0.0075 Saturn Jupiter 7630-09-07 20:09 G 4508110.26 4508110.34 4508110.43 0.0501 0.0463 Jupiter 7636-03-08 14:38 G 4510118.96 4510119.11 4510119.25 0.0528 0.0404 Pluto 7641-03-26 20:23 G 4511963.32 4511963.35 4511963.44 0.0064 0.0062 Pluto 7642-03-28 07:26 G 4512329.60 4512329.81 4512330.07 0.0064 0.0028 7643-09-01 00:43 G 4512851.29 4512851.53 4512851.78 0.0273 0.0056 Saturn Uranus 7643-12-25 16:33 G 4512967.10 4512967.19 4512967.31 0.0133 0.0121 Uranus 7644-12-29 00:28 G 4513336.33 4513336.52 4513336.71 0.0133 0.0088 **Uranus** 7646-01-02 07:55 G 4513705.61 4513705.83 4513706.07 0.0133 0.0056

7647-01-06 15:36 G 4514074.91 4514075.15 4514075.41 0.0133 0.0023 Uranus 7647-06-20 06:43 G 4514239.60 4514239.78 4514239.97 0.1597 0.0429 Mars Uranus 7648-01-10 23:45 G 4514444.23 4514444.49 4514444.74 0.0134 0.0012 7649-01-14 07:26 G 4514813.58 4514813.81 4514814.06 0.0134 0.0046 Uranus **Uranus** 7650-01-18 15:21 G 4515182.94 4515183.14 4515183.35 0.0134 0.0080 **Uranus** 7651-01-22 23:45 G 4515552.36 4515552.49 4515552.63 0.0135 0.0113 Jupiter 7653-08-15 14:23 G 4516487.99 4516488.10 4516488.21 0.0492 0.0437 7665-08-19 20:52 G 4520875.17 4520875.37 4520875.56 0.0493 0.0275 Jupiter Jupiter 7671-02-16 13:11 G 4522881.98 4522882.05 4522882.14 0.0536 0.0500 7672-08-26 00:00 G 4523438.33 4523438.50 4523438.70 0.0273 0.0178 Saturn Neptune 7675-03-24 12:57 G 4524378.94 4524379.04 4524379.19 0.0089 0.0077 Neptune 7676-03-25 23:45 G 4524746.33 4524746.49 4524746.70 0.0089 0.0062 Neptune 7677-03-28 10:33 G 4525113.74 4525113.94 4525114.18 0.0089 0.0045 Jupiter 7677-08-24 07:40 G 4525262.59 4525262.82 4525263.06 0.0495 0.0103 Neptune 7678-03-30 21:21 G 4525481.16 4525481.39 4525481.65 0.0089 0.0029 Neptune 7679-04-02 08:23 G 4525848.60 4525848.85 4525849.10 0.0089 0.0013 Neptune 7680-04-03 18:57 G 4526216.04 4526216.29 4526216.54 0.0089 0.0004 Neptune 7681-04-06 05:16 G 4526583.48 4526583.72 4526583.98 0.0089 0.0020 Neptune 7682-04-08 15:50 G 4526950.94 4526951.16 4526951.40 0.0089 0.0036 7683-02-21 17:02 G 4527270.01 4527270.21 4527270.40 0.0534 0.0277 Jupiter Neptune 7683-04-11 02:09 G 4527318.40 4527318.59 4527318.82 0.0089 0.0052 Neptune 7684-04-12 12:43 G 4527685.89 4527686.03 4527686.22 0.0089 0.0068 Neptune 7685-04-14 23:02 G 4528053.41 4528053.46 4528053.58 0.0089 0.0084 Uranus 7685-06-23 06:57 G 4528122.68 4528122.79 4528122.94 0.0145 0.0124 Uranus 7686-06-28 08:23 G 4528492.64 4528492.85 4528493.06 0.0145 0.0081 Uranus 7687-07-03 09:21 G 4528862.65 4528862.89 4528863.14 0.0145 0.0038 7688-03-02 15:36 G 4529105.90 4529106.15 4529106.39 0.0287 0.0008 Saturn Uranus 7688-07-07 10:19 G 4529232.68 4529232.93 4529233.18 0.0145 0.0005 Uranus 7689-07-12 11:02 G 4529602.72 4529602.96 4529603.20 0.0144 0.0048 Jupiter 7689-08-28 20:09 G 4529650.10 4529650.34 4529650.57 0.0497 0.0073

7690-07-17 11:31 G 4529972.79 4529972.98 4529973.18 0.0144 0.0090 **Uranus** 7691-07-22 11:16 G 4530342.89 4530342.97 4530343.09 0.0144 0.0132 Uranus 7695-02-26 17:16 G 4531657.99 4531658.22 4531658.45 0.0532 0.0059 Jupiter Jupiter 7701-09-03 10:19 G 4534037.73 4534037.93 4534038.13 0.0498 0.0251 Saturn 7702-09-03 11:02 G 4534402.75 4534402.96 4534403.19 0.0273 0.0127 Jupiter 7707-03-04 12:00 G 4536045.78 4536046.00 4536046.22 0.0531 0.0147 Jupiter 7713-09-07 23:16 G 4538425.35 4538425.47 4538425.59 0.0500 0.0429 7717-02-26 10:33 G 4539692.83 4539692.94 4539693.06 0.0286 0.0250 Saturn Mars 7717-12-25 09:36 G 4539994.71 4539994.90 4539995.08 0.1936 0.0875 Jupiter 7719-03-09 10:04 G 4540433.75 4540433.92 4540434.09 0.0529 0.0356 Mars 7726-06-23 06:43 G 4543096.61 4543096.78 4543096.95 0.1598 0.0647 Uranus 7727-12-27 05:16 G 4543648.61 4543648.72 4543648.86 0.0133 0.0117 Uranus 7728-12-30 12:57 G 4544017.86 4544018.04 4544018.26 0.0133 0.0084 Uranus 7730-01-03 20:38 G 4544387.14 4544387.36 4544387.61 0.0133 0.0051 Pluto 7730-09-27 13:11 G 4544653.81 4544654.05 4544654.31 0.0080 0.0019 Uranus 7731-01-08 04:48 G 4544756.45 4544756.70 4544756.95 0.0133 0.0017 Saturn 7731-08-29 12:14 G 4544989.78 4544990.01 4544990.24 0.0273 0.0102 Uranus 7732-01-12 12:28 G 4545125.77 4545126.02 4545126.28 0.0134 0.0017 Uranus 7733-01-15 20:09 G 4545495.12 4545495.34 4545495.59 0.0134 0.0051 7734-01-20 03:50 G 4545864.48 4545864.66 4545864.88 0.0134 0.0085 Uranus Uranus 7735-01-24 12:14 G 4546233.91 4546234.01 4546234.14 0.0135 0.0119 Jupiter 7736-08-15 14:52 G 4546803.06 4546803.12 4546803.20 0.0491 0.0469 7747-03-06 02:38 G 4550657.39 4550657.61 4550657.85 0.0287 0.0086 Saturn Jupiter 7748-08-20 01:11 G 4551190.37 4551190.55 4551190.74 0.0493 0.0303 Jupiter 7754-02-16 14:23 G 4553197.10 4553197.10 4553197.11 0.0536 0.0536 Neptune 7757-09-21 12:57 G 4554510.02 4554510.04 4554510.08 0.0088 0.0087 Neptune 7758-09-24 01:26 G 4554877.41 4554877.56 4554877.71 0.0088 0.0072 Neptune 7759-09-26 13:26 G 4555244.88 4555245.06 4555245.29 0.0088 0.0056 Jupiter 7760-08-24 13:26 G 4555577.83 4555578.06 4555578.28 0.0495 0.0130 Neptune 7760-09-28 02:09 G 4555612.38 4555612.59 4555612.84 0.0088 0.0040

7761-09-04 21:21 G 4555954.22 4555954.39 4555954.56 0.0272 0.0197 Saturn Neptune 7761-09-30 14:52 G 4555979.89 4555980.12 4555980.39 0.0088 0.0025 Neptune 7762-10-03 03:50 G 4556347.40 4556347.66 4556347.93 0.0088 0.0008 7763-10-05 16:33 G 4556714.94 4556715.46 0.0088 0.0009 Neptune 4556715.19 7764-10-07 05:16 G 4557082.48 4557082.72 4557082.98 0.0088 0.0025 Neptune 7765-10-09 18:00 G 4557450.03 4557450.25 4557450.49 0.0088 0.0041 Jupiter 7766-02-21 12:00 G 4557584.83 4557585.00 4557585.19 0.0535 0.0325 7766-10-12 06:28 G 4557817.59 4557817.77 4557817.99 0.0088 0.0057 Neptune Neptune 7767-10-14 19:11 G 4558185.17 4558185.30 4558185.47 0.0088 0.0073 7768-10-16 08:23 G 4558552.85 4558552.85 4558552.88 0.0088 0.0088 Neptune **Uranus** 7769-06-24 19:26 G 4558804.18 4558804.31 4558804.46 0.0145 0.0120 **Uranus** 7770-06-29 20:23 G 4559174.15 4559174.35 4559174.58 0.0145 0.0077 **Uranus** 7771-07-04 21:07 G 4559544.15 4559544.38 4559544.64 0.0145 0.0034 **Uranus** 7772-07-08 22:19 G 4559914.18 4559914.43 4559914.68 0.0145 0.0010 4559965.53 4559965.77 0.0496 0.0044 Jupiter 7772-08-29 00:43 G 4559965.29 **Uranus** 7773-07-13 22:33 G 4560284.22 4560284.44 4560284.69 0.0144 0.0054 Uranus 7774-07-18 23:02 G 4560654.28 4560654.46 4560654.66 0.0144 0.0096 7775-07-23 23:16 G 4561024.40 4561024.47 4561024.54 0.0144 0.0137 Uranus Saturn 7776-02-28 20:09 G 4561244.16 4561244.34 4561244.55 0.0286 0.0176 7778-02-26 12:43 G 4561972.80 4561973.03 4561973.25 0.0533 0.0107 Jupiter Jupiter 7784-09-02 09:07 G 4564352.66 4564352.88 4564353.09 0.0498 0.0212 Jupiter 7790-03-03 14:38 G 4566360.89 4566361.11 4566361.34 0.0532 0.0110 7790-08-30 22:48 G 4566541.20 4566541.45 4566541.70 0.0273 0.0030 Saturn Jupiter 7796-09-06 22:33 G 4568740.30 4568740.44 4568740.60 0.0499 0.0391 Jupiter 7802-03-09 15:21 G 4570748.97 4570749.14 4570749.33 0.0529 0.0324 Saturn 7806-03-08 12:00 G 4572208.81 4572209.00 4572209.21 0.0287 0.0160 7811-12-28 18:28 G 4574330.14 4574330.27 4574330.40 0.0133 0.0113 **Uranus** Uranus 7813-01-01 01:55 G 4574699.39 4574699.58 4574699.80 0.0133 0.0080 Uranus 7814-01-05 09:36 G 4575068.67 4575068.90 4575069.15 0.0133 0.0046 Jupiter 7814-03-14 13:11 G 4575137.05 4575137.05 4575137.06 0.0527 0.0526

7815-01-09 17:31 G 4575437.98 4575438.23 4575438.49 0.0134 0.0012 **Uranus** 7816-01-14 01:11 G 4575807.30 4575807.55 4575807.81 0.0134 0.0022 Uranus **Uranus** 7817-01-17 09:07 G 4576176.65 4576176.88 4576177.12 0.0134 0.0056 7818-01-21 16:48 G 4576546.02 4576546.20 Uranus 4576546.40 0.0134 0.0090 **Uranus** 7819-01-26 00:57 G 4576915.46 4576915.54 4576915.65 0.0135 0.0124 Saturn 7820-09-07 06:00 G 4577505.71 4577505.75 4577505.82 0.0272 0.0265 7831-08-21 07:11 G 4581505.63 Jupiter 4581505.80 4581505.98 0.0493 0.0327 7835-03-03 03:21 G 4582795.42 4582795.64 4582795.87 0.0286 0.0106 Saturn Neptune 7839-03-25 19:40 G 4584279.28 4584279.32 4584279.43 0.0089 0.0086 Neptune 7840-03-27 06:57 G 4584646.65 4584646.79 4584646.97 0.0089 0.0069 Neptune 7841-03-29 18:00 G 4585014.06 4585014.25 4585014.47 0.0089 0.0053 Neptune 7842-04-01 04:48 G 4585381.48 4585381.70 4585381.94 0.0089 0.0038 Neptune 7843-04-03 15:50 G 4585748.92 4585749.16 4585749.41 0.0089 0.0021 Jupiter 7843-08-25 14:23 G 4585892.88 4585893.10 4585893.32 0.0494 0.0164 Neptune 7844-04-05 02:23 G 4586116.35 4586116.60 4586116.86 0.0089 0.0006 Neptune 7845-04-07 12:57 G 4586483.80 4586484.04 4586484.30 0.0089 0.0011 Neptune 7846-04-09 23:31 G 4586851.25 4586851.48 4586851.73 0.0089 0.0027 Neptune 7847-04-12 10:04 G 4587218.71 4587218.92 4587219.16 0.0089 0.0042 Neptune 7848-04-13 20:23 G 4587586.17 4587586.35 4587586.56 0.0089 0.0058 7849-02-21 14:09 G 4587899.93 4587900.09 4587900.26 0.0536 0.0363 Jupiter Neptune 7849-04-16 06:43 G 4587953.67 4587953.78 4587953.95 0.0089 0.0074 7849-09-02 07:26 G 4588092.57 4588092.81 4588093.06 0.0273 0.0040 Saturn 7852-06-20 14:52 G 4589114.96 4589115.12 4589115.28 0.1595 0.0856 Mars Uranus 7853-06-26 06:57 G 4589485.64 4589485.79 4589485.95 0.0145 0.0116 Uranus 7854-07-01 07:40 G 4589855.61 4589855.82 4589856.05 0.0145 0.0073 **Uranus** 7855-07-06 08:38 G 4590225.61 4590225.86 4590226.11 0.0145 0.0029 7855-08-30 01:55 G 4590280.34 4590280.58 4590280.82 0.0495 0.0009 Jupiter Uranus 7856-07-10 09:21 G 4590595.64 4590595.89 4590596.14 0.0145 0.0014 Uranus 7857-07-15 09:36 G 4590965.67 4590965.90 4590966.14 0.0144 0.0058 Uranus 7858-07-20 09:50 G 4591335.73 4591335.91 4591336.10 0.0144 0.0100

7859-07-25 09:21 G 4591705.87 4591705.89 4591705.95 0.0144 0.0142 Uranus 7861-02-26 18:14 G 4592288.03 4592288.26 4592288.48 0.0534 0.0141 Jupiter Saturn 7865-03-09 19:26 G 4593760.17 4593760.31 4593760.46 0.0287 0.0230 **Jupiter** 7867-09-03 14:52 G 4594667.90 4594668.12 4594668.34 0.0497 0.0183 7873-03-03 19:26 G 4596676.09 4596676.31 4596676.54 0.0532 0.0077 Jupiter Saturn 7878-08-27 19:11 G 4598679.15 4598679.30 4598679.46 0.0274 0.0213 Jupiter 7879-09-08 05:45 G 4599055.58 4599055.74 4599055.90 0.0499 0.0363 7885-03-08 15:07 G 4601063.94 4601064.13 4601064.33 0.0530 0.0283 Jupiter Pluto 7890-03-31 18:57 G 4602913.06 4602913.29 4602913.54 0.0064 0.0024 Saturn 7894-03-04 08:09 G 4604346.60 4604346.84 4604347.08 0.0286 0.0040 Uranus 7895-12-29 05:45 G 4605011.62 4605011.74 4605011.91 0.0133 0.0109 **Uranus** 7897-01-01 13:55 G 4605380.88 4605381.30 0.0133 0.0076 4605381.08 Jupiter 7897-03-13 12:57 G 4605451.95 4605452.04 4605452.13 0.0528 0.0486 **Uranus** 7898-01-05 21:36 G 4605750.16 4605750.40 4605750.65 0.0133 0.0042 Uranus 7899-01-10 05:31 G 4606119.48 4606119.73 4606119.99 0.0134 0.0008 **Uranus** 7900-01-14 13:11 G 4606488.81 4606489.05 4606489.30 0.0134 0.0027 **Uranus** 7901-01-18 20:52 G 4606858.15 4606858.37 4606858.61 0.0134 0.0061 **Uranus** 7902-01-23 05:02 G 4607227.54 4607227.71 4607227.89 0.0134 0.0095 **Uranus** 7903-01-27 13:11 G 4607596.99 4607597.05 4607597.14 0.0135 0.0129 7908-09-04 14:09 G 4609643.86 4609644.09 4609644.32 0.0273 0.0105 Saturn Jupiter 7914-08-21 11:02 G 4611820.81 4611820.96 4611821.13 0.0492 0.0356 Neptune 7922-09-25 07:55 G 4614777.74 4614777.83 4614777.96 0.0088 0.0079 7923-09-27 20:23 G 4615145.18 4615145.35 4615145.54 0.0088 0.0064 Neptune 7924-09-29 08:38 G 4615512.67 4615512.86 4615513.10 0.0088 0.0049 Neptune Neptune 7925-10-01 21:21 G 4615880.16 4615880.39 4615880.65 0.0088 0.0032 Jupiter 7926-08-25 21:21 G 4616208.18 4616208.39 4616208.61 0.0494 0.0189 Neptune 7926-10-04 10:04 G 4616247.67 4616247.92 4616248.18 0.0088 0.0017 Neptune 7927-10-06 23:02 G 4616615.20 4616615.46 4616615.72 0.0088 0.0001 Neptune 7928-10-08 11:31 G 4616982.73 4616982.98 4616983.25 0.0088 0.0016 Neptune 7929-10-11 00:14 G 4617350.27 4617350.51 4617350.76 0.0088 0.0031

Neptune 7930-10-13 12:43 G 4617717.83 4617718.03 4617718.27 0.0088 0.0047 7931-06-24 14:23 G 4617971.92 4617972.10 4617972.29 0.1596 0.0207 Mars Neptune 7931-10-16 01:26 G 4618085.40 4618085.56 4618085.77 0.0088 0.0063 7932-02-22 20:23 G 4618215.20 4618215.35 4618215.51 0.0536 0.0391 Jupiter Neptune 7932-10-17 14:09 G 4618453.00 4618453.09 4618453.23 0.0088 0.0079 Uranus 7937-06-27 18:57 G 4620167.15 4620167.29 4620167.46 0.0145 0.0112 7937-08-30 00:00 G 4620230.30 4620230.50 4620230.71 0.0273 0.0150 Saturn 7938-07-02 19:55 G 4620537.12 4620537.33 4620537.56 0.0145 0.0069 Uranus Jupiter 7938-08-30 10:19 G 4620595.69 4620595.93 4620596.16 0.0495 0.0015 7939-07-07 20:38 G 4620907.11 4620907.36 4620907.61 0.0145 0.0025 Uranus Uranus 7940-07-11 21:21 G 4621277.14 4621277.39 4621277.65 0.0145 0.0019 Uranus 7941-07-16 21:36 G 4621647.18 4621647.40 4621647.64 0.0144 0.0062 Uranus 7942-07-21 21:21 G 4622017.24 4622017.39 4622017.58 0.0144 0.0105 Jupiter 7944-02-27 19:40 G 4622603.11 4622603.32 4622603.54 0.0534 0.0178 Jupiter 7950-09-03 22:33 G 4624983.22 4624983.44 4624983.67 0.0497 0.0160 Saturn 7953-03-06 10:33 G 4625897.69 4625897.94 4625898.18 0.0286 0.0021 Jupiter 7956-03-03 19:55 G 4626991.10 4626991.33 4626991.56 0.0532 0.0038 Jupiter 7962-09-08 08:38 G 4629370.68 4629370.86 4629371.04 0.0498 0.0327 Saturn 7967-09-06 18:00 G 4631195.07 4631195.25 4631195.46 0.0273 0.0167 Jupiter 7968-03-08 20:09 G 4631379.14 4631379.34 4631379.55 0.0531 0.0247 Pluto 7978-09-30 23:45 G 4635237.23 4635237.49 4635237.75 0.0080 0.0015 7979-12-30 18:00 G 4635693.10 4635693.25 4635693.41 0.0133 0.0105 Uranus Jupiter 7980-03-13 21:21 G 4635767.28 4635767.39 4635767.51 0.0529 0.0456 Uranus 7981-01-03 01:26 G 4636062.36 4636062.56 4636062.79 0.0133 0.0072 Uranus 7982-01-07 09:07 G 4636431.65 4636431.88 4636432.14 0.0133 0.0039 Saturn 7982-02-28 17:02 G 4636484.11 4636484.21 4636484.33 0.0285 0.0255 7983-01-11 17:16 G 4636800.97 4636801.22 4636801.48 0.0134 0.0004 Uranus Uranus 7984-01-16 00:43 G 4637170.29 4637170.53 4637170.79 0.0134 0.0031 Uranus 7985-01-19 08:38 G 4637539.65 4637539.86 4637540.10 0.0134 0.0065 Uranus 7986-01-23 16:33 G 4637909.04 4637909.19 4637909.38 0.0134 0.0100

Uranus 7987-01-28 01:11 G 4638278.52 4638278.55 4638278.60 0.0135 0.0133

Saturn 7996-08-31 02:52 G 4641781.39 4641781.62 4641781.86 0.0274 0.0091

Jupiter 7997-08-20 20:09 G 4642136.20 4642136.34 4642136.50 0.0492 0.0376

## 9TH MILLENNIUM CE

## This is a list of transits of Earth in the 9th millennium CE.

FROM MAX- C START MAX END SUNRAD DEPTH S

TRANSIT

TIME

Mars 8001-12-26 03:50 G 4643724.45 4643724.66 4643724.86 0.1939 0.0106 Neptune 8004-03-27 14:09 G 4644546.99 4644547.09 4644547.24 0.0089 0.0078 8005-03-30 01:26 G 4644914.39 4644914.56 4644914.76 0.0089 0.0062 Neptune 8006-04-01 12:43 G 4645281.82 4645282.03 4645282.25 0.0089 0.0046 Neptune **Neptune** 8007-04-03 23:16 G 4645649.25 4645649.47 4645649.72 0.0089 0.0030 8008-04-05 10:19 G 4646016.68 4646016.93 4646017.19 0.0089 0.0014 Neptune 8009-04-07 21:07 G 4646384.12 4646384.38 4646384.63 0.0089 0.0002 8009-08-25 07:11 G 4646523.58 4646523.80 4646524.01 0.0493 0.0208 Neptune 8010-04-10 07:40 G 4646751.58 4646751.82 4646752.08 0.0089 0.0017 Mars 8010-06-26 13:55 G 4646828.97 4646829.08 4646829.19 0.1596 0.1267 8011-04-12 18:00 G 4647119.03 4647119.25 4647119.50 0.0089 0.0033 Neptune 8012-03-07 11:16 G 4647448.73 4647448.97 4647449.20 0.0286 0.0080 Saturn Neptune 8012-04-14 04:19 G 4647486.49 4647486.68 4647486.92 0.0089 0.0049 8013-04-16 15:07 G 4647853.97 4647854.13 4647854.32 0.0089 0.0064 Neptune 8014-04-19 01:11 G 4648221.47 4648221.55 4648221.69 0.0089 0.0080 Jupiter 8015-02-21 21:50 G 4648530.28 4648530.41 4648530.55 0.0536 0.0428

Uranus	8021-06-28 06:00 G	4650848.60	4650848.75	4650848.93 0.0145 0.0108
Jupiter	8021-08-29 16:04 G	4650910.93	4650911.17	4650911.40 0.0494 0.0045
Uranus	8022-07-03 06:28 G	4651218.56	4651218.77	4651219.01 0.0145 0.0065
Uranus	8023-07-08 07:11 G	4651588.56	4651588.80	4651589.06 0.0145 0.0021
Uranus	8024-07-12 07:55 G	4651958.58	4651958.83	4651959.08 0.0145 0.0023
Uranus	8025-07-17 07:40 G	4652328.61	4652328.82	4652329.06 0.0144 0.0067
Uranus	8026-07-22 07:40 G	4652698.67	4652698.82	4652699.00 0.0144 0.0109
Saturn	8026-09-07 20:09 G	4652746.21	4652746.34	4652746.49 0.0273 0.0225
Jupiter	8027-02-26 23:02 G	4652918.26	4652918.46	4652918.68 0.0535 0.0217
Jupiter	8033-09-03 04:04 G	4655298.44	4655298.67	4655298.90 0.0496 0.0127
Jupiter	8039-03-04 03:21 G	4657306.41	4657306.64	4657306.87 0.0533 0.0006
Saturn	8041-03-01 18:43 G	4658035.11	4658035.28	4658035.46 0.0285 0.0194
Jupiter	8045-09-07 17:02 G	4659686.02	4659686.21	4659686.40 0.0498 0.0302
Jupiter	8051-03-09 05:16 G	4661694.52	4661694.72	4661694.94 0.0531 0.0222
Saturn	8055-09-02 04:19 G	4663332.44	4663332.68	4663332.93 0.0274 0.0034
Mars	8057-06-20 23:16 G	4663990.36	4663990.47	4663990.59 0.1593 0.1272
Jupiter	8057-09-12 08:23 G	4664073.80	4664073.85	4664073.92 0.0500 0.0483
Jupiter	8063-03-14 02:38 G	4666082.48	4666082.61	4666082.75 0.0529 0.0424
Uranus	8063-12-31 04:48 G	4666374.54	4666374.70	4666374.87 0.0133 0.0101
Uranus	8065-01-03 12:14 G	4666743.81	4666744.01	4666744.25 0.0133 0.0068
Uranus	8066-01-07 20:23 G	4667113.10	4667113.35	4667113.59 0.0133 0.0034
Uranus	8067-01-12 04:04 G	4667482.41	4667482.67	4667482.92 0.0134 0.0001
Uranus	8068-01-16 11:45 G	4667851.75	4667851.99	4667852.24 0.0134 0.0035
Uranus	8069-01-19 19:26 G	4668221.11	4668221.31	4668221.54 0.0134 0.0069
Uranus	8070-01-24 03:36 G	4668590.51	4668590.65	4668590.83 0.0134 0.0103
Saturn	8071-03-09 11:16 G	4668999.76	4668999.97	4669000.18 0.0286 0.0137
Jupiter	8080-08-20 04:48 G	4672451.57	4672451.70	4672451.84 0.0491 0.0400
Saturn	8084-08-27 00:43 G	4673919.49	4673919.53	4673919.60 0.0275 0.0267
Neptune	8086-09-24 15:21 G	4674678.11	4674678.14	4674678.22 0.0088 0.0086
Neptune	8087-09-27 04:19 G	4675045 53	4675045.68	4675045.84 0.0088 0.0071

8088-09-28 16:33 G 4675413.00 4675413.19 4675413.40 0.0088 0.0055 Neptune 8089-10-01 04:33 G 4675780.48 4675780.69 4675780.95 0.0088 0.0041 Neptune Neptune 8090-10-03 17:31 G 4676147.99 4676148.23 4676148.49 0.0088 0.0024 4676516.03 0.0088 0.0009 Neptune 8091-10-06 06:14 G 4676515.50 4676515.76 8092-08-24 14:52 G 4676838.91 4676839.12 4676839.33 0.0492 0.0234 Jupiter Neptune 8092-10-07 18:57 G 4676883.03 4676883.29 4676883.55 0.0088 0.0007 Neptune 8093-10-10 07:40 G 4677250.57 4677250.82 4677251.07 0.0088 0.0023 8094-10-12 20:09 G 4677618.12 4677618.34 4677618.59 0.0088 0.0039 Neptune Neptune 8095-10-15 08:52 G 4677985.68 4677985.87 4677986.10 0.0088 0.0054 8096-10-16 21:50 G 4678353.27 4678353.59 0.0088 0.0070 Neptune 4678353.41 Neptune 8097-10-19 10:04 G 4678720.88 4678720.92 4678721.02 0.0088 0.0086 8098-02-21 03:07 G 4678845.52 4678845.63 4678845.75 0.0537 0.0464 Jupiter Saturn 8100-03-03 20:09 G 4679586.14 4679586.34 4679586.56 0.0285 0.0134 Jupiter 8104-08-30 01:11 G 4681226.32 4681226.55 4681226.79 0.0494 0.0067 **Uranus** 8105-06-29 16:33 G 4681530.02 4681530.19 4681530.37 0.0145 0.0104 **Uranus** 8106-07-04 17:02 G 4681899.99 4681900.21 4681900.45 0.0145 0.0061 Uranus 8107-07-09 17:31 G 4682269.98 4682270.23 4682270.49 0.0145 0.0017 Uranus 8108-07-13 18:00 G 4682640.01 4682640.51 0.0145 0.0027 4682640.25 **Uranus** 8109-07-18 18:00 G 4683010.04 4683010.25 4683010.48 0.0144 0.0071 8110-02-27 08:52 G 4683233.66 4683234.08 0.0535 0.0239 Jupiter 4683233.87 **Uranus** 8110-07-23 18:00 G 4683380.11 4683380.25 4683380.42 0.0144 0.0113 8114-09-04 04:33 G 4684883.44 4684883.94 0.0274 0.0021 Saturn 4684883.69 8116-09-03 14:09 G 4685613.86 4685614.09 4685614.32 0.0496 0.0107 Jupiter Jupiter 8122-03-04 09:36 G 4687621.67 4687621.90 4687622.13 0.0533 0.0025 Jupiter 8128-09-08 03:36 G 4690001.46 4690001.65 4690001.85 0.0498 0.0282 Saturn 8130-03-11 10:48 G 4690550.79 4690550.95 4690551.14 0.0286 0.0195 Jupiter 8134-03-09 09:21 G 4692009.67 4692009.89 4692010.10 0.0531 0.0187 Mars 8136-06-23 22:19 G 4692847.24 4692847.43 4692847.62 0.1594 0.0230 **Pluto** 8137-04-02 22:04 G 4693130.34 4693130.42 4693130.53 0.0064 0.0059 **Pluto** 8138-04-04 09:07 G 4693496.67 4693496.88 4693497.12 0.0064 0.0030

8140-09-12 15:07 G 4694389.04 4694389.13 4694389.24 0.0499 0.0450 Jupiter 8143-08-30 00:14 G 4695470.36 4695470.51 4695470.67 0.0275 0.0213 Saturn Jupiter 8146-03-14 07:11 G 4696397.65 4696397.80 4696397.96 0.0530 0.0387 8146-12-28 07:26 G 4696686.80 4696686.88 0.0133 0.0132 **Uranus** 4696686.81 **Uranus** 8148-01-01 15:50 G 4697055.99 4697056.16 4697056.34 0.0133 0.0098 **Uranus** 8149-01-04 23:31 G 4697425.26 4697425.48 4697425.70 0.0133 0.0064 **Uranus** 8150-01-09 07:11 G 4697794.55 4697794.80 4697795.05 0.0133 0.0030 8151-01-13 15:07 G 4698163.87 4698164.13 4698164.38 0.0134 0.0005 Uranus Uranus 8152-01-17 22:33 G 4698533.21 4698533.44 4698533.69 0.0134 0.0039 8153-01-21 06:43 G 4698902.57 4698902.78 4698903.00 0.0134 0.0073 Uranus Uranus 8154-01-25 15:07 G 4699271.98 4699272.13 4699272.28 0.0134 0.0108 8159-03-05 22:19 G 4701137.20 4701137.43 4701137.67 0.0284 0.0072 Saturn Jupiter 8163-08-21 14:09 G 4702766.97 4702767.09 4702767.21 0.0491 0.0418 Neptune 8168-03-27 22:48 G 4704447.40 4704447.45 4704447.56 0.0089 0.0085 Neptune 8169-03-30 10:04 G 4704814.78 4704814.92 4704815.10 0.0089 0.0069 8170-04-01 21:21 G 4705182.20 4705182.39 4705182.60 0.0089 0.0053 Neptune Neptune 8171-04-04 08:09 G 4705549.63 4705549.84 4705550.09 0.0089 0.0038 8172-04-05 19:26 G 4705917.07 4705917.31 4705917.56 0.0089 0.0022 Neptune Neptune 8173-04-08 06:14 G 4706284.51 4706284.76 4706285.02 0.0089 0.0007 8173-09-05 04:19 G 4706434.44 4706434.68 4706434.92 0.0274 0.0075 Saturn Neptune 8174-04-10 16:48 G 4706651.96 4706652.20 4706652.46 0.0089 0.0009 Neptune 8175-04-13 03:36 G 4707019.41 4707019.65 4707019.90 0.0089 0.0024 Jupiter 8175-08-26 00:43 G 4707154.33 4707154.53 4707154.73 0.0492 0.0253 Neptune 8176-04-14 13:55 G 4707386.87 4707387.08 4707387.32 0.0089 0.0040 Neptune 8177-04-17 00:14 G 4707754.33 4707754.51 4707754.73 0.0089 0.0055 Neptune 8178-04-19 11:02 G 4708121.82 4708121.96 4708122.13 0.0089 0.0070 Neptune 8179-04-21 21:21 G 4708489.33 4708489.39 4708489.47 0.0089 0.0085 Jupiter 8181-02-21 09:50 G 4709160.83 4709160.91 4709161.01 0.0537 0.0491 Jupiter 8187-08-30 12:00 G 4711541.77 4711542.00 4711542.24 0.0494 0.0087 8188-06-25 01:11 G 4711841.53 4711841.55 4711841.60 0.0145 0.0144 Uranus

Saturn 8189-03-12 12:00 G 4712101.91 4712102.00 4712102.13 0.0286 0.0254
Uranus 8189-06-30 01:40 G 4712211.40 4712211.57 4712211.76 0.0145 0.0100
Uranus 8190-07-05 01:55 G 4712581.36 4712581.58 4712581.83 0.0145 0.0057
Uranus 8191-07-10 02:38 G 4712951.36 4712951.61 4712951.86 0.0145 0.0013
Uranus 8192-07-14 02:52 G 4713321.38 4713321.62 4713321.87 0.0145 0.0031
Jupiter 8193-02-26 12:14 G 4713548.81 4713549.01 4713549.21 0.0536 0.0273
Uranus 8193-07-19 02:38 G 4713691.40 4713691.61 4713691.84 0.0144 0.0075
Uranus 8194-07-24 02:38 G 4714061.48 4714061.61 4714061.77 0.0144 0.0117
Jupiter 8199-09-03 22:48 G 4715929.22 4715929.45 4715929.68 0.0495 0.0079
Saturn 8202-08-31 23:31 G 4717021.28 4717021.48 4717021.68 0.0275 0.0160
Jupiter 8205-03-04 11:16 G 4717936.74 4717936.97 4717937.20 0.0535 0.0067
Jupiter 8211-09-09 11:02 G 4720316.75 4720316.96 4720317.16 0.0497 0.0252
Mars 8215-06-27 21:50 G 4721704.25 4721704.41 4721704.57 0.1594 0.0829
Jupiter 8217-03-09 14:23 G 4722324.87 4722325.10 4722325.32 0.0533 0.0151
Saturn 8218-03-08 01:26 G 4722688.32 4722688.56 4722688.81 0.0284 0.0011
Jupiter 8223-09-13 22:48 G 4724704.34 4724704.45 4724704.58 0.0499 0.0425
Pluto 8226-10-04 12:28 G 4725820.78 4725821.02 4725821.28 0.0080 0.0022
Jupiter 8229-03-14 16:33 G 4726713.03 4726713.19 4726713.36 0.0530 0.0362
Uranus 8230-12-29 17:31 G 4727368.18 4727368.23 4727368.33 0.0133 0.0128
Uranus 8232-01-03 01:26 G 4727737.39 4727737.56 4727737.75 0.0133 0.0094
Saturn 8232-09-07 05:02 G 4727985.50 4727985.71 4727985.93 0.0274 0.0131
Uranus 8233-01-06 09:21 G 4728106.67 4728106.89 4728107.12 0.0133 0.0060
Uranus 8234-01-10 17:16 G 4728475.97 4728476.22 4728476.47 0.0133 0.0025
Uranus 8235-01-15 00:57 G 4728845.29 4728845.54 4728845.80 0.0134 0.0009
Uranus 8236-01-19 08:38 G 4729214.64 4729214.86 4729215.12 0.0134 0.0044
Uranus 8237-01-22 16:48 G 4729584.01 4729584.20 4729584.42 0.0134 0.0078
Uranus 8238-01-27 01:11 G 4729953.43 4729953.55 4729953.70 0.0134 0.0113
Jupiter 8246-08-22 00:43 G 4733082.43 4733082.53 4733082.64 0.0491 0.0435
Neptune 8251-09-28 12:28 G 4734945.91 4734946.02 4734946.16 0.0088 0.0078
Neptune 8252-09-30 00:43 G 4735313.36 4735313.53 4735313.73 0.0088 0.0062

8253-10-02 13:11 G 4735680.84 4735681.05 4735681.28 0.0088 0.0047 Neptune 8254-10-05 01:26 G 4736048.33 4736048.56 4736048.82 0.0088 0.0032 Neptune Neptune 8255-10-07 14:09 G 4736415.84 4736416.09 4736416.35 0.0088 0.0017 8256-10-09 02:38 G 4736783.35 4736783.61 4736783.87 0.0088 0.0002 Neptune 8257-10-11 15:21 G 4737150.88 4737151.14 4737151.40 0.0088 0.0014 Neptune 8258-08-26 10:19 G 4737469.74 4737469.93 4737470.13 0.0492 0.0276 Neptune 8258-10-14 03:36 G 4737518.43 4737518.65 4737518.92 0.0088 0.0031 8259-10-16 16:33 G 4737885.98 4737886.19 4737886.43 0.0088 0.0046 Neptune Neptune 8260-10-18 05:31 G 4738253.55 4738253.73 4738253.93 0.0088 0.0061 8261-09-01 23:31 G 4738572.25 4738572.48 4738572.71 0.0275 0.0106 Saturn Neptune 8261-10-20 18:43 G 4738621.15 4738621.28 4738621.41 0.0088 0.0076 8264-02-22 08:23 G 4739475.84 4739475.85 4739475.89 0.0538 0.0535 Jupiter Jupiter 8270-08-30 20:23 G 4741857.12 4741857.35 4741857.58 0.0493 0.0110 Uranus 8272-06-26 10:33 G 4742522.90 4742522.94 4742523.03 0.0145 0.0140 Uranus 8273-07-01 10:48 G 4742892.78 4742892.95 4742893.15 0.0145 0.0097 Uranus 8274-07-06 11:16 G 4743262.75 4743262.97 4743263.22 0.0145 0.0053 Uranus 8275-07-11 11:45 G 4743632.74 4743632.99 4743633.24 0.0145 0.0009 8276-02-27 13:40 G 4743863.89 4743864.07 4743864.26 0.0537 0.0314 Jupiter Uranus 8276-07-15 11:45 G 4744002.75 4744002.99 4744003.24 0.0145 0.0036 8277-03-09 06:57 G 4744239.55 4744239.79 4744240.03 0.0284 0.0057 Saturn Uranus 8277-07-20 11:45 G 4744372.79 4744372.99 4744373.21 0.0144 0.0079 Uranus 8278-07-25 11:45 G 4744742.87 4744742.99 4744743.14 0.0144 0.0122 Jupiter 8282-09-04 05:45 G 4746244.51 4746244.74 4746244.98 0.0495 0.0055 8285-12-26 20:38 G 4747454.19 4747454.36 4747454.53 0.1941 0.1137 Mars Jupiter 8288-03-03 19:11 G 4748252.07 4748252.30 4748252.53 0.0535 0.0091 Saturn 8291-09-09 06:43 G 4749536.61 4749536.78 4749536.97 0.0274 0.0188 Jupiter 8294-09-08 18:28 G 4750632.06 4750632.27 4750632.48 0.0497 0.0228 Jupiter 8300-03-09 20:23 G 4752640.13 4752640.35 4752640.58 0.0533 0.0121 Saturn 8306-03-04 12:14 G 4754825.86 4754826.01 4754826.17 0.0284 0.0221 Jupiter 8306-09-14 08:09 G 4755019.71 4755019.84 4755019.99 0.0498 0.0401

8312-03-14 19:40 G 4757028.14 4757028.32 4757028.50 0.0531 0.0326 Jupiter 8314-12-31 04:04 G 4758049.58 4758049.67 4758049.77 0.0133 0.0124 Uranus Uranus 8316-01-04 11:45 G 4758418.82 4758418.99 4758419.19 0.0133 0.0090 8317-01-07 19:26 G 4758788.09 4758788.31 4758788.56 0.0133 0.0056 Uranus **Uranus** 8318-01-12 03:36 G 4759157.40 4759157.65 4759157.90 0.0134 0.0022 **Uranus** 8319-01-16 11:31 G 4759526.72 4759526.98 4759527.23 0.0134 0.0013 **Uranus** 8320-01-20 19:11 G 4759896.07 4759896.30 4759896.55 0.0134 0.0048 8320-09-04 01:11 G 4760123.31 4760123.55 4760123.80 0.0275 0.0050 Saturn Uranus 8321-01-24 03:36 G 4760265.46 4760265.65 4760265.86 0.0134 0.0082 8322-01-28 11:45 G 4760634.89 4760634.99 4760635.13 0.0134 0.0117 Uranus Jupiter 8324-03-19 14:38 G 4761416.07 4761416.11 4761416.16 0.0529 0.0518 8329-08-22 09:36 G 4763397.82 4763397.90 4763397.99 0.0490 0.0455 Jupiter Neptune 8333-03-31 19:11 G 4764715.20 4764715.30 4764715.46 0.0089 0.0077 Neptune 8334-04-03 06:14 G 4765082.60 4765082.76 4765082.97 0.0089 0.0061 Neptune 8335-04-05 17:31 G 4765450.03 4765450.23 4765450.46 0.0089 0.0046 Saturn 8336-03-11 14:09 G 4765790.87 4765791.09 4765791.31 0.0284 0.0127 Neptune 8336-04-07 04:33 G 4765817.46 4765817.69 4765817.94 0.0089 0.0030 8337-04-09 15:36 G 4766184.91 4766185.15 4766185.41 0.0089 0.0015 Neptune Neptune 8338-04-12 02:38 G 4766552.36 4766552.61 4766552.87 0.0089 0.0001 8339-04-14 13:26 G 4766919.81 4766920.06 4766920.32 0.0089 0.0016 Neptune Neptune 8340-04-16 00:00 G 4767287.27 4767287.50 4767287.75 0.0089 0.0031 Neptune 8341-04-18 11:02 G 4767654.74 4767654.96 4767655.17 0.0089 0.0047 8341-06-25 07:11 G 4767722.63 4767722.80 4767722.97 0.1593 0.0646 Mars Jupiter 8341-08-26 16:33 G 4767785.00 4767785.19 4767785.37 0.0491 0.0298 Neptune 8342-04-20 20:38 G 4768022.21 4768022.36 4768022.57 0.0089 0.0062 Neptune 8343-04-23 07:11 G 4768389.71 4768389.80 4768389.96 0.0089 0.0077 8350-09-11 10:33 G 4771087.85 4771087.94 4771088.05 0.0274 0.0248 Saturn Jupiter 8353-08-31 02:38 G 4772172.39 4772172.61 4772172.84 0.0493 0.0134 Uranus 8356-06-27 20:38 G 4773204.29 4773204.36 4773204.45 0.0145 0.0137 Uranus 8357-07-02 20:38 G 4773574.18 4773574.36 4773574.56 0.0145 0.0093

8358-07-07 21:07 G 4773944.14 4773944.38 4773944.62 0.0145 0.0049 Uranus 8359-02-27 19:11 G 4774179.13 4774179.30 4774179.48 0.0537 0.0344 Jupiter Uranus 8359-07-12 21:07 G 4774314.13 4774314.38 4774314.64 0.0145 0.0005 8360-07-16 21:07 G 4774684.15 4774684.38 4774684.63 0.0145 0.0040 Uranus **Uranus** 8361-07-21 20:52 G 4775054.18 4775054.37 4775054.59 0.0144 0.0083 **Uranus** 8362-07-26 20:52 G 4775424.27 4775424.37 4775424.51 0.0144 0.0126 Saturn 8365-03-05 20:23 G 4776377.14 4776377.35 4776377.56 0.0284 0.0150 8365-09-04 13:55 G 4776559.85 4776560.08 4776560.32 0.0494 0.0033 Jupiter Jupiter 8371-03-04 20:38 G 4778567.14 4778567.36 4778567.59 0.0535 0.0129 Jupiter 8377-09-09 02:09 G 4780947.38 4780947.59 4780947.81 0.0496 0.0200 Saturn 8379-09-06 04:33 G 4781674.45 4781674.69 4781674.94 0.0275 0.0011 Jupiter 8383-03-09 17:31 G 4782955.00 4782955.23 4782955.46 0.0534 0.0073 Pluto 8385-04-06 12:14 G 4783713.88 4783714.01 4783714.18 0.0064 0.0052 Pluto 8386-04-07 23:45 G 4784080.29 4784080.49 4784080.71 0.0064 0.0037 Jupiter 8389-09-13 13:40 G 4785334.92 4785335.07 4785335.24 0.0497 0.0371 Saturn 8395-03-13 23:31 G 4787342.32 4787342.48 4787342.66 0.0284 0.0200 Jupiter 8395-03-14 18:28 G 4787343.08 4787343.27 4787343.47 0.0532 0.0283 Uranus 8398-12-31 12:43 G 4788730.95 4788731.03 4788731.16 0.0133 0.0122 Uranus 8400-01-04 20:38 G 4789100.19 4789100.36 4789100.57 0.0133 0.0088 8401-01-08 05:02 G 4789469.48 4789469.71 4789469.95 0.0133 0.0053 Uranus Uranus 8402-01-12 12:57 G 4789838.79 4789839.04 4789839.30 0.0134 0.0018 8403-01-16 20:52 G 4790208.12 4790208.37 4790208.63 0.0134 0.0017 Uranus 8404-01-21 05:02 G 4790577.49 4790577.71 4790577.96 0.0134 0.0052 Uranus Uranus 8405-01-24 13:40 G 4790946.88 4790947.07 4790947.27 0.0134 0.0086 Uranus 8406-01-28 21:50 G 4791316.32 4791316.41 4791316.54 0.0134 0.0122 Jupiter 8407-03-19 20:38 G 4791731.28 4791731.36 4791731.45 0.0530 0.0489 8408-08-30 19:40 G 4792261.20 4792261.32 4792261.45 0.0276 0.0237 Saturn Jupiter 8412-08-21 14:23 G 4793713.06 4793713.10 4793713.16 0.0490 0.0478 Neptune 8415-09-28 21:50 G 4794846.33 4794846.41 4794846.49 0.0088 0.0084 Neptune 8416-09-30 09:36 G 4795213.77 4795213.90 4795214.09 0.0088 0.0069

8417-10-02 22:04 G 4795581.24 4795581.42 4795581.65 0.0088 0.0055 Neptune 8418-10-05 10:48 G 4795948.73 4795948.95 4795949.20 0.0088 0.0039 Neptune 8419-10-07 23:02 G 4796316.23 4796316.46 4796316.73 0.0088 0.0025 Neptune 8420-06-27 06:00 G 4796579.56 4796579.75 4796579.93 0.1593 0.0402 Mars 8420-10-09 12:00 G 4796683.74 4796684.00 4796684.26 0.0088 0.0009 Neptune Neptune 8421-10-12 00:28 G 4797051.26 4797051.52 4797051.78 0.0088 0.0007 Neptune 8422-10-14 12:43 G 4797418.80 4797419.03 4797419.30 0.0088 0.0023 8423-10-17 01:11 G 4797786.33 4797786.55 4797786.81 0.0088 0.0037 Neptune Saturn 8424-03-07 06:00 G 4797928.52 4797928.75 4797928.99 0.0284 0.0077 8424-08-25 23:45 G 4798100.31 4798100.49 4798100.67 0.0491 0.0321 Jupiter Neptune 8424-10-18 13:55 G 4798153.89 4798154.08 4798154.31 0.0088 0.0053 Neptune 8425-10-21 02:52 G 4798521.47 4798521.62 4798521.81 0.0088 0.0068 Neptune 8426-10-23 15:36 G 4798889.08 4798889.15 4798889.26 0.0088 0.0083 Jupiter 8436-08-30 10:04 G 4802487.70 4802487.92 4802488.15 0.0492 0.0159 Saturn 8438-09-07 10:33 G 4803225.70 4803225.94 4803226.18 0.0275 0.0073 Uranus 8440-06-28 06:14 G 4803885.69 4803885.76 4803885.88 0.0145 0.0134 4804255.77 4804255.98 0.0145 0.0090 Uranus 8441-07-03 06:28 G 4804255.58 8442-02-26 13:26 G 4804493.91 4804494.06 4804494.22 0.0537 0.0392 Jupiter Uranus 8442-07-08 06:43 G 4804625.55 4804625.78 4804626.03 0.0145 0.0046 8443-07-13 06:57 G 4804995.54 4804995.79 4804996.05 0.0145 0.0003 Uranus Uranus 8444-07-17 07:11 G 4805365.56 4805365.80 4805366.04 0.0144 0.0043 Uranus 8445-07-22 06:57 G 4805735.60 4805735.79 4805736.00 0.0144 0.0087 8446-07-27 06:43 G 4806105.70 4806105.78 4806105.91 0.0144 0.0130 Uranus Jupiter 8448-09-03 20:09 G 4806875.10 4806875.34 4806875.57 0.0494 0.0006 Jupiter 8454-03-03 16:33 G 4808881.97 4808882.19 4808882.41 0.0536 0.0176 Saturn 8454-03-15 11:02 G 4808893.91 4808893.96 4808894.02 0.0285 0.0277 Jupiter 8460-09-08 03:50 G 4811262.44 4811262.66 4811262.89 0.0495 0.0169 Jupiter 8466-03-08 21:07 G 4813270.15 4813270.38 4813270.62 0.0534 0.0043 Saturn 8467-09-02 04:19 G 4813812.49 4813812.68 4813812.88 0.0275 0.0168 Jupiter 8472-09-12 16:19 G 4815650.01 4815650.18 4815650.36 0.0497 0.0339

8474-10-07 03:36 G 4816404.44 4816404.65 4816404.90 0.0080 0.0038 Pluto Jupiter 8478-03-13 22:33 G 4817658.24 4817658.44 4817658.65 0.0532 0.0249 Uranus 8482-12-31 22:19 G 4819412.33 4819412.43 4819412.56 0.0133 0.0119 8483-03-09 17:45 G 4819480.00 4819480.24 4819480.49 0.0284 0.0004 Saturn Uranus 8484-01-05 06:28 G 4819781.58 4819781.77 4819781.98 0.0133 0.0085 **Uranus** 8485-01-08 14:38 G 4820150.88 4820151.11 4820151.35 0.0133 0.0050 **Uranus** 8486-01-12 22:33 G 4820520.20 4820520.44 4820520.70 0.0134 0.0016 8487-01-17 06:57 G 4820889.54 4820889.79 4820890.04 0.0134 0.0020 Uranus Uranus 8488-01-21 15:07 G 4821258.91 4821259.13 4821259.37 0.0134 0.0055 8489-01-24 23:31 G 4821628.31 Uranus 4821628.48 4821628.68 0.0134 0.0090 Uranus 8490-01-29 07:55 G 4821997.77 4821997.83 4821997.95 0.0134 0.0126 8490-03-18 21:21 G 4822046.27 4822046.39 4822046.51 0.0530 0.0449 Jupiter Neptune 8497-03-31 06:00 G 4824615.67 4824615.75 4824615.86 0.0089 0.0083 Saturn 8497-09-08 18:14 G 4824777.06 4824777.26 4824777.48 0.0275 0.0140 Neptune 8498-04-02 17:16 G 4824983.06 4824983.22 4824983.39 0.0089 0.0068 8499-04-05 04:04 G 4825350.47 4825350.67 4825350.88 0.0089 0.0053 Neptune Mars 8499-06-30 05:31 G 4825436.66 4825436.73 4825436.81 0.1593 0.1460 Neptune 8500-04-07 15:07 G 4825717.90 4825718.13 4825718.37 0.0089 0.0038 Neptune 8501-04-10 01:55 G 4826085.34 4826085.58 4826085.83 0.0089 0.0022 8502-04-12 12:57 G 4826452.79 4826453.04 4826453.30 0.0089 0.0007 Neptune Neptune 8503-04-14 23:45 G 4826820.24 4826820.49 4826820.75 0.0089 0.0008 Neptune 8504-04-16 10:33 G 4827187.71 4827187.94 4827188.20 0.0089 0.0023 8505-04-18 21:07 G 4827555.16 4827555.38 4827555.62 0.0089 0.0038 Neptune 8506-04-21 07:40 G 4827922.64 4827922.82 4827923.04 0.0089 0.0053 Neptune Neptune 8507-04-23 18:14 G 4828290.12 4828290.26 4828290.44 0.0089 0.0068 Jupiter 8507-08-27 05:45 G 4828415.57 4828415.74 4828415.91 0.0491 0.0343 Neptune 8508-04-25 04:19 G 4828657.62 4828657.68 4828657.81 0.0089 0.0083 Saturn 8512-03-04 16:04 G 4830067.05 4830067.17 4830067.30 0.0283 0.0243 Jupiter 8519-08-31 11:31 G 4832802.77 4832802.98 4832803.20 0.0492 0.0190 Uranus 8524-06-29 16:19 G 4834567.09 4834567.18 4834567.30 0.0145 0.0131

Jupiter	8525-02-26 15:21 G	4834809.00	4834809.14	4834809.28 0.0538 0.0426
Uranus	8525-07-04 16:33 G	4834937.00	4834937.19	4834937.40 0.0145 0.0087
Uranus	8526-07-09 16:48 G	4835306.97	4835307.20	4835307.45 0.0145 0.0043
Saturn	8526-09-04 14:52 G	4835363.89	4835364.12	4835364.35 0.0275 0.0097
Uranus	8527-07-14 17:02 G	4835676.95	4835677.21	4835677.46 0.0145 0.0002
Uranus	8528-07-18 17:02 G	4836046.98	4836047.21	4836047.46 0.0144 0.0046
Uranus	8529-07-23 16:48 G	4836417.02	4836417.20	4836417.41 0.0144 0.0091
Uranus	8530-07-28 17:02 G	4836787.12	4836787.21	4836787.31 0.0144 0.0133
Jupiter	8531-09-04 21:36 G	4837190.17	4837190.40	4837190.64 0.0493 0.0026
Jupiter	8537-03-03 19:40 G	4839197.12	4839197.32	4839197.54 0.0536 0.0211
Saturn	8542-03-12 06:14 G	4841031.53	4841031.76	4841032.00 0.0285 0.0080
Jupiter	8543-09-09 08:52 G	4841577.65	4841577.87	4841578.10 0.0495 0.0141
Mars	8546-06-25 16:04 G	4842598.03	4842598.17	4842598.31 0.1592 0.1053
Jupiter	8549-03-08 21:21 G	4843585.16	4843585.39	4843585.62 0.0534 0.0002
Jupiter	8555-09-13 21:50 G	4845965.23	4845965.41	4845965.60 0.0497 0.0310
Saturn	8556-09-11 03:50 G	4846328.51	4846328.66	4846328.83 0.0274 0.0209
Jupiter	8561-03-13 16:48 G	4847972.99	4847973.20	4847973.42 0.0533 0.0200
Uranus	8567-01-02 06:43 G	4850093.67	4850093.78	4850093.92 0.0133 0.0116
Jupiter	8567-09-18 09:36 G	4850352.84	4850352.90	4850352.97 0.0498 0.0477
Uranus	8568-01-06 15:21 G	4850462.94	4850463.14	4850463.34 0.0133 0.0082
Uranus	8569-01-09 23:02 G	4850832.23	4850832.46	4850832.71 0.0133 0.0048
Uranus	8570-01-14 07:26 G	4851201.56	4851201.81	4851202.07 0.0134 0.0013
Uranus	8571-01-18 15:50 G	4851570.91	4851571.16	4851571.41 0.0134 0.0023
Saturn	8571-03-07 04:19 G	4851618.49	4851618.68	4851618.88 0.0284 0.0165
Uranus	8572-01-23 00:28 G	4851940.29	4851940.52	4851940.74 0.0134 0.0058
Uranus	8573-01-26 08:38 G	4852309.69	4852309.86	4852310.05 0.0134 0.0094
Jupiter	8573-03-18 16:04 G	4852361.03	4852361.17	4852361.33 0.0531 0.0403
Uranus	8574-01-30 17:02 G	4852679.16	4852679.21	4852679.30 0.0134 0.0129
Neptune	8580-09-30 18:57 G	4855114.18	4855114.29	4855114.45 0.0088 0.0075
Neptune	8581-10-03 07:40 G	4855481.65	4855481.82	4855482.03 0.0088 0.0061

8582-10-05 20:23 G 4855849.13 4855849.35 4855849.57 0.0088 0.0046 Neptune 8583-10-08 08:23 G 4856216.62 4856217.11 0.0088 0.0031 Neptune 4856216.85 8584-10-09 21:07 G 4856584.13 4856584.38 4856584.64 0.0088 0.0016 Neptune 8585-09-06 02:23 G 4856915.36 4856915.85 0.0275 0.0023 Saturn 4856915.60 8585-10-12 09:50 G 4856951.65 4856951.91 4856952.17 0.0088 0.0001 Neptune Neptune 8586-10-14 22:04 G 4857319.17 4857319.42 4857319.69 0.0088 0.0014 Neptune 8587-10-17 10:33 G 4857686.71 4857686.94 4857687.20 0.0088 0.0029 8588-10-18 23:02 G 4858054.26 4858054.46 4858054.71 0.0088 0.0045 Neptune Neptune 8589-10-21 11:45 G 4858421.82 4858421.99 4858422.21 0.0088 0.0060 8590-08-26 07:11 G 4858730.66 Jupiter 4858730.80 4858730.96 0.0490 0.0373 8590-10-24 00:28 G 4858789.41 4858789.52 4858789.69 0.0088 0.0075 Neptune 8601-03-14 18:43 G 4862583.08 4862583.28 4862583.49 0.0285 0.0159 Saturn Jupiter 8602-08-31 16:04 G 4863117.96 4863118.17 4863118.39 0.0492 0.0216 Jupiter 8608-02-27 15:07 G 4865124.02 4865124.13 4865124.25 0.0538 0.0464 **Uranus** 8608-07-01 01:40 G 4865248.47 4865248.57 4865248.70 0.0145 0.0128 **Uranus** 8609-07-06 01:55 G 4865618.38 4865618.58 4865618.79 0.0145 0.0084 Uranus 8610-07-11 01:55 G 4865988.35 4865988.58 4865988.84 0.0145 0.0040 Uranus 8611-07-16 02:23 G 4866358.35 4866358.85 0.0145 0.0005 4866358.60 Uranus 8612-07-20 02:23 G 4866728.37 4866728.60 4866728.84 0.0144 0.0050 8613-07-25 02:09 G 4867098.42 4867098.80 0.0144 0.0094 **Uranus** 4867098.59 Uranus 8614-07-30 02:09 G 4867468.53 4867468.59 4867468.68 0.0144 0.0137 8614-09-01 17:16 G 4867502.17 4867502.22 4867502.27 0.0276 0.0268 Saturn 8614-09-05 03:21 G 4867505.41 4867505.64 4867505.88 0.0493 0.0052 Jupiter 8620-03-03 13:40 G 4869511.87 4869512.07 4869512.27 0.0536 0.0258 Jupiter Mars 8625-06-28 15:36 G 4871454.97 4871455.15 4871455.34 0.1592 0.0024 Jupiter 8626-09-09 13:26 G 4871892.83 4871893.06 4871893.29 0.0494 0.0113 8630-03-09 15:36 G 4873169.92 4873170.15 4873170.38 0.0284 0.0089 Saturn Jupiter 8632-03-08 15:07 G 4873899.90 4873900.13 4873900.36 0.0535 0.0047 Pluto 8633-04-10 06:28 G 4874297.57 4874297.77 4874298.00 0.0064 0.0034 **Pluto** 8634-04-11 17:45 G 4874664.12 4874664.24 4874664.39 0.0064 0.0055

Jupiter	8638-09-13 21:07 G	4876280.18	4876280.38	4876280.57 0.0496 0.0272
Jupiter	8644-03-13 18:28 G	4878288.05	4878288.27	4878288.49 0.0533 0.0163
Saturn	8644-09-08 14:38 G	4878466.87	4878467.11	4878467.36 0.0275 0.0052
Mars	8649-01-01 12:28 G	4880042.90	4880043.02	4880043.15 0.1941 0.1518
Jupiter	8650-09-18 09:21 G	4880667.78	4880667.89	4880668.00 0.0498 0.0440
Uranus	8651-01-03 15:36 G	4880775.04	4880775.15	4880775.31 0.0133 0.0114
Uranus	8652-01-08 00:00 G	4881144.31	4881144.50	4881144.72 0.0133 0.0079
Uranus	8653-01-11 08:38 G	4881513.62	4881513.86	4881514.10 0.0133 0.0044
Uranus	8654-01-15 16:48 G	4881882.95	4881883.20	4881883.46 0.0133 0.0009
Uranus	8655-01-20 00:57 G	4882252.30	4882252.54	4882252.80 0.0134 0.0027
Uranus	8656-01-24 09:21 G	4882621.68	4882621.89	4882622.13 0.0134 0.0062
Jupiter	8656-03-18 20:23 G	4882676.19	4882676.35	4882676.52 0.0531 0.0368
Uranus	8657-01-27 17:45 G	4882991.08	4882991.24	4882991.43 0.0134 0.0097
Uranus	8658-02-01 02:09 G	4883360.57	4883360.59	4883360.66 0.0134 0.0133
Saturn	8660-03-16 06:28 G	4884134.64	4884134.77	4884134.91 0.0285 0.0236
Neptune	e 8661-04-01 17:16 G	4884516.20	4884516.22	4884516.25 0.0089 0.0089
Neptune	e 8662-04-04 03:50 G	4884883.54	4884883.66	4884883.83 0.0089 0.0074
Neptune	e 8663-04-06 15:07 G	4885250.96	4885251.13	4885251.33 0.0089 0.0059
Neptune	e 8664-04-08 02:09 G	4885618.38	4885618.59	4885618.82 0.0089 0.0044
Neptune	e 8665-04-10 13:11 G	4885985.81	4885986.05	4885986.29 0.0089 0.0029
Neptune	e 8666-04-13 00:00 G	4886353.25	4886353.50	4886353.76 0.0089 0.0015
Neptune	e 8667-04-15 11:02 G	4886720.71	4886720.96	4886721.22 0.0089 0.0001
Neptune	e 8668-04-16 21:50 G	4887088.16	4887088.41	4887088.66 0.0089 0.0015
Neptune	e 8669-04-19 08:38 G	4887455.63	4887455.86	4887456.10 0.0089 0.0030
Neptune	e 8670-04-21 19:11 G	4887823.10	4887823.30	4887823.53 0.0089 0.0045
Neptune	e 8671-04-24 05:45 G	4888190.57	4888190.74	4888190.95 0.0089 0.0060
Neptune	e 8672-04-25 16:48 G	4888558.07	4888558.20	4888558.34 0.0089 0.0074
Neptune	8673-04-28 03:07 G	4888925.63	4888925.63	4888925.65 0.0089 0.0089
Jupiter	8673-08-26 12:57 G	4889045.91	4889046.04	4889046.18 0.0490 0.0397
Saturn	8673-09-03 04:04 G	4889053.50	4889053.67	4889053.85 0.0275 0.0196

Jupiter	8685-08-30 21:36 G	4893433.20	4893433.40	4893433.61 0.0491 0.0239
Saturn	8689-03-11 01:26 G	4894721.32	4894721.56	4894721.81 0.0284 0.0017
Jupiter	8691-02-26 08:52 G	4895438.80	4895438.87	4895438.95 0.0538 0.0510
Uranus	8692-07-01 10:19 G	4895929.83	4895929.93	4895930.08 0.0145 0.0125
Uranus	8693-07-06 10:33 G	4896299.75	4896299.94	4896300.17 0.0145 0.0081
Uranus	8694-07-11 11:16 G	4896669.72	4896669.97	4896670.21 0.0145 0.0036
Uranus	8695-07-16 11:16 G	4897039.72	4897039.97	4897040.22 0.0145 0.0009
Uranus	8696-07-20 11:16 G	4897409.74	4897409.97	4897410.21 0.0144 0.0053
Uranus	8697-07-25 11:16 G	4897779.79	4897779.97	4897780.16 0.0144 0.0097
Jupiter	8697-09-04 03:50 G	4897820.42	4897820.66	4897820.89 0.0492 0.0086
Uranus	8698-07-30 10:48 G	4898149.92	4898149.95	4898150.02 0.0144 0.0141
Jupiter	8703-03-04 13:40 G	4899826.89	4899827.07	4899827.27 0.0537 0.0298
Saturn	8703-09-12 02:09 G	4900018.37	4900018.59	4900018.81 0.0275 0.0126
Mars	8704-07-01 14:23 G	4900311.96	4900312.10	4900312.24 0.1592 0.1045
Jupiter	8709-09-09 13:55 G	4902207.85	4902208.08	4902208.32 0.0494 0.0079
Jupiter	8715-03-09 18:57 G	4904215.06	4904215.29	4904215.52 0.0536 0.0082
Jupiter	8721-09-14 01:40 G	4906595.37	4906595.57	4906595.78 0.0496 0.0243
Pluto	8722-10-11 22:19 G	4906988.30	4906988.43	4906988.60 0.0080 0.0065
Jupiter	8727-03-14 21:07 G	4908603.15	4908603.38	4908603.60 0.0534 0.0128
Saturn	8732-09-05 14:09 G	4910604.88	4910605.09	4910605.32 0.0275 0.0124
Jupiter	8733-09-18 15:21 G	4910983.01	4910983.14	4910983.27 0.0498 0.0413
Uranus	8735-01-05 00:00 G	4911456.38	4911456.50	4911456.66 0.0133 0.0111
Uranus	8736-01-09 08:52 G	4911825.66	4911825.87	4911826.08 0.0133 0.0076
Uranus	8737-01-12 17:02 G	4912194.97	4912195.21	4912195.45 0.0133 0.0041
Uranus	8738-01-17 01:26 G	4912564.31	4912564.56	4912564.82 0.0134 0.0005
Uranus	8739-01-21 09:36 G	4912933.66	4912933.90	4912934.16 0.0134 0.0030
Jupiter	8739-03-19 17:31 G	4912991.05	4912991.23	4912991.41 0.0532 0.0325
Uranus	8740-01-25 18:00 G	4913303.04	4913303.25	4913303.48 0.0134 0.0066
Uranus	8741-01-29 02:09 G	4913672.45	4913672.59	4913672.78 0.0134 0.0101
Neptune	8744-10-02 05:02 G	4915014.63	4915014.71	4915014.83 0.0088 0.0081

8745-10-04 17:45 G 4915382.08 4915382.24 4915382.42 0.0088 0.0066 Neptune 8746-10-07 05:45 G 4915749.55 4915749.74 4915749.97 0.0088 0.0053 Neptune 8747-10-09 18:28 G 4916117.05 4916117.27 4916117.52 0.0088 0.0038 Neptune 8748-03-13 09:07 G 4916272.64 4916272.88 4916273.12 0.0285 0.0054 Saturn Neptune 8748-10-11 06:57 G 4916484.56 4916484.79 4916485.06 0.0088 0.0024 Neptune 8749-10-13 19:40 G 4916852.06 4916852.32 4916852.59 0.0088 0.0008 Neptune 8750-10-16 08:09 G 4917219.58 4917219.84 4917220.11 0.0088 0.0007 8751-03-24 16:04 G 4917379.13 4917379.17 4917379.20 0.0530 0.0522 Jupiter Mars 8751-06-27 01:40 G 4917473.50 4917473.57 4917473.64 0.1592 0.1452 Neptune 8751-10-18 20:38 G 4917587.12 4917587.36 4917587.62 0.0088 0.0022 Neptune 8752-10-20 09:07 G 4917954.65 4917954.88 4917955.13 0.0088 0.0036 Neptune 8753-10-22 21:36 G 4918322.21 4918322.40 4918322.63 0.0088 0.0051 Neptune 8754-10-25 10:04 G 4918689.77 4918689.92 4918690.11 0.0088 0.0066 Neptune 8755-10-27 22:48 G 4919057.37 4919057.45 4919057.58 0.0088 0.0081 Jupiter 8756-08-26 15:21 G 4919361.03 4919361.14 4919361.26 0.0489 0.0426 Saturn 8762-09-13 12:00 G 4921569.83 4921570.00 4921570.17 0.0275 0.0196 Jupiter 8768-08-31 00:00 G 4923748.31 4923748.50 4923748.70 0.0490 0.0270 Uranus 8776-07-02 18:43 G 4926611.16 4926611.28 4926611.43 0.0145 0.0122 Saturn 8777-03-07 17:16 G 4926859.07 4926859.22 4926859.39 0.0283 0.0214 8777-07-07 18:57 G 4926981.09 4926981.29 4926981.51 0.0145 0.0078 Uranus Uranus 8778-07-12 19:11 G 4927351.06 4927351.30 4927351.55 0.0145 0.0033 8779-07-17 19:26 G 4927721.06 4927721.31 4927721.56 0.0145 0.0012 Uranus Uranus 8780-07-21 19:11 G 4928091.08 4928091.30 4928091.55 0.0144 0.0058 Jupiter 8780-09-04 09:21 G 4928135.66 4928135.89 4928136.12 0.0492 0.0111 Uranus 8781-07-26 19:11 G 4928461.13 4928461.30 4928461.49 0.0144 0.0101 Jupiter 8786-03-03 17:45 G 4930142.06 4930142.24 4930142.42 0.0538 0.0329 8791-09-07 22:19 G 4932156.19 4932156.43 4932156.68 0.0275 0.0056 Saturn Jupiter 8792-09-08 21:07 G 4932523.14 4932523.38 4932523.61 0.0494 0.0055 Jupiter 8798-03-08 17:45 G 4934530.01 4934530.24 4934530.46 0.0536 0.0122 Jupiter 8804-09-13 08:09 G 4936910.63 4936910.84 4936911.05 0.0495 0.0218

8807-03-15 14:23 G 4937823.88 4937824.10 4937824.33 0.0285 0.0120 Saturn 8810-03-13 18:28 G 4938918.04 4938918.27 4938918.50 0.0534 0.0085 Jupiter Jupiter 8816-09-17 16:33 G 4941298.05 4941298.19 4941298.35 0.0497 0.0376 8819-01-05 08:52 G 4942137.74 **Uranus** 4942137.87 4942138.04 0.0133 0.0108 **Uranus** 8820-01-09 17:31 G 4942507.03 4942507.23 4942507.46 0.0133 0.0073 **Uranus** 8821-01-13 01:55 G 4942876.34 4942876.58 4942876.83 0.0133 0.0037 Saturn 8821-09-14 19:40 G 4943121.26 4943121.32 4943121.40 0.0275 0.0264 8822-01-17 10:19 G 4943245.68 4943246.19 0.0134 0.0003 Uranus 4943245.93 8822-03-18 20:23 G 4943306.16 4943306.35 4943306.55 0.0533 0.0288 Jupiter 8823-01-21 18:28 G 4943615.03 4943615.52 0.0134 0.0034 **Uranus** 4943615.27 Uranus 8824-01-26 02:52 G 4943984.41 4943984.62 4943984.85 0.0134 0.0069 **Uranus** 8825-01-29 11:16 G 4944353.81 4944354.13 0.0134 0.0105 4944353.97 Neptune 8826-04-04 15:07 G 4944784.05 4944784.13 4944784.27 0.0089 0.0081 Neptune 8827-04-07 02:38 G 4945151.45 4945151.61 4945151.79 0.0089 0.0066 Neptune 8828-04-08 13:11 G 4945518.87 4945519.05 4945519.28 0.0089 0.0052 8829-04-11 00:28 G 4945886.29 4945886.52 4945886.76 0.0089 0.0036 Neptune Neptune 8830-04-13 11:31 G 4946253.74 4946253.98 4946254.23 0.0089 0.0022 8830-06-29 00:57 G 4946330.36 4946330.54 4946330.73 0.1592 0.0403 Mars Neptune 8831-04-15 22:19 G 4946621.18 4946621.43 4946621.69 0.0089 0.0007 8832-04-17 09:07 G 4946988.63 4946989.14 0.0089 0.0008 Neptune 4946988.88 Neptune 8833-04-19 19:40 G 4947356.09 4947356.32 4947356.58 0.0089 0.0023 8834-03-23 22:33 G 4947694.36 4947694.44 4947694.53 0.0531 0.0490 Jupiter 8834-04-22 06:43 G 4947723.55 4947723.78 4947724.01 0.0089 0.0037 Neptune 8835-04-24 17:16 G 4948091.03 4948091.22 4948091.45 0.0089 0.0052 Neptune Saturn 8836-03-08 23:02 G 4948410.26 4948410.46 4948410.68 0.0283 0.0147 Neptune 8836-04-26 04:04 G 4948458.51 4948458.67 4948458.85 0.0089 0.0066 Neptune 8837-04-28 14:23 G 4948826.03 4948826.10 4948826.24 0.0089 0.0081 Jupiter 8839-08-26 22:19 G 4949676.34 4949676.43 4949676.53 0.0489 0.0447 Saturn 8850-09-09 04:33 G 4953707.44 4953707.69 4953707.94 0.0275 0.0009 Jupiter 8851-08-31 07:55 G 4954063.65 4954063.83 4954064.02 0.0491 0.0291

8860-07-03 03:36 G 4957292.52 4957292.65 4957292.81 0.0145 0.0119 **Uranus Uranus** 8861-07-08 04:04 G 4957662.45 4957662.67 4957662.89 0.0145 0.0074 **Uranus** 8862-07-13 03:50 G 4958032.42 4958032.66 4958032.92 0.0145 0.0030 8863-07-18 04:04 G 4958402.42 4958402.67 4958402.92 0.0145 0.0016 **Uranus** 8863-09-04 17:31 G 4958451.01 4958451.23 4958451.46 0.0492 0.0132 Jupiter **Uranus** 8864-07-22 04:04 G 4958772.44 4958772.67 4958772.90 0.0144 0.0061 **Uranus** 8865-07-27 03:21 G 4959142.49 4959142.64 4959142.83 0.0144 0.0106 8866-03-16 18:14 G 4959375.07 4959375.26 4959375.44 0.0285 0.0182 Saturn 4960457.19 4960457.36 0.0538 0.0369 Jupiter 8869-03-02 16:33 G 4960457.02 8875-09-09 01:11 G 4962838.31 Jupiter 4962838.55 4962838.78 0.0493 0.0022 Saturn 8879-09-04 03:07 G 4964294.48 4964294.63 4964294.78 0.0276 0.0220 Jupiter 8881-03-07 19:26 G 4964845.09 4964845.31 4964845.53 0.0537 0.0162 Pluto 8881-04-13 02:52 G 4964881.37 4964881.62 4964881.88 0.0064 0.0010 Jupiter 8887-09-13 12:00 G 4967225.79 4967226.00 4967226.23 0.0494 0.0187 4969233.53 4969233.76 0.0535 0.0051 Jupiter 8893-03-13 00:43 G 4969233.30 Saturn 8895-03-11 03:07 G 4969961.40 4969961.63 4969961.86 0.0283 0.0083 Jupiter 8899-09-17 23:45 G 4971613.33 4971613.49 4971613.66 0.0496 0.0350 8903-01-06 17:16 G 4972819.07 4972819.22 4972819.39 0.0133 0.0105 Uranus Uranus 8904-01-11 01:55 G 4973188.37 4973188.58 4973188.80 0.0133 0.0070 8905-01-14 10:04 G 4973557.68 4973557.92 4973558.17 0.0133 0.0034 **Uranus** Jupiter 8905-03-19 03:36 G 4973621.45 4973621.65 4973621.86 0.0533 0.0261 8906-01-18 18:43 G 4973927.02 4973927.28 4973927.53 0.0134 0.0003 Uranus 8907-01-23 02:52 G 4974296.37 4974296.62 4974296.87 0.0134 0.0037 **Uranus** Uranus 8908-01-27 10:48 G 4974665.76 4974665.95 4974666.18 0.0134 0.0073 Neptune 8908-10-02 15:36 G 4974915.11 4974915.15 4974915.20 0.0088 0.0087 Uranus 8909-01-30 19:11 G 4975035.17 4975035.30 4975035.46 0.0134 0.0108 8909-07-02 00:43 G 4975187.36 4975187.53 4975187.70 0.1592 0.0655 Mars 8909-09-11 08:38 G 4975258.62 4975258.86 4975259.10 0.0275 0.0070 Saturn Neptune 8909-10-05 03:36 G 4975282.51 4975282.65 4975282.81 0.0088 0.0072 Neptune 8910-10-07 15:50 G 4975649.98 4975650.16 4975650.37 0.0088 0.0058

8911-10-10 04:19 G 4976017.47 4976017.68 4976017.93 0.0088 0.0044 Neptune 8912-10-11 17:02 G 4976384.98 4976385.47 0.0088 0.0029 Neptune 4976385.21 Neptune 8913-10-14 05:31 G 4976752.49 4976752.73 4976753.00 0.0088 0.0016 8914-10-16 18:28 G 4977120.01 4977120.53 0.0088 0.0000 Neptune 4977120.27 8915-10-19 06:57 G 4977487.54 4977487.79 4977488.05 0.0088 0.0014 Neptune Neptune 8916-10-20 19:26 G 4977855.08 4977855.31 4977855.57 0.0088 0.0029 8917-03-24 01:40 G 4978009.46 4978009.57 4978009.69 0.0531 0.0456 Jupiter 8917-10-23 07:40 G 4978222.61 4978222.82 4978223.07 0.0088 0.0044 Neptune Neptune 8918-10-25 20:09 G 4978590.17 4978590.34 4978590.57 0.0088 0.0059 Neptune 8919-10-28 08:52 G 4978957.75 4978957.87 4978958.05 0.0088 0.0073 Neptune 8920-10-29 21:50 G 4979325.38 4979325.41 4979325.48 0.0088 0.0087 8922-08-27 07:55 G 4979991.76 4979991.83 4979991.90 0.0489 0.0465 Jupiter Saturn 8925-03-18 19:11 G 4980926.19 4980926.30 4980926.44 0.0285 0.0241 Mars 8933-01-02 06:28 G 4983772.57 4983772.77 4983772.97 0.1942 0.0528 Jupiter 8934-08-31 15:07 G 4984378.95 4984379.13 4984379.31 0.0490 0.0317 Saturn 8938-09-06 05:31 G 4985845.53 4985845.73 4985845.93 0.0276 0.0161 Uranus 8944-07-04 12:57 G 4987973.90 4987974.04 4987974.19 0.0145 0.0116 Uranus 8945-07-09 12:43 G 4988343.83 4988344.03 4988344.27 0.0145 0.0072 **Uranus** 8946-07-14 12:57 G 4988713.79 4988714.04 4988714.29 0.0145 0.0026 8946-09-05 00:14 G 4988766.29 4988766.51 4988766.73 0.0491 0.0159 Jupiter **Uranus** 8947-07-19 12:43 G 4989083.79 4989084.03 4989084.29 0.0145 0.0020 8948-07-23 12:28 G 4989453.81 4989454.02 4989454.26 0.0144 0.0065 Uranus **Uranus** 8949-07-28 11:45 G 4989823.85 4989823.99 4989824.18 0.0144 0.0109 8952-03-02 21:21 G 4990772.24 4990772.39 4990772.54 0.0539 0.0403 Jupiter Saturn 8954-03-13 06:00 G 4991512.50 4991512.75 4991512.99 0.0283 0.0022 Jupiter 8958-09-09 09:36 G 4993153.67 4993153.90 4993154.14 0.0493 0.0009 Jupiter 8964-03-08 03:50 G 4995160.44 4995160.66 4995160.88 0.0537 0.0186 Saturn 8968-09-12 10:19 G 4996809.72 4996809.93 4996810.16 0.0275 0.0128 Pluto 8969-10-12 17:16 G 4997205.08 4997205.22 4997205.40 0.0080 0.0063 Jupiter 8970-09-13 21:21 G 4997541.18 4997541.39 4997541.62 0.0494 0.0166

8976-03-13 05:31 G 4999548.50 4999548.96 0.0535 0.0022 4999548.73 Jupiter 8982-09-18 09:36 G 5001928.73 5001928.90 5001929.09 0.0496 0.0329 Jupiter 8987-01-07 01:55 G 5003500.43 **Uranus** 5003500.58 5003500.76 0.0133 0.0103 8988-01-11 10:19 G 5003869.73 5003869.93 5003870.17 0.0133 0.0068 **Uranus** 8988-03-18 06:14 G 5003936.55 5003936.76 5003936.97 0.0533 0.0225 Jupiter **Uranus** 8989-01-14 18:43 G 5004239.04 5004239.28 5004239.54 0.0133 0.0032 8990-01-19 03:21 G 5004608.38 5004608.89 0.0134 0.0004 **Uranus** 5004608.64 8990-04-05 03:21 G 5004684.58 5004684.64 5004684.72 0.0089 0.0086 Neptune **Uranus** 8991-01-23 11:16 G 5004977.74 5004977.97 5004978.22 0.0134 0.0041 8991-04-07 14:23 G 5005051.97 5005052.27 0.0089 0.0072 Neptune 5005052.10 8992-01-27 19:40 G 5005347.12 **Uranus** 5005347.32 5005347.54 0.0134 0.0076 8992-04-09 01:11 G 5005419.38 5005419.55 5005419.77 0.0089 0.0058 Neptune **Uranus** 8993-01-31 04:04 G 5005716.54 5005716.67 5005716.81 0.0134 0.0112 Neptune 8993-04-11 12:43 G 5005786.81 5005787.03 5005787.26 0.0089 0.0043 5006154.48 Neptune 8994-04-13 23:31 G 5006154.25 5006154.73 0.0089 0.0028 8994-09-22 20:09 G 5006316.30 5006316.34 5006316.39 0.0497 0.0487 Jupiter Neptune 8995-04-16 10:33 G 5006521.69 5006521.94 5006522.19 0.0089 0.0014 8996-04-17 21:21 G 5006889.14 5006889.39 5006889.64 0.0089 0.0001 Neptune **Neptune** 8997-04-20 07:55 G 5007256.59 5007256.83 5007257.09 0.0089 0.0016 8997-09-07 06:00 G 5007396.53 5007396.75 5007396.99 0.0276 0.0106 Saturn 8998-04-22 18:43 G 5007624.05 5007624.28 5007624.53 0.0089 0.0030 Neptune 8999-04-25 05:16 G 5007991.51 5007991.72 5007991.95 0.0089 0.0044 Neptune 9000-03-24 05:45 G 5008324.60 5008324.74 5008324.88 0.0532 0.0420 9000-04-27 16:19 G 5008358.99 5008359.18 5008359.37 0.0089 0.0058 Neptune

## 10TH MILLENNIUM CE

## This is a list of transits of Earth in the 10th millennium CE.

FROM MAX- C START MAX END SUNRAD DEPTH S

TRANSIT

TIME

Neptune 9001-04-30 02:23 G 5008726.48 5008726.60 5008726.77 0.0089 0.0073 9002-05-02 12:57 G 5009094.02 5009094.04 5009094.13 0.0089 0.0087 Neptune 9005-08-27 17:16 G 5010307.20 5010307.22 5010307.24 0.0488 0.0485 Saturn 9013-03-15 07:40 G 5013063.58 5013063.82 5013064.07 0.0283 0.0037 Jupiter 9017-09-01 00:28 G 5014694.35 5014694.52 5014694.69 0.0489 0.0335 Saturn 9027-09-15 11:02 G 5018360.78 5018360.96 5018361.15 0.0275 0.0182 Uranus 9028-07-05 22:19 G 5018655.29 5018655.43 5018655.60 0.0145 0.0114 Uranus 9029-07-10 22:19 G 5019025.22 5019025.43 5019025.67 0.0145 0.0069 9029-09-05 10:04 G 5019081.71 Jupiter 5019081.92 5019082.14 0.0491 0.0177 **Uranus** 9030-07-15 22:33 G 5019395.19 5019395.44 5019395.69 0.0145 0.0023 Uranus 9031-07-20 22:19 G 5019765.18 5019765.43 5019765.68 0.0145 0.0023 9032-07-24 22:04 G 5020135.20 5020135.42 5020135.65 0.0144 0.0068 Uranus **Uranus** 9033-07-29 21:21 G 5020505.25 5020505.39 5020505.56 0.0144 0.0113 Jupiter 9035-03-04 03:36 G 5021087.51 5021087.65 5021087.79 0.0539 0.0430 9035-06-30 11:16 G 5021205.81 5021205.97 5021206.13 0.1592 0.0793 Mars Jupiter 9041-09-09 20:23 G 5023469.12 5023469.35 5023469.59 0.0492 0.0019 9042-03-09 15:07 G 5023650.00 5023650.28 0.0283 0.0231 Saturn 5023650.13 Jupiter 9047-03-09 06:43 G 5025475.57 5025475.78 5025475.99 0.0537 0.0220 Jupiter 9053-09-14 06:00 G 5027856.52 5027856.75 5027856.98 0.0493 0.0137 9056-09-09 05:31 G 5028947.49 5028947.73 5028947.98 0.0277 0.0052 Saturn Jupiter 9059-03-14 07:11 G 5029863.57 5029863.80 5029864.03 0.0536 0.0021 Jupiter 9065-09-18 17:16 G 5032244.04 5032244.22 5032244.41 0.0495 0.0300 Uranus 9071-01-08 09:50 G 5034181.75 5034181.91 5034182.09 0.0133 0.0100 Jupiter 9071-03-19 11:45 G 5034251.78 5034251.99 5034252.21 0.0535 0.0191 Uranus 9072-01-12 18:14 G 5034551.05 5034551.26 5034551.50 0.0133 0.0065

9072-03-16 10:04 G 5034614.69 5034614.92 5034615.15 0.0283 0.0097 Saturn 9073-01-16 02:23 G 5034920.36 5034920.60 5034920.86 0.0134 0.0030 Uranus Neptune 9073-10-05 13:40 G 5035182.98 5035183.07 5035183.22 0.0088 0.0079 9074-01-20 11:02 G 5035289.71 5035290.22 0.0134 0.0007 **Uranus** 5035289.96 9074-10-08 01:55 G 5035550.43 5035550.58 5035550.79 0.0088 0.0065 Neptune **Uranus** 9075-01-24 19:11 G 5035659.06 5035659.30 5035659.55 0.0134 0.0043 Neptune 9075-10-10 14:23 G 5035917.91 5035918.10 5035918.34 0.0088 0.0050 9076-01-29 03:21 G 5036028.45 5036028.64 5036028.86 0.0134 0.0079 Uranus Neptune 9076-10-12 03:21 G 5036285.40 5036285.64 5036285.88 0.0088 0.0036 9077-02-01 11:45 G 5036397.87 5036397.99 5036398.14 0.0134 0.0115 **Uranus** Jupiter 9077-09-23 04:33 G 5036631.61 5036631.69 5036631.78 0.0497 0.0463 9077-10-14 15:36 G 5036652.91 5036653.15 5036653.41 0.0088 0.0022 Neptune Neptune 9078-10-17 04:19 G 5037020.42 5037020.68 5037020.94 0.0088 0.0007 9079-10-19 17:02 G 5037387.95 5037388.21 Neptune 5037388.47 0.0088 0.0007 9080-10-21 05:31 G 5037755.48 5037755.98 0.0088 0.0022 Neptune 5037755.73 9081-10-23 17:45 G 5038123.02 5038123.24 5038123.50 0.0088 0.0037 Neptune Neptune 9082-10-26 06:28 G 5038490.57 5038490.77 5038491.00 0.0088 0.0051 9083-03-24 15:21 G 5038640.00 5038640.14 5038640.30 0.0532 0.0397 Jupiter 9083-10-28 19:11 G 5038858.14 5038858.30 5038858.49 0.0088 0.0065 Neptune 9084-10-30 07:55 G 5039225.73 5039225.83 5039225.96 0.0088 0.0079 Neptune Saturn 9086-09-16 11:02 G 5039911.84 5039911.96 5039912.09 0.0276 0.0236 9100-09-01 11:45 G 5045009.83 5045010.15 0.0489 0.0351 Jupiter 5045009.99 9101-03-11 16:19 G 5045201.00 5045201.18 5045201.38 0.0283 0.0173 Saturn Uranus 9112-07-07 07:55 G 5049336.68 5049336.83 5049337.00 0.0145 0.0111 Jupiter 9112-09-05 20:09 G 5049397.13 5049397.34 5049397.56 0.0490 0.0199 Uranus 9113-07-12 07:40 G 5049706.61 5049706.82 5049707.06 0.0145 0.0066 9114-07-03 10:33 G 5050062.76 5050062.94 5050063.13 0.1592 0.0267 Mars Uranus 9114-07-17 07:40 G 5050076.57 5050076.82 5050077.07 0.0145 0.0020 Uranus 9115-07-22 07:26 G 5050446.57 5050446.81 5050447.07 0.0145 0.0026 9115-09-12 04:48 G 5050498.45 5050498.70 5050498.95 0.0277 0.0001 Saturn

9116-07-26 06:57 G 5050816.58 5050816.79 5050817.02 0.0144 0.0071 Uranus 9117-07-31 06:28 G 5051186.63 5051186.77 5051186.93 0.0144 0.0115 Uranus 9118-03-04 02:38 G 5051402.51 5051402.61 5051402.73 0.0540 0.0472 Jupiter 9124-09-10 05:45 G 5053784.51 5053784.98 0.0491 0.0041 Jupiter 5053784.74 Pluto 9128-04-16 16:04 G 5055099.12 5055099.17 5055099.26 0.0064 0.0061 Pluto 9129-04-18 03:07 G 5055465.42 5055465.63 5055465.88 0.0064 0.0027 Jupiter 9130-03-09 09:21 G 5055790.69 5055790.89 5055791.09 0.0538 0.0257 9131-03-19 12:57 G 5056165.84 5056166.04 5056166.24 0.0283 0.0158 Saturn Jupiter 9136-09-14 14:23 G 5058171.87 5058172.10 5058172.33 0.0493 0.0116 9142-03-14 16:19 G 5060178.95 5060179.18 5060179.41 0.0537 0.0043 Jupiter Saturn 9144-09-05 11:16 G 5061084.89 5061084.97 5061085.06 0.0277 0.0260 9148-09-19 02:23 G 5062559.41 5062559.60 5062559.80 0.0495 0.0279 Jupiter Uranus 9154-01-05 09:36 G 5064493.90 5064493.90 5064493.93 0.0133 0.0133 9154-03-19 18:43 G 5064567.07 Jupiter 5064567.28 5064567.50 0.0534 0.0164 **Uranus** 9155-01-09 18:00 G 5064863.10 5064863.25 5064863.44 0.0133 0.0098 Neptune 9155-04-09 01:26 G 5064952.46 5064952.56 5064952.71 0.0089 0.0078 Uranus 9156-01-14 02:23 G 5065232.39 5065232.60 5065232.84 0.0133 0.0063 Neptune 9156-04-10 12:43 G 5065319.88 5065320.03 5065320.24 0.0089 0.0064 **Uranus** 9157-01-17 10:48 G 5065601.70 5065601.95 5065602.20 0.0133 0.0027 9157-04-13 00:28 G 5065687.31 5065687.52 5065687.73 0.0089 0.0049 Neptune Uranus 9158-01-21 19:11 G 5065971.05 5065971.30 5065971.56 0.0134 0.0010 Neptune 9158-04-15 11:31 G 5066054.75 5066054.98 5066055.21 0.0089 0.0035 9159-01-26 03:07 G 5066340.40 Uranus 5066340.63 5066340.88 0.0134 0.0046 Neptune 9159-04-17 22:04 G 5066422.19 5066422.42 5066422.68 0.0089 0.0021 Uranus 9160-01-30 12:00 G 5066709.80 5066710.00 5066710.20 0.0134 0.0081 Saturn 9160-03-12 19:11 G 5066752.08 5066752.30 5066752.53 0.0282 0.0112 Neptune 9160-04-19 09:07 G 5066789.63 5066789.88 5066790.14 0.0089 0.0006 Jupiter 9160-09-23 15:07 G 5066947.03 5066947.13 5066947.24 0.0497 0.0442 Uranus 9161-02-02 20:09 G 5067079.23 5067079.34 5067079.47 0.0134 0.0118 Neptune 9161-04-21 20:09 G 5067157.09 5067157.34 5067157.59 0.0089 0.0008

9162-04-24 06:43 G 5067524.54 5067524.78 5067525.03 0.0089 0.0023 Neptune 9163-04-26 17:16 G 5067892.00 5067892.22 5067892.47 0.0089 0.0037 Neptune Neptune 9164-04-28 03:50 G 5068259.47 5068259.66 5068259.89 0.0089 0.0051 9165-04-30 14:38 G 5068626.96 5068627.30 0.0089 0.0065 Neptune 5068627.11 9166-03-24 19:26 G 5068955.14 5068955.31 5068955.48 0.0533 0.0363 Jupiter 9166-05-03 01:11 G 5068994.46 5068994.55 5068994.69 0.0089 0.0079 Saturn 9174-09-13 04:04 G 5072049.43 5072049.67 5072049.92 0.0277 0.0053 9183-09-01 21:50 G 5075325.26 5075325.41 5075325.57 0.0489 0.0369 Jupiter Saturn 9190-03-20 17:16 G 5077717.08 5077717.22 5077717.38 0.0283 0.0221 5078919.91 5078920.01 0.1591 0.1312 9193-07-05 09:50 G 5078919.80 Mars Jupiter 9195-09-06 04:33 G 5079712.48 5079712.69 5079712.90 0.0490 0.0218 **Uranus** 9196-07-07 17:02 G 5080018.05 5080018.21 5080018.39 0.0145 0.0108 Uranus 9197-07-12 16:48 G 5080387.98 5080388.20 5080388.44 0.0145 0.0063 Uranus 9198-07-17 16:48 G 5080757.95 5080758.20 5080758.45 0.0145 0.0017 5081128.19 5081128.44 0.0145 0.0029 Uranus 9199-07-22 16:33 G 5081127.94 **Uranus** 9200-07-26 15:50 G 5081497.95 5081498.16 5081498.39 0.0144 0.0074 9201-03-03 10:19 G 5081717.84 Jupiter 5081717.93 5081718.02 0.0540 0.0494 9201-07-31 15:07 G 5081868.01 5081868.13 5081868.29 0.0144 0.0119 Uranus Saturn 9203-09-07 12:43 G 5082635.87 5082636.03 5082636.21 0.0277 0.0203 9207-09-10 14:09 G 5084099.85 5084100.09 5084100.32 0.0491 0.0061 Jupiter Jupiter 9213-03-08 16:04 G 5086105.98 5086106.17 5086106.37 0.0538 0.0284 9217-01-03 00:57 G 5087502.33 5087502.54 5087502.74 0.1942 0.0451 Mars 9217-10-16 23:31 G 5087789.22 5087789.48 5087789.74 0.0080 0.0004 Pluto 9219-03-14 23:45 G 5088303.25 5088303.49 5088303.73 0.0282 0.0048 Saturn Jupiter 9219-09-15 00:28 G 5088487.29 5088487.52 5088487.75 0.0493 0.0097 Jupiter 9225-03-13 19:11 G 5090494.07 5090494.30 5090494.53 0.0537 0.0076 Jupiter 9231-09-19 11:31 G 5092874.78 5092874.98 5092875.19 0.0494 0.0254 Saturn 9233-09-14 05:02 G 5093600.49 5093600.71 5093600.94 0.0277 0.0108 Jupiter 9237-03-18 17:16 G 5094881.99 5094882.22 5094882.44 0.0536 0.0121 Neptune 9237-10-06 00:28 G 5095083.46 5095083.52 5095083.63 0.0088 0.0083

9238-01-05 17:45 G 5095175.20 5095175.24 5095175.29 0.0133 0.0131 Uranus Neptune 9238-10-08 12:57 G 5095450.90 5095451.04 5095451.22 0.0088 0.0070 Uranus 9239-01-10 01:40 G 5095544.41 5095544.57 5095544.77 0.0133 0.0096 Neptune 9239-10-11 01:26 G 5095818.37 5095818.56 5095818.77 0.0088 0.0056 Uranus 9240-01-14 10:19 G 5095913.71 5095913.93 5095914.16 0.0133 0.0060 Mars 9240-06-29 21:21 G 5096081.27 5096081.39 5096081.51 0.1592 0.1185 Neptune 9240-10-12 13:40 G 5096185.85 5096186.07 5096186.31 0.0088 0.0042 9241-01-17 18:28 G 5096283.02 5096283.27 5096283.53 0.0133 0.0024 Uranus Neptune 9241-10-15 02:09 G 5096553.34 5096553.59 5096553.84 0.0088 0.0028 9242-01-22 02:52 G 5096652.37 5096652.62 Uranus 5096652.88 0.0134 0.0012 Neptune 9242-10-17 14:52 G 5096920.86 5096921.12 5096921.38 0.0088 0.0013 **Uranus** 9243-01-26 10:48 G 5097021.73 5097021.95 5097022.20 0.0134 0.0049 Jupiter 9243-09-23 22:33 G 5097262.32 5097262.44 5097262.57 0.0496 0.0415 Neptune 9243-10-20 03:21 G 5097288.37 5097288.64 5097288.90 0.0088 0.0002 Uranus 9244-01-30 19:11 G 5097391.12 5097391.30 5097391.51 0.0134 0.0085 Neptune 9244-10-21 15:36 G 5097655.91 5097656.15 5097656.42 0.0088 0.0016 Uranus 9245-02-03 03:50 G 5097760.57 5097760.66 5097760.79 0.0134 0.0121 Neptune 9245-10-24 04:19 G 5098023.45 5098023.68 5098023.94 0.0088 0.0029 Neptune 9246-10-26 16:48 G 5098390.99 5098391.20 5098391.45 0.0088 0.0044 9247-10-29 05:31 G 5098758.55 5098758.73 5098758.95 0.0088 0.0057 Neptune 9248-10-30 17:45 G 5099126.12 5099126.24 5099126.43 0.0088 0.0072 Jupiter 9249-03-23 19:55 G 5099270.16 5099270.33 5099270.52 0.0534 0.0325 Neptune 9249-11-02 07:11 G 5099493.74 5099493.80 5099493.88 0.0088 0.0085 Jupiter 9261-03-28 23:31 G 5103658.45 5103658.48 5103658.53 0.0532 0.0524 Saturn 9262-09-08 16:04 G 5104186.97 5104187.17 5104187.39 0.0277 0.0145 Jupiter 9266-09-01 05:02 G 5105640.58 5105640.71 5105640.86 0.0488 0.0388 9278-03-16 06:43 G 5109854.53 5109854.78 5109855.02 0.0282 0.0019 Saturn Jupiter 9278-09-05 13:26 G 5110027.86 5110028.06 5110028.27 0.0490 0.0237 Uranus 9280-07-08 01:26 G 5110699.40 5110699.56 5110699.74 0.0145 0.0105 Uranus 9281-07-13 01:11 G 5111069.33 5111069.55 5111069.79 0.0145 0.0060

Uranus 9282-07-18 00:57 G 5111439.30 5111439.54 5111439.80 0.0145 0.0014 Uranus 9283-07-23 00:43 G 5111809.29 5111809.53 5111809.79 0.0145 0.0033 Jupiter 9284-03-02 12:14 G 5112032.97 5112033.01 5112033.06 0.0540 0.0526 Uranus 9284-07-27 00:28 G 5112179.31 5112179.52 5112179.74 0.0144 0.0078 Uranus 9285-07-31 23:45 G 5112549.37 5112549.49 5112549.63 0.0144 0.0122 Jupiter 9290-09-09 23:16 G 5114415.24 5114415.47 5114415.70 0.0491 0.0083 9292-09-15 07:55 G 5115151.64 5115151.83 5115152.04 0.0277 0.0166 Saturn Jupiter 9296-03-07 11:45 G 5116420.81 5116420.99 5116421.17 0.0539 0.0329 Jupiter 9302-09-15 08:38 G 5118802.62 5118802.86 5118803.09 0.0492 0.0074 Saturn 9307-03-12 04:19 G 5120441.54 5120441.68 5120441.84 0.0281 0.0219 Jupiter 9308-03-13 16:19 G 5120808.96 5120809.18 5120809.41 0.0538 0.0120 Jupiter 9314-09-19 16:04 G 5123189.96 5123190.17 5123190.38 0.0494 0.0227 Neptune 9319-04-09 13:26 G 5124852.98 5124853.06 5124853.17 0.0089 0.0083 9319-07-03 20:52 G 5124938.18 5124938.37 5124938.55 0.1592 0.0135 Mars Jupiter 9320-03-18 22:33 G 5125197.21 5125197.44 5125197.67 0.0536 0.0093 Neptune 9320-04-11 00:43 G 5125220.38 5125220.53 5125220.70 0.0089 0.0069 Neptune 9321-04-13 12:14 G 5125587.81 5125588.01 5125588.21 0.0089 0.0055 Saturn 9321-09-10 22:04 G 5125738.18 5125738.42 5125738.66 0.0277 0.0081 Uranus 9322-01-07 02:09 G 5125856.53 5125856.59 5125856.67 0.0133 0.0127 Neptune 9322-04-15 23:16 G 5125955.25 5125955.47 5125955.70 0.0089 0.0041 Uranus 9323-01-11 10:19 G 5126225.76 5126225.93 5126226.12 0.0133 0.0092 Neptune 9323-04-18 10:19 G 5126322.69 5126322.93 5126323.17 0.0089 0.0027 Uranus 9324-01-15 18:28 G 5126595.05 5126595.27 5126595.51 0.0133 0.0057 Neptune 9324-04-19 21:21 G 5126690.14 5126690.39 5126690.65 0.0089 0.0013 Uranus 9325-01-19 02:52 G 5126964.37 5126964.62 5126964.87 0.0133 0.0020 Neptune 9325-04-22 08:09 G 5127057.58 5127057.84 5127058.09 0.0089 0.0002 Uranus 9326-01-23 11:16 G 5127333.72 5127333.97 5127334.22 0.0134 0.0016 Neptune 9326-04-24 18:57 G 5127425.04 5127425.29 5127425.54 0.0089 0.0016 Jupiter 9326-09-24 03:36 G 5127577.51 5127577.65 5127577.80 0.0495 0.0389 Uranus 9327-01-27 19:11 G 5127703.08 5127703.30 5127703.55 0.0134 0.0052

Neptune 9327-04-27 05:31 G 5127792.50 5127792.73 5127792.98 0.0089 0.0030 9328-02-01 03:36 G 5128072.47 5128072.65 5128072.86 0.0134 0.0088 Uranus Neptune 9328-04-28 16:19 G 5128159.96 5128160.18 5128160.41 0.0089 0.0043 9329-02-04 12:14 G 5128441.94 5128442.01 5128442.12 0.0134 0.0124 Uranus Neptune 9329-05-01 02:52 G 5128527.44 5128527.62 5128527.82 0.0089 0.0057 Neptune 9330-05-03 13:11 G 5128894.92 5128895.05 5128895.22 0.0089 0.0071 Neptune 9331-05-05 23:31 G 5129262.44 5129262.48 5129262.59 0.0089 0.0085 9332-03-24 01:40 G 5129585.37 5129585.57 5129585.76 0.0534 0.0294 Jupiter Saturn 9337-03-18 15:07 G 5131405.91 5131406.13 5131406.37 0.0283 0.0090 Jupiter 9344-03-29 01:26 G 5133973.47 5133973.56 5133973.65 0.0532 0.0487 Jupiter 9349-09-01 13:55 G 5135955.95 5135956.08 5135956.21 0.0488 0.0407 9351-09-18 13:26 G 5136702.92 5136703.06 5136703.20 0.0276 0.0226 Saturn Jupiter 9361-09-05 21:21 G 5140343.19 5140343.39 5140343.59 0.0489 0.0257 Uranus 9364-07-09 09:36 G 5141380.74 5141380.90 5141381.10 0.0145 0.0102 Uranus 9365-07-14 09:36 G 5141750.67 5141750.90 5141751.14 0.0145 0.0056 Saturn 9366-03-13 14:23 G 5141992.90 5141993.10 5141993.31 0.0282 0.0148 Uranus 9366-07-19 09:21 G 5142120.64 5142120.89 5142121.14 0.0145 0.0010 Uranus 9367-07-24 09:07 G 5142490.64 5142490.88 5142491.13 0.0145 0.0036 Uranus 9368-07-28 08:23 G 5142860.65 5142860.85 5142861.07 0.0144 0.0081 9369-08-02 07:55 G 5143230.73 5143230.83 5143230.97 0.0144 0.0126 Uranus Jupiter 9373-09-10 02:52 G 5144730.40 5144730.62 5144730.86 0.0490 0.0109 9376-04-19 20:09 G 5145683.09 5145683.34 5145683.59 0.0064 0.0016 Pluto Jupiter 9379-03-08 14:38 G 5146735.94 5146736.11 5146736.29 0.0540 0.0360 Saturn 9380-09-12 06:00 G 5147289.50 5147289.75 5147290.00 0.0277 0.0015 Jupiter 9385-09-14 12:14 G 5149117.77 5149118.01 5149118.24 0.0492 0.0047 Jupiter 9391-03-13 20:38 G 5151124.14 5151124.36 5151124.58 0.0538 0.0150 Saturn 9396-03-20 01:40 G 5152957.37 5152957.57 5152957.77 0.0283 0.0162 Jupiter 9397-09-18 22:33 G 5153505.23 5153505.44 5153505.66 0.0493 0.0203 9398-07-05 19:55 G 5153795.18 5153795.33 5153795.48 0.1592 0.0927 Mars Neptune 9401-10-07 11:31 G 5154983.98 5154983.98 5154983.99 0.0088 0.0088

9402-10-09 23:02 G 5155351.35 5155351.46 5155351.63 0.0088 0.0075 Neptune 9403-03-19 23:31 G 5155512.25 5155512.48 5155512.71 0.0536 0.0056 Jupiter 9403-10-12 11:16 G 5155718.81 5155718.97 5155719.18 0.0088 0.0062 Neptune 9404-10-14 00:00 G 5156086.28 5156086.50 5156086.72 0.0088 0.0048 Neptune Neptune 9405-10-16 12:00 G 5156453.78 5156454.00 5156454.26 0.0088 0.0034 **Uranus** 9406-01-08 09:36 G 5156537.84 5156537.90 5156538.01 0.0133 0.0126 Neptune 9406-10-19 00:14 G 5156821.27 5156821.51 5156821.78 0.0088 0.0021 9407-01-12 18:00 G 5156907.07 5156907.25 5156907.45 0.0133 0.0090 Uranus Neptune 9407-10-21 12:57 G 5157188.79 5157189.04 5157189.31 0.0088 0.0006 9408-01-17 02:23 G 5157276.37 5157276.60 5157276.84 0.0133 0.0054 Uranus Neptune 9408-10-23 01:26 G 5157556.31 5157556.56 5157556.83 0.0088 0.0008 Uranus 9409-01-20 10:33 G 5157645.69 5157645.94 5157646.20 0.0133 0.0018 Saturn 9409-09-07 19:40 G 5157876.24 5157876.32 5157876.41 0.0278 0.0260 Jupiter 9409-09-24 10:19 G 5157892.78 5157892.93 5157893.10 0.0495 0.0363 Neptune 9409-10-25 13:55 G 5157923.84 5157924.08 5157924.35 0.0088 0.0022 Uranus 9410-01-24 18:57 G 5158015.04 5158015.29 5158015.54 0.0134 0.0019 Neptune 9410-10-28 02:52 G 5158291.39 5158291.62 5158291.87 0.0088 0.0036 9411-01-29 03:07 G 5158384.41 5158384.63 5158384.87 0.0134 0.0055 Uranus Neptune 9411-10-30 15:21 G 5158658.94 5158659.14 5158659.37 0.0088 0.0050 9412-02-02 11:31 G 5158753.81 5158753.98 5158754.18 0.0134 0.0092 Uranus Neptune 9412-11-01 04:04 G 5159026.51 5159026.67 5159026.87 0.0088 0.0064 9413-02-05 20:23 G 5159123.29 5159123.35 5159123.44 0.0134 0.0128 Uranus Neptune 9413-11-03 16:33 G 5159394.10 5159394.19 5159394.34 0.0088 0.0078 Jupiter 9415-03-24 19:55 G 5159900.13 5159900.33 5159900.53 0.0535 0.0248 Saturn 9425-03-16 01:26 G 5163544.32 5163544.56 5163544.79 0.0282 0.0074 Jupiter 9427-03-29 20:52 G 5164288.25 5164288.37 5164288.50 0.0533 0.0443 Jupiter 9432-09-01 17:02 G 5166271.10 5166271.21 5166271.32 0.0488 0.0431 Saturn 9439-09-15 16:04 G 5168840.93 5168841.17 5168841.42 0.0277 0.0056 Jupiter 9444-09-06 00:14 G 5170658.33 5170658.51 5170658.71 0.0489 0.0283 Mars 9445-07-01 07:26 G 5170956.79 5170956.81 5170956.84 0.1594 0.1573

9447-07-06 18:57 G 5171692.28 5171692.29 5171692.33 0.0145 0.0144 Uranus 9448-07-10 18:28 G 5172062.10 5172062.27 5172062.46 0.0145 0.0099 Uranus Uranus 9449-07-15 18:14 G 5172432.04 5172432.26 5172432.51 0.0145 0.0053 9450-07-20 18:14 G 5172802.00 5172802.26 5172802.51 0.0145 0.0007 Uranus **Uranus** 9451-07-25 17:31 G 5173172.00 5173172.23 5173172.49 0.0145 0.0040 Uranus 9452-07-29 17:02 G 5173542.02 5173542.21 5173542.43 0.0144 0.0086 9453-08-03 16:33 G 5173912.10 5173912.19 5173912.32 0.0144 0.0130 Uranus 9455-03-23 13:40 G 5174508.95 5174509.07 5174509.21 0.0283 0.0238 Saturn Jupiter 9456-09-10 08:23 G 5175045.62 5175045.85 5175046.08 0.0490 0.0133 Jupiter 9462-03-08 14:52 G 5177050.97 5177051.12 5177051.28 0.0540 0.0395 9464-10-19 06:28 G 5178006.73 5178006.77 5178006.88 0.0080 0.0077 Pluto Saturn 9468-09-09 05:16 G 5179427.55 5179427.72 5179427.91 0.0277 0.0191 Jupiter 9468-09-14 18:43 G 5179433.04 5179433.28 5179433.51 0.0492 0.0022 Jupiter 9474-03-13 13:55 G 5181438.87 5181439.08 5181439.30 0.0538 0.0197 Jupiter 9480-09-19 03:50 G 5183820.44 5183820.66 5183820.88 0.0493 0.0178 Neptune 9483-04-10 00:14 G 5184753.50 5184753.51 5184753.58 0.0089 0.0089 Saturn 9484-03-17 12:43 G 5185095.79 5185096.03 5185096.28 0.0282 0.0005 Neptune 9484-04-11 11:45 G 5185120.87 5185120.99 5185121.15 0.0089 0.0074 Neptune 9485-04-13 23:02 G 5185488.29 5185488.46 5185488.66 0.0089 0.0061 9486-03-18 16:33 G 5185826.96 5185827.19 5185827.43 0.0537 0.0013 Jupiter Neptune 9486-04-16 10:19 G 5185855.72 5185855.93 5185856.16 0.0089 0.0047 Neptune 9487-04-18 21:21 G 5186223.17 5186223.39 5186223.65 0.0089 0.0033 Neptune 9488-04-20 08:38 G 5186590.62 5186590.86 5186591.12 0.0089 0.0019 Neptune 9489-04-22 19:55 G 5186958.08 5186958.33 5186958.59 0.0089 0.0005 Uranus 9490-01-08 18:14 G 5187219.18 5187219.26 5187219.37 0.0133 0.0123 Neptune 9490-04-25 06:43 G 5187325.53 5187325.78 5187326.04 0.0089 0.0009 9491-01-13 02:23 G 5187588.43 5187588.60 5187588.81 0.0133 0.0088 Uranus Neptune 9491-04-27 17:16 G 5187692.99 5187693.22 5187693.48 0.0089 0.0023 Uranus 9492-01-17 11:02 G 5187957.73 5187957.96 5187958.20 0.0133 0.0051 Neptune 9492-04-29 04:19 G 5188060.46 5188060.68 5188060.92 0.0089 0.0037

Jupiter 9492-09-23 10:48 G	5188207.77	5188207.95	5188208.12 0.0494 0.0329
Uranus 9493-01-20 19:26 G	5188327.05	5188327.31	5188327.56 0.0133 0.0014
Neptune 9493-05-01 14:38 G	5188427.92	5188428.11	5188428.34 0.0089 0.0050
Uranus 9494-01-25 03:50 G	5188696.41	5188696.66	5188696.91 0.0134 0.0022
Neptune 9494-05-04 01:11 G	5188795.40	5188795.55	5188795.75 0.0089 0.0064
Uranus 9495-01-29 11:45 G	5189065.78	5189065.99	5189066.24 0.0134 0.0059
Neptune 9495-05-06 12:00 G	5189162.89	5189163.00	5189163.14 0.0089 0.0077
Uranus 9496-02-02 20:23 G	5189435.19	5189435.35	5189435.55 0.0134 0.0095
Uranus 9497-02-06 05:16 G	5189804.69	5189804.72	5189804.79 0.0134 0.0132
Jupiter 9498-03-23 21:36 G	5190215.19	5190215.40	5190215.61 0.0535 0.0213
Saturn 9498-09-17 03:50 G	5190392.45	5190392.66	5190392.89 0.0277 0.0129
Mars 9501-01-04 17:45 G	5191232.10	5191232.24	5191232.37 0.1941 0.1474
Jupiter 9504-09-28 21:50 G	5192595.38	5192595.41	5192595.46 0.0496 0.0487
Jupiter 9510-03-30 00:43 G	5194603.38	5194603.53	5194603.67 0.0533 0.0409
Saturn 9513-03-12 22:19 G	5195682.35	5195682.43	5195682.53 0.0281 0.0259
Jupiter 9515-09-02 22:04 G	5196586.34	5196586.42	5196586.50 0.0488 0.0454
Mars 9524-07-04 06:14 G	5199813.59	5199813.76	5199813.94 0.1593 0.0533
Jupiter 9527-09-07 06:28 G	5200973.58	5200973.77	5200973.95 0.0489 0.0305
Saturn 9527-09-12 16:19 G	5200978.96	5200979.18	5200979.41 0.0277 0.0119
Uranus 9531-07-08 03:50 G	5202373.63	5202373.66	5202373.73 0.0145 0.0143
Uranus 9532-07-12 03:36 G	5202743.47	5202743.65	5202743.85 0.0145 0.0097
Uranus 9533-07-17 03:36 G	5203113.42	5203113.65	5203113.89 0.0145 0.0050
Uranus 9534-07-22 03:21 G	5203483.39	5203483.64	5203483.89 0.0145 0.0004
Uranus 9535-07-27 03:07 G	5203853.39	5203853.63	5203853.87 0.0145 0.0043
Uranus 9536-07-31 02:38 G	5204223.42	5204223.61	5204223.81 0.0144 0.0089
Uranus 9537-08-05 02:09 G	5204593.52	5204593.59	5204593.70 0.0144 0.0134
Jupiter 9539-09-11 13:55 G	5205360.86	5205361.08	5205361.31 0.0490 0.0156
Saturn 9543-03-20 23:45 G	5206647.26	5206647.49	5206647.73 0.0283 0.0075
Jupiter 9545-03-08 07:11 G	5207365.68	5207365.80	5207365.94 0.0540 0.0442
Jupiter 9551-09-15 19:26 G	5209748.07	5209748.31	5209748.54 0.0491 0.0014

Jupiter 9557-03-13 13:26 G 5211753.86 5211754.06 5211754.27 0.0539 0.0235 9557-09-19 15:50 G 5211944.00 5211944.16 5211944.34 0.0276 0.0202 Saturn Jupiter 9563-09-20 04:33 G 5214135.47 5214135.69 5214135.92 0.0492 0.0145 Neptune 9566-10-10 10:04 G 5215251.81 5215251.92 5215252.03 0.0088 0.0080 9567-10-12 21:50 G 5215619.26 5215619.41 5215619.60 0.0088 0.0067 Neptune Neptune 9568-10-14 10:04 G 5215986.73 5215986.92 5215987.15 0.0088 0.0053 9569-03-18 19:40 G 5216142.09 5216142.32 5216142.56 0.0537 0.0029 Jupiter 9569-10-16 22:33 G 5216354.22 5216354.44 5216354.68 0.0088 0.0040 Neptune Neptune 9570-10-19 10:48 G 5216721.71 5216721.95 5216722.21 0.0088 0.0026 9571-10-21 23:16 G 5217089.21 5217089.47 5217089.73 0.0088 0.0012 Neptune Saturn 9572-03-14 09:50 G 5217233.73 5217233.91 5217234.10 0.0282 0.0185 Neptune 9572-10-23 11:45 G 5217456.73 5217456.99 5217457.25 0.0088 0.0001 Neptune 9573-10-26 00:00 G 5217824.25 5217824.50 5217824.77 0.0088 0.0015 9574-01-10 02:23 G 5217900.50 5217900.60 5217900.71 0.0133 0.0121 Uranus Neptune 9574-10-28 12:28 G 5218191.78 5218192.02 5218192.27 0.0088 0.0029 Uranus 9575-01-14 10:33 G 5218269.75 5218269.94 5218270.15 0.0133 0.0085 Jupiter 9575-09-24 14:52 G 5218522.94 5218523.12 5218523.31 0.0494 0.0301 Neptune 9575-10-31 00:57 G 5218559.33 5218559.54 5218559.79 0.0088 0.0043 Uranus 9576-01-18 18:57 G 5218639.06 5218639.29 5218639.54 0.0133 0.0049 Neptune 9576-11-01 13:26 G 5218926.88 5218927.06 5218927.29 0.0088 0.0057 Uranus 9577-01-22 03:36 G 5219008.39 5219008.65 5219008.90 0.0133 0.0012 Neptune 9577-11-04 02:23 G 5219294.46 5219294.60 5219294.78 0.0088 0.0070 9578-01-26 11:45 G 5219377.74 5219377.99 5219378.25 0.0134 0.0025 Uranus Neptune 9578-11-06 14:52 G 5219662.06 5219662.12 5219662.24 0.0088 0.0084 Uranus 9579-01-30 20:09 G 5219747.13 5219747.34 5219747.58 0.0134 0.0062 Uranus 9580-02-04 05:02 G 5220116.55 5220116.71 5220116.89 0.0134 0.0098 9581-03-23 22:33 G 5220530.23 5220530.44 5220530.66 0.0535 0.0177 Jupiter Saturn 9586-09-14 03:50 G 5222530.42 5222530.66 5222530.90 0.0277 0.0046 Jupiter 9587-09-29 03:36 G 5222910.56 5222910.65 5222910.73 0.0496 0.0460 Jupiter 9593-03-28 19:40 G 5224918.15 5224918.32 5224918.49 0.0533 0.0365

Jupiter 9598-09-02 03:36 G 5226901.61 5226901.65 5226901.71 0.0488 0.0475
Saturn 9602-03-22 09:36 G 5228198.70 5228198.90 5228199.11 0.0283 0.0146
Mars 9603-07-07 05:31 G 5228670.55 5228670.73 5228670.90 0.1592 0.0523
Jupiter 9610-09-06 08:23 G 5231288.68 5231288.85 5231289.02 0.0488 0.0334
Uranus 9615-07-08 13:40 G 5233055.02 5233055.07 5233055.15 0.0145 0.0140
Saturn 9615-09-09 02:52 G 5233117.59 5233117.62 5233117.68 0.0278 0.0272
Uranus 9616-07-12 13:11 G 5233424.87 5233425.05 5233425.26 0.0145 0.0094
Saturn 9616-09-21 03:36 G 5233495.65 5233495.65 5233495.67 0.0276 0.0276
Uranus 9617-07-17 13:26 G 5233794.82 5233795.06 5233795.30 0.0145 0.0047
Uranus 9618-07-22 13:11 G 5234164.80 5234165.05 5234165.31 0.0145 0.0002
Uranus 9619-07-27 13:11 G 5234534.81 5234535.05 5234535.29 0.0145 0.0046
Uranus 9620-07-31 12:28 G 5234904.84 5234905.02 5234905.23 0.0144 0.0093
Uranus 9621-08-05 12:28 G 5235274.95 5235275.02 5235275.10 0.0144 0.0137
Jupiter 9622-09-10 15:50 G 5235675.94 5235676.16 5235676.38 0.0489 0.0186
Pluto 9623-04-23 15:50 G 5235901.02 5235901.16 5235901.38 0.0064 0.0046
Pluto 9624-04-24 03:36 G 5236267.47 5236267.65 5236267.85 0.0064 0.0043
Jupiter 9628-03-07 09:36 G 5237680.79 5237680.90 5237681.01 0.0541 0.0477
Jupiter     9628-03-07 09:36 G     5237680.79     5237680.90     5237681.01     0.0541     0.0477       Saturn     9631-03-16 19:55 G     5238785.12     5238785.33     5238785.56     0.0282     0.0112
Saturn 9631-03-16 19:55 G 5238785.12 5238785.33 5238785.56 0.0282 0.0112
Saturn 9631-03-16 19:55 G 5238785.12 5238785.33 5238785.56 0.0282 0.0112  Jupiter 9634-09-15 00:14 G 5240063.27 5240063.51 5240063.74 0.0491 0.0036
Saturn       9631-03-16 19:55 G       5238785.12       5238785.33       5238785.56 0.0282 0.0112         Jupiter       9634-09-15 00:14 G       5240063.27       5240063.51       5240063.74 0.0491 0.0036         Jupiter       9640-03-12 15:36 G       5242068.95       5242069.15       5242069.35 0.0539 0.0268
Saturn       9631-03-16 19:55 G       5238785.12       5238785.33       5238785.56 0.0282 0.0112         Jupiter       9634-09-15 00:14 G       5240063.27       5240063.51       5240063.74 0.0491 0.0036         Jupiter       9640-03-12 15:36 G       5242068.95       5242069.15       5242069.35 0.0539 0.0268         Saturn       9645-09-15 14:23 G       5244081.85       5244082.10       5244082.34 0.0277 0.0026
Saturn       9631-03-16 19:55 G       5238785.12       5238785.33       5238785.56 0.0282 0.0112         Jupiter       9634-09-15 00:14 G       5240063.27       5240063.51       5240063.74 0.0491 0.0036         Jupiter       9640-03-12 15:36 G       5242068.95       5242069.15       5242069.35 0.0539 0.0268         Saturn       9645-09-15 14:23 G       5244081.85       5244082.10       5244082.34 0.0277 0.0026         Jupiter       9646-09-19 10:33 G       5244450.71       5244450.94       5244451.17 0.0492 0.0120
Saturn       9631-03-16 19:55 G       5238785.12       5238785.33       5238785.56       0.0282       0.0112         Jupiter       9634-09-15 00:14 G       5240063.27       5240063.51       5240063.74       0.0491       0.0036         Jupiter       9640-03-12 15:36 G       5242068.95       5242069.15       5242069.35       0.0539       0.0268         Saturn       9645-09-15 14:23 G       5244081.85       5244082.10       5244082.34       0.0277       0.0026         Jupiter       9646-09-19 10:33 G       5244450.71       5244450.94       5244451.17       0.0492       0.0120         Neptune       9648-04-11 23:02 G       5245021.36       5245021.46       5245021.59       0.0089       0.0080
Saturn       9631-03-16 19:55 G       5238785.12       5238785.33       5238785.56       0.0282       0.0112         Jupiter       9634-09-15 00:14 G       5240063.27       5240063.51       5240063.74       0.0491       0.0036         Jupiter       9640-03-12 15:36 G       5242068.95       5242069.15       5242069.35       0.0539       0.0268         Saturn       9645-09-15 14:23 G       5244081.85       5244082.10       5244082.34       0.0277       0.0026         Jupiter       9646-09-19 10:33 G       5244450.71       5244450.94       5244451.17       0.0492       0.0120         Neptune       9648-04-11 23:02 G       5245021.36       5245021.46       5245021.59       0.0089       0.0066         Neptune       9649-04-14 10:04 G       5245388.77       5245388.92       5245389.11       0.0089       0.0066
Saturn       9631-03-16 19:55 G       5238785.12       5238785.33       5238785.56       0.0282       0.0112         Jupiter       9634-09-15 00:14 G       5240063.27       5240063.51       5240063.74       0.0491       0.0036         Jupiter       9640-03-12 15:36 G       5242068.95       5242069.15       5242069.35       0.0539       0.0268         Saturn       9645-09-15 14:23 G       5244081.85       5244082.10       5244082.34       0.0277       0.0026         Jupiter       9646-09-19 10:33 G       5244450.71       5244450.94       5244451.17       0.0492       0.0120         Neptune       9648-04-11 23:02 G       5245021.36       5245021.46       5245021.59       0.0089       0.0080         Neptune       9649-04-14 10:04 G       5245388.77       5245388.92       5245389.11       0.0089       0.0066         Neptune       9650-04-16 21:21 G       5245756.20       5245756.39       5245756.61       0.0089       0.0053
Saturn       9631-03-16 19:55 G       5238785.12       5238785.33       5238785.56 0.0282 0.0112         Jupiter       9634-09-15 00:14 G       5240063.27       5240063.51       5240063.74 0.0491 0.0036         Jupiter       9640-03-12 15:36 G       5242068.95       5242069.15       5242069.35 0.0539 0.0268         Saturn       9645-09-15 14:23 G       5244081.85       5244082.10       5244082.34 0.0277 0.0026         Jupiter       9646-09-19 10:33 G       5244450.71       5244450.94       5244451.17 0.0492 0.0120         Neptune       9648-04-11 23:02 G       5245021.36       5245021.46       5245021.59 0.0089 0.0080         Neptune       9649-04-14 10:04 G       5245388.77       5245388.92       5245389.11 0.0089 0.0053         Neptune       9650-04-16 21:21 G       5245756.20       5245756.39       5245756.61 0.0089 0.0040
Saturn       9631-03-16 19:55 G       5238785.12       5238785.33       5238785.56 0.0282 0.0112         Jupiter       9634-09-15 00:14 G       5240063.27       5240063.51       5240063.74 0.0491 0.0036         Jupiter       9640-03-12 15:36 G       5242068.95       5242069.15       5242069.35 0.0539 0.0268         Saturn       9645-09-15 14:23 G       5244081.85       5244082.10       5244082.34 0.0277 0.0026         Jupiter       9646-09-19 10:33 G       5244450.71       5244450.94       5244451.17 0.0492 0.0120         Neptune       9648-04-11 23:02 G       5245021.36       5245021.46       5245021.59 0.0089 0.0080         Neptune       9649-04-14 10:04 G       5245388.77       5245388.92 5245389.11 0.0089 0.0066         Neptune       9650-04-16 21:21 G       5245756.20 5245756.39 5245756.61 0.0089 0.0053         Neptune       9651-04-19 08:09 G       5246123.63 5246123.84 5246124.09 0.0089 0.0040         Jupiter       9652-03-17 15:50 G 5246456.93 5246457.16 5246457.39 0.0537 0.0069

Neptune	9655-04-28 04:48 G	5247593.46	5247593.70	5247593.96 0.0089 0.0016
Neptune	9656-04-29 15:36 G	5247960.91	5247961.15	5247961.40 0.0089 0.0029
Neptune	9657-05-02 02:09 G	5248328.39	5248328.59	5248328.83 0.0089 0.0043
Uranus	9658-01-10 10:48 G	5248581.85	5248581.95	5248582.08 0.0133 0.0118
Neptune	9658-05-04 12:57 G	5248695.85	5248696.04	5248696.25 0.0089 0.0056
Jupiter	9658-09-23 20:23 G	5248838.16	5248838.35	5248838.55 0.0494 0.0276
Uranus	9659-01-14 19:26 G	5248951.12	5248951.31	5248951.52 0.0133 0.0082
Neptune	9659-05-06 23:45 G	5249063.34	5249063.49	5249063.65 0.0089 0.0069
Uranus	9660-01-19 03:36 G	5249320.43	5249320.65	5249320.91 0.0133 0.0047
Neptune	9660-05-08 09:50 G	5249430.85	5249430.91	5249431.03 0.0089 0.0083
Uranus	9661-01-22 12:28 G	5249689.76	5249690.02	5249690.27 0.0133 0.0009
Saturn	9661-03-23 17:45 G	5249750.10	5249750.24	5249750.41 0.0283 0.0216
Uranus	9662-01-26 20:52 G	5250059.12	5250059.37	5250059.62 0.0134 0.0028
Uranus	9663-01-31 05:16 G	5250428.51	5250428.72	5250428.96 0.0134 0.0065
Uranus	9664-02-04 14:09 G	5250797.93	5250798.09	5250798.26 0.0134 0.0101
Jupiter	9664-03-22 17:31 G	5250845.01	5250845.23	5250845.46 0.0536 0.0132
Jupiter	9670-09-28 03:50 G	5253225.54	5253225.66	5253225.78 0.0495 0.0423
Saturn	9674-09-10 13:40 G	5254668.90	5254669.07	5254669.24 0.0278 0.0199
Jupiter	9676-03-27 20:52 G	5255233.19	5255233.37	5255233.55 0.0535 0.0328
Mars	9682-07-09 04:33 G	5257527.67	5257527.69	5257527.71 0.1592 0.1576
Jupiter	9688-04-02 00:00 G	5259621.46	5259621.50	5259621.55 0.0533 0.0522
Saturn	9690-03-18 04:33 G	5260336.45	5260336.69	5260336.93 0.0282 0.0041
Jupiter	9693-09-05 13:55 G	5261603.93	5261604.08	5261604.24 0.0488 0.0357
Uranus	9699-07-08 23:02 G	5263736.40	5263736.46	5263736.56 0.0145 0.0137
Uranus	9700-07-13 22:48 G	5264106.27	5264106.45	5264106.66 0.0145 0.0091
Uranus	9701-07-18 23:02 G	5264476.22	5264476.46	5264476.70 0.0145 0.0044
Uranus	9702-07-23 22:48 G	5264846.20	5264846.45	5264846.71 0.0145 0.0004
Uranus	9703-07-28 22:48 G	5265216.22	5265216.45	5265216.69 0.0145 0.0050
Uranus	9704-08-01 22:33 G	5265586.26	5265586.44	5265586.64 0.0144 0.0096
Saturn	9704-09-17 23:16 G	5265633.25	5265633.47	5265633.71 0.0277 0.0096

Uranus 9705-08-06 22:04 G 5265956.39 5265956.42 5265956.49 0.0144 0.0142 Jupiter 9705-09-10 22:33 G 5265991.23 5265991.44 5265991.65 0.0489 0.0208 Jupiter 9711-03-08 07:26 G 5267995.75 5267995.81 5267995.89 0.0540 0.0515 9712-10-24 01:11 G 5268591.33 5268591.55 5268591.80 0.0080 0.0036 Pluto Jupiter 9717-09-15 06:57 G 5270378.56 5270378.79 5270379.03 0.0491 0.0058 Saturn 9720-03-26 00:00 G 5271301.49 5271301.50 5271301.54 0.0283 0.0281 Jupiter 9723-03-13 11:31 G 5272383.79 5272383.98 5272384.17 0.0539 0.0310 Mars 9729-07-04 16:04 G 5274689.02 5274689.17 5274689.32 0.1594 0.0927 Jupiter 9729-09-19 13:11 G 5274765.82 5274766.05 5274766.29 0.0491 0.0088 Neptune 9730-10-10 19:26 G 5275152.25 5275152.31 5275152.38 0.0088 0.0085 Neptune 9731-10-13 07:11 G 5275519.68 5275519.80 5275519.98 0.0088 0.0072 Neptune 9732-10-14 19:55 G 5275887.14 5275887.33 5275887.53 0.0088 0.0058 Saturn 9733-09-12 22:19 G 5276220.21 5276220.43 5276220.65 0.0278 0.0130 Neptune 9733-10-17 08:09 G 5276254.63 5276254.84 5276255.07 0.0088 0.0045 Neptune 9734-10-19 20:09 G 5276622.11 5276622.34 5276622.60 0.0088 0.0032 Jupiter 9735-03-18 15:50 G 5276771.93 5276772.16 5276772.38 0.0539 0.0110 Neptune 9735-10-22 08:52 G 5276989.62 5276989.87 5276990.13 0.0088 0.0019 Neptune 9736-10-23 21:21 G 5277357.13 5277357.39 5277357.65 0.0088 0.0005 Neptune 9737-10-26 09:36 G 5277724.64 5277724.90 5277725.16 0.0088 0.0008 Neptune 9738-10-28 21:50 G 5278092.17 5278092.41 5278092.68 0.0088 0.0022 Neptune 9739-10-31 10:19 G 5278459.70 5278459.93 5278460.18 0.0088 0.0035 Neptune 9740-11-01 23:16 G 5278827.26 5278827.47 5278827.69 0.0088 0.0049 Jupiter 9741-09-23 23:16 G 5279153.26 5279153.47 5279153.67 0.0493 0.0242 Neptune 9741-11-04 11:31 G 5279194.82 5279194.98 5279195.19 0.0088 0.0062 Uranus 9742-01-11 18:57 G 5279263.19 5279263.29 5279263.44 0.0133 0.0116 Neptune 9742-11-07 00:14 G 5279562.40 5279562.51 5279562.67 0.0088 0.0076 Uranus 9743-01-16 03:50 G 5279632.46 5279632.66 5279632.87 0.0133 0.0080 Uranus 9744-01-20 12:14 G 5280001.77 5280002.01 5280002.26 0.0133 0.0043 Uranus 9745-01-23 20:52 G 5280371.12 5280371.37 5280371.63 0.0133 0.0006 Uranus 9746-01-28 05:16 G 5280740.47 5280740.72 5280740.97 0.0134 0.0031

Uranus 9747-02-01 13:40 G 5281109.87 5281110.07 5281110.31 0.0134 0.000	88
Jupiter 9747-03-23 22:04 G 5281160.19 5281160.42 5281160.65 0.0537 0.009	7
Uranus 9748-02-05 22:33 G 5281479.29 5281479.44 5281479.60 0.0134 0.01	04
Saturn 9749-03-20 11:02 G 5281887.72 5281887.96 5281888.20 0.0282 0.002	26
Jupiter 9753-09-28 09:36 G 5283540.77 5283540.90 5283541.04 0.0495 0.039	97
Jupiter 9759-03-29 01:55 G 5285548.39 5285548.58 5285548.77 0.0535 0.029	)8
Saturn 9763-09-20 06:28 G 5287184.57 5287184.77 5287184.97 0.0277 0.016	61
Jupiter 9771-04-03 00:28 G 5289936.43 5289936.52 5289936.62 0.0533 0.048	36
Jupiter 9776-09-05 22:04 G 5291919.27 5291919.42 5291919.57 0.0488 0.037	<b>7</b> 6
Saturn 9778-03-15 00:28 G 5292474.39 5292474.52 5292474.67 0.0281 0.022	26
Uranus 9783-07-10 09:07 G 5294417.78 5294417.88 5294417.98 0.0145 0.01	34
Uranus 9784-07-14 08:52 G 5294787.67 5294787.87 5294788.07 0.0145 0.00	87
Uranus 9785-07-19 08:38 G 5295157.63 5295157.86 5295158.12 0.0145 0.00	41
Uranus 9786-07-24 08:52 G 5295527.62 5295527.87 5295528.13 0.0145 0.00	07
Uranus 9787-07-29 08:38 G 5295897.64 5295897.86 5295898.11 0.0145 0.00	54
Uranus 9788-08-02 08:38 G 5296267.69 5296267.86 5296268.05 0.0144 0.01	00
Jupiter 9788-09-10 03:50 G 5296306.46 5296306.66 5296306.87 0.0489 0.023	36
Saturn 9792-09-14 04:19 G 5297771.44 5297771.68 5297771.92 0.0278 0.000	65
Jupiter 9800-09-15 12:14 G 5300693.78 5300694.01 5300694.24 0.0490 0.008	36
Jupiter 9806-03-13 14:52 G 5302698.94 5302699.12 5302699.30 0.0540 0.034	16
Saturn 9808-03-22 15:36 G 5303438.92 5303439.15 5303439.38 0.0282 0.008	39
Mars 9808-07-07 14:38 G 5303545.92 5303546.11 5303546.29 0.1593 0.011	7
Neptune 9812-04-13 10:04 G 5304921.85 5304921.92 5304922.01 0.0089 0.00	085
Jupiter 9812-09-19 20:38 G 5305081.13 5305081.36 5305081.59 0.0491 0.006	<b>3</b> 5
Neptune 9813-04-15 21:07 G 5305289.24 5305289.38 5305289.55 0.0089 0.00	071
Neptune 9814-04-18 08:09 G 5305656.67 5305656.84 5305657.05 0.0089 0.00	<b>)58</b>
Neptune 9815-04-20 19:11 G 5306024.11 5306024.30 5306024.55 0.0089 0.00	)46
Neptune 9816-04-22 06:28 G 5306391.54 5306391.77 5306392.02 0.0089 0.00	032
Neptune 9817-04-24 17:31 G 5306758.99 5306759.23 5306759.49 0.0089 0.00	018
Jupiter 9818-03-18 22:04 G 5307087.20 5307087.42 5307087.65 0.0539 0.013	36

9818-04-27 04:48 G 5307126.45 5307126.70 5307126.96 0.0089 0.0005 Neptune 9819-04-29 15:50 G 5307493.91 5307494.16 5307494.41 0.0089 0.0009 Neptune Neptune 9820-05-01 02:52 G 5307861.38 5307861.62 5307861.87 0.0089 0.0022 9821-05-03 13:11 G 5308228.84 5308229.30 0.0089 0.0036 Neptune 5308229.05 9822-05-06 00:14 G 5308596.31 5308596.51 5308596.74 0.0089 0.0049 Neptune Saturn 9822-09-22 11:02 G 5308735.83 5308735.96 5308736.12 0.0277 0.0224 9823-05-08 10:48 G 5308963.79 5308963.95 5308964.15 0.0089 0.0062 Neptune 9824-05-09 21:21 G 5309331.28 5309331.39 5309331.55 0.0089 0.0075 Neptune Jupiter 9824-09-24 07:26 G 5309468.60 5309468.81 5309469.02 0.0493 0.0221 Neptune 9825-05-12 07:55 G 5309698.82 5309698.83 5309698.89 0.0089 0.0088 Uranus 9826-01-13 04:48 G 5309944.57 5309944.70 5309944.84 0.0133 0.0112 **Uranus** 9827-01-17 13:11 G 5310313.85 5310314.05 5310314.27 0.0133 0.0077 Uranus 9828-01-21 21:50 G 5310683.17 5310683.41 5310683.66 0.0133 0.0040 9829-01-25 06:28 G 5311052.51 5311052.77 5311053.02 0.0133 0.0004 Uranus Uranus 9830-01-29 14:38 G 5311421.87 5311422.11 5311422.37 0.0133 0.0034 Jupiter 9830-03-24 00:28 G 5311475.29 5311475.52 5311475.75 0.0537 0.0064 9831-02-02 23:31 G 5311791.26 5311791.48 5311791.69 0.0134 0.0071 Uranus Uranus 9832-02-07 07:26 G 5312160.68 5312160.81 5312160.98 0.0134 0.0108 Jupiter 9836-09-28 18:28 G 5313856.12 5313856.27 5313856.42 0.0494 0.0375 9837-03-17 03:07 G 5314025.44 5314025.63 5314025.83 0.0281 0.0166 Saturn Jupiter 9842-03-29 02:09 G 5315863.39 5315863.59 5315863.80 0.0535 0.0260 9851-09-17 07:40 G 5319322.57 5319322.82 5319323.06 0.0278 0.0006 Saturn Jupiter 9854-04-03 02:52 G 5320251.51 5320251.62 5320251.75 0.0534 0.0449 Jupiter 9859-09-07 06:00 G 5322234.61 5322234.75 5322234.88 0.0487 0.0397 Mars 9864-01-10 08:23 G 5323820.69 5323820.85 5323821.02 0.1941 0.1193 Saturn 9867-03-24 19:11 G 5324990.10 5324990.30 5324990.51 0.0281 0.0150 9867-07-11 18:00 G 5325099.15 5325099.25 5325099.36 0.0145 0.0131 Uranus Uranus 9868-07-15 17:45 G 5325469.05 5325469.24 5325469.46 0.0145 0.0085 Uranus 9869-07-20 18:14 G 5325839.02 5325839.26 5325839.51 0.0145 0.0037 9870-07-25 18:14 G 5326209.01 5326209.26 5326209.51 0.0145 0.0010 Uranus

9871-04-28 03:07 G 5326485.40 5326485.63 5326485.88 0.0064 0.0022 Pluto 9871-07-30 18:14 G 5326579.03 5326579.26 5326579.50 0.0145 0.0057 Uranus Jupiter 9871-09-11 12:28 G 5326621.82 5326622.02 5326622.22 0.0488 0.0254 9872-08-03 18:00 G 5326949.08 5326949.25 5326949.43 0.0144 0.0104 Uranus Saturn 9880-09-10 11:45 G 5329908.94 5329908.99 5329909.07 0.0279 0.0267 Jupiter 9883-09-15 21:21 G 5331009.16 5331009.39 5331009.62 0.0490 0.0104 9887-07-10 13:40 G 5332402.94 5332403.07 5332403.19 0.1593 0.1167 Mars Jupiter 9889-03-12 19:11 G 5333014.14 5333014.30 5333014.47 0.0540 0.0375 Jupiter 9895-09-20 06:28 G 5335396.53 5335396.77 5335397.00 0.0491 0.0046 Neptune 9895-10-13 16:19 G 5335420.08 5335420.18 5335420.34 0.0088 0.0077 9896-03-18 04:33 G 5335576.47 5335576.69 5335576.92 0.0281 0.0108 Saturn Neptune 9896-10-15 04:48 G 5335787.54 5335787.70 5335787.90 0.0088 0.0064 Neptune 9897-10-17 17:02 G 5336155.02 5336155.21 5336155.44 0.0088 0.0051 9898-10-20 05:16 G 5336522.50 5336522.72 5336522.97 0.0088 0.0038 Neptune Neptune 9899-10-22 17:45 G 5336890.01 5336890.24 5336890.51 0.0088 0.0025 Neptune 9900-10-25 06:14 G 5337257.51 5337257.76 5337258.02 0.0088 0.0012 Jupiter 9901-03-18 23:16 G 5337402.25 5337402.47 5337402.69 0.0539 0.0171 9901-10-27 18:43 G 5337625.02 5337625.28 5337625.54 0.0088 0.0002 Neptune Neptune 9902-10-30 06:43 G 5337992.54 5337992.78 5337993.05 0.0088 0.0016 9903-11-01 19:11 G 5338360.07 5338360.30 5338360.56 0.0088 0.0029 Neptune Neptune 9904-11-03 07:40 G 5338727.61 5338727.82 5338728.07 0.0088 0.0042 9905-11-05 20:09 G 5339095.15 5339095.34 5339095.56 0.0088 0.0055 Neptune 9906-11-08 08:52 G 5339462.72 5339462.87 5339463.05 0.0088 0.0068 Neptune Jupiter 9907-09-25 14:52 G 5339783.90 5339784.12 5339784.34 0.0492 0.0193 Neptune 9907-11-10 21:36 G 5339830.31 5339830.40 5339830.52 0.0088 0.0081 Uranus 9910-01-14 13:40 G 5340625.94 5340626.07 5340626.23 0.0133 0.0109 9910-09-19 09:07 G 5340873.64 5340873.88 5340874.13 0.0278 0.0052 Saturn Uranus 9911-01-18 22:04 G 5340995.23 5340995.42 5340995.65 0.0133 0.0074 Uranus 9912-01-23 06:43 G 5341364.54 5341364.78 5341365.03 0.0133 0.0036 Uranus 9913-01-26 15:21 G 5341733.88 5341734.14 5341734.39 0.0133 0.0002

9913-03-24 01:26 G 5341790.32 5341790.56 5341790.79 0.0538 0.0026 Jupiter 9914-01-30 23:31 G 5342103.24 5342103.48 5342103.73 0.0133 0.0038 Uranus Uranus 9915-02-04 07:55 G 5342472.62 5342472.83 5342473.05 0.0134 0.0075 9916-02-08 16:04 G 5342842.05 5342842.17 5342842.32 0.0134 0.0112 Uranus 9919-09-30 01:11 G 5344171.38 5344171.55 5344171.72 0.0493 0.0346 Jupiter Jupiter 9925-03-29 07:11 G 5346178.59 5346178.80 5346179.01 0.0536 0.0227 Saturn 9926-03-26 21:21 G 5346541.24 5346541.39 5346541.56 0.0281 0.0209 9934-07-06 00:43 G 5349564.43 5349564.53 5349564.63 0.1596 0.1356 Mars Jupiter 9937-04-03 12:00 G 5350566.87 5350567.00 5350567.14 0.0534 0.0426 9939-09-13 13:11 G 5351459.89 Saturn 5351460.05 5351460.21 0.0279 0.0211 Jupiter 9942-09-07 15:36 G 5352550.03 5352550.15 5352550.28 0.0487 0.0413 **Uranus** 9951-07-13 03:21 G 5355780.54 5355780.64 5355780.78 0.0145 0.0128 Uranus 9952-07-17 03:50 G 5356150.45 5356150.66 5356150.87 0.0145 0.0080 9953-07-22 03:50 G 5356520.42 5356520.66 5356520.91 0.0145 0.0033 Uranus Uranus 9954-07-27 04:04 G 5356890.42 5356890.67 5356890.92 0.0145 0.0014 Jupiter 9954-09-11 23:16 G 5356937.27 5356937.47 5356937.66 0.0488 0.0271 9955-03-21 06:00 G 5357127.51 5357127.75 5357127.99 0.0281 0.0051 Saturn Uranus 9955-08-01 03:50 G 5357260.44 5357260.66 5357260.90 0.0145 0.0062 Uranus 9956-08-05 03:21 G 5357630.49 5357630.64 5357630.82 0.0145 0.0109 9959-10-27 21:21 G 5358809.13 5358809.39 5358809.65 0.0080 0.0001 Pluto Jupiter 9966-09-16 06:43 G 5361324.56 5361324.78 5361325.01 0.0489 0.0127 9969-09-20 08:38 G 5362424.64 5362424.86 5362425.10 0.0278 0.0104 Saturn Jupiter 9972-03-12 18:28 G 5363329.12 5363329.27 5363329.41 0.0541 0.0415 Neptune 9977-04-16 07:26 G 5365189.69 5365189.81 5365189.94 0.0089 0.0077 Neptune 9978-04-18 18:14 G 5365557.11 5365557.26 5365557.46 0.0089 0.0064 Jupiter 9978-09-20 15:36 G 5365711.92 5365712.15 5365712.39 0.0490 0.0023 Neptune 9979-04-21 05:45 G 5365924.53 5365924.74 5365924.95 0.0089 0.0051 Neptune 9980-04-22 16:48 G 5366291.97 5366292.20 5366292.44 0.0089 0.0038 Neptune 9981-04-25 03:50 G 5366659.42 5366659.66 5366659.91 0.0089 0.0024 Neptune 9982-04-27 14:52 G 5367026.87 5367027.12 5367027.37 0.0089 0.0011

9983-04-30 01:55 G 5367394.33 5367394.58 5367394.84 0.0089 0.0002 Neptune 9984-03-18 02:09 G 5367717.38 5367717.59 5367717.81 0.0540 0.0206 Neptune 9984-05-01 12:43 G 5367761.78 5367762.03 5367762.28 0.0089 0.0015 9985-03-27 23:45 G 5368092.41 5368092.49 5368092.56 0.0281 0.0266 Saturn Neptune 9985-05-03 23:31 G 5368129.26 5368129.48 5368129.74 0.0089 0.0029 Neptune 9986-05-06 10:19 G 5368496.73 5368496.93 5368497.18 0.0089 0.0042 Neptune 9987-05-08 21:07 G 5368864.20 5368864.38 5368864.60 0.0089 0.0055 9988-05-10 07:55 G 5369231.69 5369231.83 5369232.02 0.0089 0.0068 Neptune 9989-05-12 19:11 G 5369599.19 Neptune 5369599.30 5369599.41 0.0089 0.0080 9990-09-24 23:31 G 5370099.27 5370099.48 5370099.71 0.0492 0.0174 **Jupiter** 9994-01-14 23:45 G 5371307.35 **Uranus** 5371307.49 5371307.66 0.0133 0.0106 **Uranus** 9995-01-19 08:38 G 5371676.64 5371676.86 5371677.08 0.0133 0.0069 **Uranus** 9996-01-23 16:48 G 5372045.96 5372046.20 5372046.46 0.0133 0.0033 Jupiter 9996-03-23 10:19 G 5372105.69 5372105.93 5372106.16 0.0538 0.0009 **Uranus** 9997-01-27 01:11 G 5372415.30 5372415.55 5372415.81 0.0133 0.0005 **Uranus** 9998-01-31 09:21 G 5372784.65 5372784.89 5372785.14 0.0134 0.0042 Saturn 9998-09-14 13:26 G 5373010.86 5373011.06 5373011.27 0.0279 0.0157 **Uranus** 9999-02-04 17:45 G 5373154.04 5373154.24 5373154.45 0.0134 0.0079 **Uranus** 10000-02-09 01:40 G 5373523.46 5373523.57 5373523.71 0.0134 0.0116

## 11TH MILLENNIUM CE

## This is a list of transits of Earth in the 11th millennium CE.

FROM MAX- C START MAX END SUNRAD DEPTH S

TRANSIT

TIME

Jupiter 10002-09-29 10:33 G 5374486.77 5374486.94 5374487.12 0.0493 0.0327 Jupiter 10008-03-28 13:55 G 5376493.87 5376494.08 5376494.30 0.0536 0.0200 Mars 10013-07-08 00:00 G 5378421.32 5378421.50 5378421.68 0.1595 0.0291 Saturn 10014-03-22 07:26 G 5378678.56 5378678.81 5378679.05 0.0281 0.0006 Jupiter 10014-10-03 22:19 G 5378874.38 5378874.43 5378874.49 0.0495 0.0480 Jupiter 10020-04-02 15:36 G 5380882.00 5380882.15 5380882.31 0.0534 0.0393 Jupiter 10025-09-07 02:38 G 5382865.51 5382865.61 5382865.72 0.0487 0.0431 Saturn 10028-09-21 07:55 G 5383975.62 5383975.83 5383976.03 0.0278 0.0155 Uranus 10035-07-13 13:26 G 5386461.95 5386462.06 5386462.20 0.0145 0.0124 Uranus 10036-07-17 13:26 G 5386831.86 5386832.06 5386832.29 0.0145 0.0078 Uranus 10037-07-22 13:40 G 5387201.83 5387202.07 5387202.33 0.0145 0.0030 Jupiter 10037-09-11 09:50 G 5387252.73 5387252.91 5387253.11 0.0487 0.0288 Uranus 10038-07-27 13:55 G 5387571.83 5387572.08 5387572.33 0.0145 0.0018 Uranus 10039-08-01 13:40 G 5387941.85 5387942.07 5387942.30 0.0145 0.0066 Uranus 10040-08-05 13:11 G 5388311.91 5388312.05 5388312.22 0.0145 0.0113 Saturn 10043-03-17 02:09 G 5389265.46 5389265.59 5389265.73 0.0279 0.0231 Jupiter 10049-09-15 16:04 G 5391639.95 5391640.17 5391640.40 0.0489 0.0144 Jupiter 10055-03-13 02:38 G 5393644.47 5393644.61 5393644.75 0.0542 0.0435 Saturn 10057-09-15 13:26 G 5394561.84 5394562.06 5394562.30 0.0279 0.0104 Neptune 10059-10-14 00:43 G 5395320.47 5395320.53 5395320.66 0.0088 0.0083 Neptune 10060-10-15 13:11 G 5395687.91 5395688.05 5395688.23 0.0088 0.0069 Jupiter 10061-09-20 00:57 G 5396027.30 5396027.54 5396027.78 0.0490 0.0006 Neptune 10061-10-18 01:26 G 5396055.38 5396055.56 5396055.78 0.0088 0.0057 Neptune 10062-10-20 14:09 G 5396422.87 5396423.09 5396423.32 0.0088 0.0044 Neptune 10063-10-23 02:23 G 5396790.36 5396790.60 5396790.85 0.0088 0.0031 Neptune 10064-10-24 14:38 G 5397157.87 5397158.11 5397158.38 0.0088 0.0018 Neptune 10065-10-27 03:07 G 5397525.37 5397525.63 5397525.90 0.0088 0.0005 Neptune 10066-10-29 15:36 G 5397892.90 5397893.15 5397893.42 0.0088 0.0009 Jupiter 10067-03-18 09:21 G 5398032.69 5398032.89 5398033.11 0.0540 0.0231 Neptune 10067-11-01 04:04 G 5398260.42 5398260.67 5398260.93 0.0088 0.0021

Neptune 10068-11-02 16:04 G 5398627.95 5398628.17 5398628.43 0.0088 0.0035 5398995.69 5398995.93 0.0088 0.0048 Neptune 10069-11-05 04:33 G 5398995.49 Neptune 10070-11-07 17:02 G 5399363.04 5399363.21 5399363.42 0.0088 0.0061 Neptune 10071-11-10 05:31 G 5399730.61 5399730.73 5399730.90 0.0088 0.0074 Neptune 10072-11-11 18:28 G 5400098.22 5400098.27 5400098.34 0.0088 0.0086 Saturn 10073-03-23 09:50 G 5400229.67 5400229.91 5400230.14 0.0281 0.0064 Jupiter 10073-09-24 10:33 G 5400414.72 5400414.94 5400415.16 0.0491 0.0155 Uranus 10078-01-15 09:36 G 5401988.75 5401988.90 5401989.08 0.0133 0.0103 5402358.26 5402358.49 0.0133 0.0066 Uranus 10079-01-19 18:14 G 5402358.05 5402421.08 5402421.31 0.0538 0.0030 Jupiter 10079-03-23 13:55 G 5402420.85 Uranus 10080-01-24 02:23 G 5402727.35 5402727.60 5402727.85 0.0133 0.0029 Uranus 10081-01-27 10:48 G 5403096.69 5403096.95 5403097.20 0.0133 0.0008 Uranus 10082-01-31 18:43 G 5403466.05 5403466.28 5403466.53 0.0133 0.0046 Uranus 10083-02-05 02:52 G 5403835.43 5403835.62 5403835.83 0.0134 0.0083 Uranus 10084-02-09 10:48 G 5404204.86 5404204.95 5404205.08 0.0134 0.0120 Jupiter 10085-09-28 20:23 G 5404802.17 5404802.35 5404802.54 0.0492 0.0303 Saturn 10087-09-23 06:57 G 5405526.64 5405526.79 5405526.97 0.0278 0.0208 Jupiter 10091-03-28 13:11 G 5406808.83 5406809.05 5406809.27 0.0537 0.0160 Mars 10092-07-09 22:33 G 5407278.28 5407278.44 5407278.61 0.1594 0.0762 Jupiter 10097-10-03 06:43 G 5409189.70 5409189.78 5409189.88 0.0494 0.0455 Saturn 10102-03-19 06:00 G 5410816.56 5410816.75 5410816.95 0.0280 0.0171 Jupiter 10103-04-03 17:45 G 5411197.07 5411197.24 5411197.42 0.0536 0.0359 Jupiter 10108-09-07 11:45 G 5413180.90 5413180.99 5413181.09 0.0486 0.0445 Saturn 10116-09-17 14:38 G 5416112.87 5416113.11 5416113.35 0.0279 0.0049 Pluto 10118-05-01 06:14 G 5416703.53 5416703.76 5416704.03 0.0064 0.0012 Uranus 10119-07-15 00:00 G 5417143.38 5417143.50 5417143.66 0.0145 0.0121 Uranus 10120-07-19 00:14 G 5417513.31 5417513.51 5417513.74 0.0145 0.0074 Jupiter 10120-09-11 18:57 G 5417568.11 5417568.29 5417568.48 0.0487 0.0304 Uranus 10121-07-24 00:28 G 5417883.28 5417883.52 5417883.77 0.0145 0.0026 Uranus 10122-07-29 00:28 G 5418253.28 5418253.52 5418253.78 0.0145 0.0022

Uranus 10123-08-03 00:28 G 5418623.30 5418623.52 5418623.75 0.0145 0.0070 Uranus 10124-08-07 00:14 G 5418993.37 5418993.51 5418993.66 0.0145 0.0117 Saturn 10132-03-25 13:40 G 5421780.86 5421781.07 5421781.30 0.0281 0.0125 Jupiter 10132-09-16 02:23 G 5421955.38 5421955.60 5421955.82 0.0489 0.0160 Jupiter 10138-03-13 05:31 G 5423959.62 5423959.73 5423959.86 0.0541 0.0465 Neptune 10141-04-16 16:48 G 5425090.13 5425090.20 5425090.33 0.0089 0.0082 Neptune 10142-04-19 04:04 G 5425457.54 5425457.67 5425457.86 0.0089 0.0070 Neptune 10143-04-21 15:36 G 5425824.97 5425825.15 5425825.36 0.0089 0.0056 Neptune 10144-04-23 02:38 G 5426192.41 5426192.61 5426192.85 0.0089 0.0044 Jupiter 10144-09-20 11:31 G 5426342.74 5426342.98 5426343.21 0.0489 0.0014 Neptune 10145-04-25 13:55 G 5426559.85 5426560.08 5426560.32 0.0089 0.0030 Neptune 10146-04-28 00:57 G 5426927.30 5426927.54 5426927.80 0.0089 0.0018 Saturn 10146-09-25 07:26 G 5427077.73 5427077.81 5427077.90 0.0278 0.0259 Neptune 10147-04-30 11:45 G 5427294.74 5427294.99 5427295.25 0.0089 0.0005 10148-01-10 23:02 G 5427550.25 5427550.46 5427550.67 0.1939 0.0087 Mars Neptune 10148-05-01 22:48 G 5427662.20 5427662.45 5427662.71 0.0089 0.0009 Neptune 10149-05-04 09:50 G 5428029.66 5428029.91 5428030.15 0.0089 0.0021 Jupiter 10150-03-18 06:28 G 5428347.57 5428347.77 5428347.97 0.0541 0.0272 Neptune 10150-05-06 20:38 G 5428397.12 5428397.36 5428397.59 0.0089 0.0034 Neptune 10151-05-09 07:11 G 5428764.60 5428764.80 5428765.03 0.0089 0.0047 Neptune 10152-05-10 18:00 G 5429132.08 5429132.25 5429132.45 0.0089 0.0060 Neptune 10153-05-13 04:33 G 5429499.57 5429499.69 5429499.86 0.0089 0.0073 Neptune 10154-05-15 15:21 G 5429867.09 5429867.14 5429867.23 0.0089 0.0085 Jupiter 10156-09-24 19:55 G 5430730.11 5430730.33 5430730.56 0.0491 0.0135 Saturn 10161-03-20 11:45 G 5432367.76 5432367.99 5432368.21 0.0280 0.0108 Uranus 10162-01-16 20:09 G 5432670.19 5432670.34 5432670.53 0.0133 0.0100 Jupiter 10162-03-23 12:43 G 5432735.80 5432736.03 5432736.26 0.0539 0.0069 Uranus 10163-01-21 04:48 G 5433039.48 5433039.70 5433039.93 0.0133 0.0063 Uranus 10164-01-25 12:43 G 5433408.79 5433409.03 5433409.29 0.0133 0.0026 Uranus 10165-01-28 21:07 G 5433778.13 5433778.38 5433778.64 0.0133 0.0012

Uranus 10166-02-02 05:02 G 5434147.48 5434147.71 5434147.96 0.0133 0.0049 Uranus 10167-02-06 13:11 G 5434516.87 5434517.05 5434517.26 0.0134 0.0087 Uranus 10168-02-10 21:07 G 5434886.31 5434886.38 5434886.50 0.0134 0.0124 Jupiter 10168-09-29 03:21 G 5435117.45 5435117.64 5435117.83 0.0492 0.0281 Jupiter 10174-03-28 20:09 G 5437124.12 5437124.34 5437124.57 0.0538 0.0136 Saturn 10175-09-19 17:16 G 5437663.98 5437664.22 5437664.47 0.0279 0.0009 Jupiter 10180-10-03 13:55 G 5439504.98 5439505.08 5439505.20 0.0494 0.0433 Jupiter 10186-04-03 00:43 G 5441512.35 5441512.53 5441512.71 0.0536 0.0331 Saturn 10191-03-27 19:26 G 5443332.14 5443332.31 5443332.50 0.0281 0.0188 Jupiter 10191-09-07 21:36 G 5443496.33 5443496.40 5443496.47 0.0486 0.0461 Jupiter 10198-04-08 01:40 G 5445900.52 5445900.57 5445900.63 0.0534 0.0518 Uranus 10203-07-16 10:48 G 5447824.83 5447824.95 5447825.12 0.0145 0.0119 Jupiter 10203-09-13 05:02 G 5447883.54 5447883.71 5447883.89 0.0487 0.0321 Uranus 10204-07-20 11:16 G 5448194.75 5448194.97 5448195.19 0.0145 0.0070 Saturn 10204-09-14 05:02 G 5448250.59 5448250.71 5448250.85 0.0279 0.0238 Uranus 10205-07-25 11:31 G 5448564.73 5448564.98 5448565.23 0.0145 0.0023 Uranus 10206-07-30 11:16 G 5448934.73 5448934.97 5448935.22 0.0145 0.0026 Pluto 10206-10-30 20:23 G 5449027.11 5449027.35 5449027.61 0.0080 0.0024 Uranus 10207-08-04 11:02 G 5449304.76 5449304.96 5449305.19 0.0145 0.0074 Uranus 10208-08-08 10:48 G 5449674.83 5449674.95 5449675.10 0.0145 0.0121 Jupiter 10215-09-17 12:14 G 5452270.79 5452271.01 5452271.23 0.0488 0.0177 10218-07-09 08:52 G 5453296.70 5453296.87 5453297.03 0.1597 0.0713 Mars Saturn 10220-03-22 18:43 G 5453919.04 5453919.28 5453919.52 0.0280 0.0043 Jupiter 10221-03-13 01:40 G 5454274.49 5454274.57 5454274.65 0.0542 0.0504 Neptune 10223-10-15 08:52 G 5455220.86 5455220.87 5455220.94 0.0088 0.0087 Neptune 10224-10-16 21:21 G 5455588.25 5455588.39 5455588.53 0.0088 0.0075 Neptune 10225-10-19 08:52 G 5455955.71 5455955.87 5455956.08 0.0088 0.0063 Neptune 10226-10-21 21:21 G 5456323.19 5456323.39 5456323.62 0.0088 0.0050 Jupiter 10227-09-21 17:45 G 5456658.00 5456658.24 5456658.47 0.0489 0.0036 Neptune 10227-10-24 09:36 G 5456690.68 5456690.90 5456691.15 0.0088 0.0037

Neptune 10228-10-25 21:50 G 5457058.17 5457058.41 5457058.67 0.0088 0.0024 Neptune 10229-10-28 10:33 G 5457425.68 5457425.94 5457426.20 0.0088 0.0011 Neptune 10230-10-30 23:02 G 5457793.20 5457793.46 5457793.72 0.0088 0.0002 Neptune 10231-11-02 11:16 G 5458160.72 5458160.97 5458161.23 0.0088 0.0014 Neptune 10232-11-03 23:31 G 5458528.25 5458528.48 5458528.74 0.0088 0.0028 Jupiter 10233-03-18 11:02 G 5458662.77 5458662.96 5458663.15 0.0541 0.0298 Neptune 10233-11-06 11:45 G 5458895.78 5458895.99 5458896.25 0.0088 0.0041 Saturn 10234-09-21 22:19 G 5459215.19 5459215.43 5459215.67 0.0279 0.0069 Neptune 10234-11-09 00:43 G 5459263.33 5459263.53 5459263.75 0.0088 0.0053 Neptune 10235-11-11 12:57 G 5459630.89 5459631.04 5459631.23 0.0088 0.0066 Neptune 10236-11-13 01:55 G 5459998.46 5459998.58 5459998.71 0.0088 0.0078 Jupiter 10239-09-26 01:55 G 5461045.36 5461045.58 5461045.82 0.0490 0.0113 Jupiter 10245-03-23 18:28 G 5463051.04 5463051.27 5463051.49 0.0539 0.0096 Uranus 10246-01-18 06:14 G 5463351.61 5463351.76 5463351.96 0.0133 0.0097 Uranus 10247-01-22 14:38 G 5463720.90 5463721.11 5463721.35 0.0133 0.0060 Uranus 10248-01-26 22:48 G 5464090.20 5464090.45 5464090.71 0.0133 0.0022 Uranus 10249-01-30 06:57 G 5464459.54 5464459.79 5464460.05 0.0133 0.0015 Uranus 10250-02-03 14:52 G 5464828.89 5464829.12 5464829.36 0.0133 0.0053 Saturn 10250-03-30 03:07 G 5464883.55 5464883.63 5464883.75 0.0281 0.0255 Uranus 10251-02-07 23:02 G 5465198.28 5465198.46 5465198.66 0.0134 0.0090 Jupiter 10251-09-30 11:31 G 5465432.79 5465432.98 5465433.19 0.0492 0.0260 Uranus 10252-02-12 07:11 G 5465567.73 5465567.80 5465567.89 0.0134 0.0127 Jupiter 10257-03-28 22:19 G 5467439.21 5467439.43 5467439.66 0.0538 0.0103 Saturn 10263-09-16 09:36 G 5469801.72 5469801.90 5469802.10 0.0279 0.0178 Jupiter 10263-10-04 22:33 G 5469820.31 5469820.44 5469820.57 0.0493 0.0409 Jupiter 10269-04-02 19:55 G 5471827.14 5471827.33 5471827.53 0.0536 0.0289 Jupiter 10274-09-08 06:43 G 5473811.74 5473811.78 5473811.83 0.0486 0.0475 Saturn 10279-03-25 03:21 G 5475470.40 5475470.64 5475470.88 0.0280 0.0025 Jupiter 10281-04-07 22:33 G 5476215.35 5476215.44 5476215.55 0.0535 0.0479 Jupiter 10286-09-12 10:33 G 5478198.78 5478198.94 5478199.11 0.0487 0.0341

Uranus 10287-07-16 21:50 G 5478506.27 5478506.41 5478506.58 0.0145 0.0115 Uranus 10288-07-20 22:19 G 5478876.21 5478876.43 5478876.66 0.0145 0.0067 Uranus 10289-07-25 22:19 G 5479246.18 5479246.43 5479246.68 0.0145 0.0018 Uranus 10290-07-30 22:19 G 5479616.19 5479616.43 5479616.68 0.0145 0.0030 Uranus 10291-08-04 22:19 G 5479986.23 5479986.43 5479986.65 0.0145 0.0078 Uranus 10292-08-08 22:19 G 5480356.31 5480356.43 5480356.55 0.0145 0.0125 Saturn 10293-09-23 05:31 G 5480766.52 5480766.73 5480766.95 0.0278 0.0134 10297-07-11 08:09 G 5482153.66 5482153.84 5482154.02 0.1596 0.0359 Mars Jupiter 10298-09-16 17:16 G 5482586.01 5482586.22 5482586.44 0.0488 0.0199 Jupiter 10304-03-13 06:00 G 5484589.71 5484589.75 5484589.79 0.0542 0.0531 Neptune 10305-04-18 01:26 G 5484990.53 5484990.56 5484990.64 0.0089 0.0087 Neptune 10306-04-20 13:11 G 5485357.92 5485358.05 5485358.20 0.0089 0.0074 Neptune 10307-04-23 00:14 G 5485725.35 5485725.51 5485725.72 0.0089 0.0062 Saturn 10308-03-19 12:28 G 5486056.89 5486057.02 5486057.17 0.0280 0.0229 Neptune 10308-04-24 11:31 G 5486092.79 5486092.98 5486093.21 0.0089 0.0050 Neptune 10309-04-26 23:02 G 5486460.24 5486460.46 5486460.70 0.0089 0.0037 Neptune 10310-04-29 09:50 G 5486827.68 5486827.91 5486828.17 0.0089 0.0024 Jupiter 10310-09-22 00:43 G 5486973.30 5486973.53 5486973.76 0.0489 0.0056 Neptune 10311-05-01 21:07 G 5487195.13 5487195.38 5487195.64 0.0089 0.0011 Neptune 10312-05-03 08:09 G 5487562.59 5487562.84 5487563.10 0.0089 0.0002 Neptune 10313-05-05 18:57 G 5487930.04 5487930.29 5487930.55 0.0089 0.0015 Neptune 10314-05-08 06:00 G 5488297.51 5488297.75 5488297.99 0.0089 0.0027 Neptune 10315-05-10 16:33 G 5488664.97 5488665.19 5488665.43 0.0089 0.0040 Jupiter 10316-03-18 12:14 G 5488977.83 5488978.01 5488978.20 0.0541 0.0331 Neptune 10316-05-12 03:07 G 5489032.45 5489032.63 5489032.86 0.0089 0.0053 Neptune 10317-05-14 14:09 G 5489399.93 5489400.09 5489400.28 0.0089 0.0065 Neptune 10318-05-17 00:43 G 5489767.43 5489767.53 5489767.68 0.0089 0.0078 Saturn 10322-09-18 17:02 G 5491352.99 5491353.21 5491353.44 0.0279 0.0113 Jupiter 10322-09-26 10:04 G 5491360.69 5491360.92 5491361.15 0.0490 0.0091 Jupiter 10328-03-23 12:00 G 5493365.78 5493366.00 5493366.23 0.0540 0.0140

Uranus 10329-01-15 09:21 G 5493663.86 5493663.89 5493663.96 0.0133 0.0130 Uranus 10330-01-19 17:45 G 5494033.07 5494033.24 5494033.43 0.0133 0.0093 Uranus 10331-01-24 01:55 G 5494402.35 5494402.58 5494402.82 0.0133 0.0056 Uranus 10332-01-28 09:50 G 5494771.66 5494771.91 5494772.17 0.0133 0.0019 Uranus 10333-01-31 18:00 G 5495141.00 5495141.25 5495141.51 0.0133 0.0019 Uranus 10334-02-05 01:55 G 5495510.35 5495510.58 5495510.82 0.0133 0.0057 Jupiter 10334-09-30 18:28 G 5495748.07 5495748.27 5495748.48 0.0491 0.0237 Uranus 10335-02-09 10:04 G 5495879.75 5495879.92 5495880.11 0.0134 0.0094 Uranus 10336-02-13 18:14 G 5496249.22 5496249.26 5496249.32 0.0134 0.0131 Saturn 10338-03-27 13:11 G 5497021.82 5497022.05 5497022.28 0.0280 0.0095 Jupiter 10340-03-28 16:04 G 5497753.94 5497754.17 5497754.40 0.0539 0.0059 Jupiter 10346-10-05 00:43 G 5500135.39 5500135.53 5500135.69 0.0493 0.0381 Jupiter 10352-04-02 22:33 G 5502142.24 5502142.44 5502142.65 0.0537 0.0257 Saturn 10352-09-25 14:52 G 5502317.96 5502318.12 5502318.30 0.0278 0.0202 Jupiter 10364-04-08 02:52 G 5506530.50 5506530.62 5506530.75 0.0535 0.0447 Pluto 10365-05-04 12:28 G 5506921.78 5506922.02 5506922.28 0.0064 0.0011 Saturn 10367-03-21 23:16 G 5507608.28 5507608.47 5507608.69 0.0280 0.0158 Jupiter 10369-09-12 16:33 G 5508514.04 5508514.19 5508514.35 0.0487 0.0362 Uranus 10371-07-18 09:07 G 5509187.72 5509187.88 5509188.05 0.0145 0.0111 Uranus 10372-07-22 09:07 G 5509557.66 5509557.88 5509558.11 0.0145 0.0063 Uranus 10373-07-27 09:21 G 5509927.64 5509927.89 5509928.14 0.0145 0.0014 Uranus 10374-08-01 09:21 G 5510297.65 5510297.89 5510298.14 0.0145 0.0034 Uranus 10375-08-06 09:21 G 5510667.69 5510667.89 5510668.10 0.0145 0.0082 10376-07-14 06:57 G 5511010.71 5511010.79 5511010.88 0.1595 0.1416 Mars Uranus 10376-08-10 08:52 G 5511037.78 5511037.87 5511038.00 0.0145 0.0130 Jupiter 10381-09-17 00:14 G 5512901.31 5512901.51 5512901.72 0.0488 0.0220 Saturn 10381-09-20 02:38 G 5512904.37 5512904.61 5512904.86 0.0279 0.0044 Neptune 10388-10-17 04:33 G 5515488.59 5515488.69 5515488.81 0.0088 0.0080 Neptune 10389-10-19 16:33 G 5515856.03 5515856.19 5515856.37 0.0088 0.0068 Neptune 10390-10-22 04:33 G 5516223.50 5516223.69 5516223.91 0.0088 0.0055

Neptune 10391-10-24 16:19 G 5516590.98 5516591.18 5516591.43 0.0088 0.0043 Neptune 10392-10-26 04:48 G 5516958.47 5516958.70 5516958.96 0.0088 0.0031 Jupiter 10393-09-21 07:26 G 5517288.58 5517288.81 5517289.04 0.0489 0.0076 Neptune 10393-10-28 17:16 G 5517325.97 5517326.22 5517326.48 0.0088 0.0018 Neptune 10394-10-31 05:45 G 5517693.48 5517693.74 5517694.00 0.0088 0.0005 Neptune 10395-11-02 18:14 G 5518061.00 5518061.26 5518061.52 0.0088 0.0007 Neptune 10396-11-04 06:28 G 5518428.52 5518428.77 5518429.03 0.0088 0.0020 Saturn 10397-03-28 23:45 G 5518573.29 5518573.49 5518573.68 0.0281 0.0166 Neptune 10397-11-06 19:11 G 5518796.06 5518796.30 5518796.55 0.0088 0.0033 Neptune 10398-11-09 07:11 G 5519163.60 5519163.80 5519164.04 0.0088 0.0046 Jupiter 10399-03-18 04:19 G 5519292.52 5519292.68 5519292.85 0.0541 0.0376 Neptune 10399-11-11 19:40 G 5519531.14 5519531.32 5519531.54 0.0088 0.0058 Neptune 10400-11-13 07:55 G 5519898.70 5519898.83 5519899.02 0.0088 0.0071 Neptune 10401-11-15 20:38 G 5520266.29 5520266.36 5520266.48 0.0088 0.0083 Jupiter 10405-09-25 12:00 G 5521675.77 5521676.00 5521676.24 0.0489 0.0062 Saturn 10410-09-14 23:02 G 5523491.43 5523491.46 5523491.51 0.0280 0.0275 Jupiter 10411-03-23 12:00 G 5523680.78 5523681.00 5523681.22 0.0541 0.0176 Saturn 10411-09-28 02:23 G 5523869.58 5523869.60 5523869.66 0.0278 0.0274 Uranus 10413-01-15 20:23 G 5524345.29 5524345.35 5524345.45 0.0133 0.0126 Uranus 10414-01-20 04:33 G 5524714.51 5524714.69 5524714.89 0.0133 0.0089 Uranus 10415-01-24 12:28 G 5525083.80 5525084.02 5525084.27 0.0133 0.0052 Uranus 10416-01-28 20:38 G 5525453.11 5525453.36 5525453.62 0.0133 0.0014 Uranus 10417-02-01 04:33 G 5525822.44 5525822.69 5525822.95 0.0133 0.0023 Jupiter 10417-09-29 20:23 G 5526063.14 5526063.35 5526063.57 0.0491 0.0208 Uranus 10418-02-05 12:43 G 5526191.80 5526192.03 5526192.25 0.0133 0.0061 Uranus 10419-02-09 20:09 G 5526561.19 5526561.34 5526561.53 0.0133 0.0099 Jupiter 10423-03-28 19:26 G 5528069.08 5528069.31 5528069.54 0.0539 0.0026 Mars 10423-07-09 17:45 G 5528172.11 5528172.24 5528172.37 0.1600 0.1128 Saturn 10426-03-23 10:48 G 5529159.72 5529159.95 5529160.19 0.0280 0.0085 Jupiter 10429-10-04 05:45 G 5530450.58 5530450.74 5530450.90 0.0493 0.0354

10432-01-11 14:52 G 5531279.94 5531280.12 5531280.30 0.1936 0.0950 Mars Jupiter 10435-04-02 23:02 G 5532457.26 5532457.46 5532457.68 0.0537 0.0223 Saturn 10440-09-21 13:40 G 5534455.82 5534456.07 5534456.31 0.0279 0.0027 Jupiter 10447-04-07 20:52 G 5536845.22 5536845.37 5536845.52 0.0535 0.0403 Jupiter 10452-09-11 22:48 G 5538829.31 5538829.45 5538829.60 0.0487 0.0381 Pluto 10453-11-02 03:21 G 5539245.40 5539245.64 5539245.90 0.0080 0.0019 Uranus 10455-07-18 19:11 G 5539869.15 5539869.30 5539869.49 0.0146 0.0107 10456-03-30 10:19 G 5540124.81 5540124.93 5540125.07 0.0281 0.0238 Saturn Uranus 10456-07-22 19:40 G 5540239.09 5540239.32 5540239.56 0.0145 0.0059 Uranus 10457-07-27 19:55 G 5540609.08 5540609.33 5540609.58 0.0145 0.0010 Uranus 10458-08-01 19:55 G 5540979.10 5540979.33 5540979.58 0.0145 0.0039 Uranus 10459-08-06 20:09 G 5541349.15 5541349.34 5541349.55 0.0145 0.0087 Uranus 10460-08-10 19:55 G 5541719.26 5541719.33 5541719.44 0.0145 0.0135 Jupiter 10464-09-16 02:38 G 5543216.41 5543216.61 5543216.82 0.0487 0.0247 Saturn 10469-09-16 11:45 G 5545042.82 5545042.99 5545043.16 0.0279 0.0200 Neptune 10470-04-19 20:52 G 5545258.29 5545258.37 5545258.51 0.0089 0.0081 Neptune 10471-04-22 08:38 G 5545625.71 5545625.86 5545626.04 0.0089 0.0068 Neptune 10472-04-23 20:09 G 5545993.16 5545993.34 5545993.56 0.0089 0.0055 Neptune 10473-04-26 07:26 G 5546360.59 5546360.81 5546361.04 0.0089 0.0043 Neptune 10474-04-28 18:28 G 5546728.05 5546728.27 5546728.53 0.0089 0.0031 Neptune 10475-05-01 05:45 G 5547095.50 5547095.74 5547096.00 0.0089 0.0018 Neptune 10476-05-02 16:48 G 5547462.95 5547463.20 5547463.46 0.0089 0.0005 Jupiter 10476-09-20 09:21 G 5547603.66 5547603.89 5547604.12 0.0488 0.0105 Neptune 10477-05-05 03:36 G 5547830.41 5547830.65 5547830.91 0.0089 0.0009 Neptune 10478-05-07 14:23 G 5548197.86 5548198.10 5548198.36 0.0089 0.0020 Neptune 10479-05-10 01:11 G 5548565.33 5548565.55 5548565.80 0.0089 0.0033 Neptune 10480-05-11 12:00 G 5548932.79 5548933.00 5548933.23 0.0089 0.0045 Neptune 10481-05-13 22:48 G 5549300.26 5549300.45 5549300.65 0.0089 0.0057 Jupiter 10482-03-17 06:00 G 5549607.61 5549607.75 5549607.91 0.0542 0.0410 Neptune 10482-05-16 09:07 G 5549667.75 5549667.88 5549668.06 0.0089 0.0070

Neptune	10483-05-18 19:55 G	5550035.26	5550035.33	5550035.45 0.0089 0.0082
Saturn	10485-03-24 21:50 G	5550711.17	5550711.41	5550711.66 0.0280 0.0013
Jupiter	10488-09-24 16:48 G	5551990.96	5551991.20	5551991.43 0.0489 0.0037
Jupiter	10494-03-22 12:57 G	5553995.83	5553996.04	5553996.26 0.0541 0.0209
Uranus	10497-01-16 08:23 G	5555026.77	5555026.85	5555026.97 0.0133 0.0122
Uranus	10498-01-20 16:19 G	5555396.00	5555396.18	5555396.39 0.0133 0.0085
Uranus	10499-01-25 00:28 G	5555765.28	5555765.52	5555765.76 0.0133 0.0047
Saturn	10499-09-24 01:26 G	5556007.33	5556007.56	5556007.79 0.0278 0.0099
Uranus	10500-01-29 08:23 G	5556134.59	5556134.85	5556135.11 0.0133 0.0010
Jupiter	10500-09-30 02:09 G	5556378.37	5556378.59	5556378.81 0.0491 0.0184
Uranus	10501-02-02 16:19 G	5556503.94	5556504.18	5556504.44 0.0133 0.0028
Uranus	10502-02-07 00:14 G	5556873.29	5556873.51	5556873.74 0.0133 0.0066
Mars	10502-07-12 17:16 G	5557029.03	5557029.22	5557029.41 0.1599 0.0053
Uranus	10503-02-11 08:38 G	5557242.70	5557242.86	5557243.02 0.0133 0.0103
Jupiter	10506-03-28 13:40 G	5558383.84	5558384.07	5558384.30 0.0539 0.0018
Jupiter	10512-10-04 11:02 G	5560765.79	5560765.96	5560766.14 0.0492 0.0330
Saturn	10514-03-20 18:57 G	5561298.18	5561298.29	5561298.42 0.0280 0.0244
Jupiter	10518-04-02 16:19 G	5562771.97	5562772.18	5562772.40 0.0538 0.0177
Jupiter	10524-10-08 17:31 G	5565153.16	5565153.23	5565153.30 0.0493 0.0469
Saturn	10528-09-18 23:45 G	5566594.28	5566594.49	5566594.72 0.0279 0.0126
Jupiter	10530-04-07 20:52 G	5567160.21	5567160.37	5567160.54 0.0536 0.0366
Jupiter	10535-09-13 02:09 G	5569144.46	5569144.59	5569144.72 0.0486 0.0406
Uranus	10539-07-20 06:43 G	5570550.61	5570550.78	5570550.97 0.0146 0.0103
Uranus	10540-07-24 06:43 G	5570920.56	5570920.78	5570921.03 0.0146 0.0055
Uranus	10541-07-29 07:11 G	5571290.55	5571290.80	5571291.05 0.0145 0.0005
Uranus	10542-08-03 07:26 G	5571660.57	5571660.81	5571661.06 0.0145 0.0044
Uranus	10543-08-08 07:11 G	5572030.62	5572030.80	5572031.01 0.0145 0.0092
Saturn	10544-03-27 08:38 G	5572262.62	5572262.86	5572263.10 0.0280 0.0060
Uranus	10544-08-12 07:26 G	5572400.76	5572400.81	5572400.89 0.0145 0.0140
Jupiter	10547-09-17 07:40 G	5573531.62	5573531.82	5573532.01 0.0487 0.0269

Neptune 10552-10-17 10:19 G 5575388.89 5575388.93 5575389.03 0.0088 0.0085 Neptune 10553-10-19 22:33 G 5575756.32 5575756.44 5575756.60 0.0088 0.0073 Neptune 10554-10-22 10:19 G 5576123.77 5576123.93 5576124.14 0.0088 0.0061 Neptune 10555-10-24 22:19 G 5576491.24 5576491.43 5576491.67 0.0088 0.0049 Neptune 10556-10-26 10:48 G 5576858.72 5576858.95 5576859.20 0.0088 0.0037 Neptune 10557-10-28 22:48 G 5577226.21 5577226.45 5577226.71 0.0088 0.0025 Saturn 10558-09-26 12:14 G 5577558.83 5577559.01 5577559.22 0.0278 0.0172 Neptune 10558-10-31 11:16 G 5577593.72 5577593.97 5577594.24 0.0088 0.0012 Jupiter 10559-09-21 15:21 G 5577918.91 5577919.14 5577919.37 0.0488 0.0127 Neptune 10559-11-02 23:31 G 5577961.22 5577961.48 5577961.75 0.0088 0.0002 Neptune 10560-11-04 12:00 G 5578328.75 5578329.00 5578329.27 0.0088 0.0013 Neptune 10561-11-07 00:28 G 5578696.28 5578696.52 5578696.78 0.0088 0.0025 Neptune 10562-11-09 13:11 G 5579063.82 5579064.05 5579064.29 0.0088 0.0038 Neptune 10563-11-12 01:11 G 5579431.36 5579431.55 5579431.79 0.0088 0.0051 Neptune 10564-11-13 13:55 G 5579798.92 5579799.08 5579799.29 0.0088 0.0063 Jupiter 10565-03-17 01:55 G 5579922.46 5579922.58 5579922.72 0.0542 0.0449 Neptune 10565-11-16 02:23 G 5580166.49 5580166.60 5580166.77 0.0088 0.0075 Neptune 10566-11-18 15:07 G 5580534.10 5580534.13 5580534.20 0.0088 0.0087 Jupiter 10571-09-25 22:33 G 5582306.21 5582306.44 5582306.68 0.0489 0.0017 Saturn 10573-03-22 03:36 G 5582849.47 5582849.65 5582849.85 0.0280 0.0175 Jupiter 10577-03-22 06:28 G 5584310.57 5584310.77 5584310.98 0.0541 0.0253 Uranus 10581-01-17 20:09 G 5585708.24 5585708.34 5585708.48 0.0133 0.0118 10581-07-14 17:02 G 5585886.06 5585886.21 5585886.35 0.1597 0.1024 Mars Uranus 10582-01-22 04:04 G 5586077.48 5586077.67 5586077.88 0.0133 0.0081 Uranus 10583-01-26 12:14 G 5586446.77 5586447.01 5586447.25 0.0133 0.0043 Jupiter 10583-09-30 04:04 G 5586693.45 5586693.67 5586693.89 0.0490 0.0152 Uranus 10584-01-30 20:09 G 5586816.08 5586816.34 5586816.60 0.0133 0.0006 Uranus 10585-02-03 04:04 G 5587185.42 5587185.67 5587185.92 0.0133 0.0032 Uranus 10586-02-07 11:45 G 5587554.79 5587554.99 5587555.22 0.0133 0.0070 Uranus 10587-02-11 20:09 G 5587924.19 5587924.34 5587924.49 0.0133 0.0108

Saturn 10	0587-09-21 11:31 G	5588145.74	5588145.98	5588146.22 0.0279 0.0052
Jupiter 10	)589-03-27 12:14 G	5588698.78	5588699.01	5588699.24 0.0540 0.0058
Jupiter 10	)595-10-04 12:43 G	5591080.85	5591081.03	5591081.22 0.0491 0.0297
Jupiter 10	0601-04-02 19:26 G	5593087.08	5593087.31	5593087.53 0.0539 0.0142
Saturn 10	0603-03-30 17:31 G	5593814.02	5593814.23	5593814.45 0.0280 0.0130
Jupiter 10	0607-10-09 22:04 G	5595468.33	5595468.42	5595468.53 0.0493 0.0444
Pluto 10	612-05-07 22:33 G	5597140.22	5597140.44	5597140.70 0.0064 0.0023
Jupiter 10	0613-04-08 00:00 G	5597475.33	5597475.50	5597475.69 0.0537 0.0335
Saturn 10	0617-09-28 22:19 G	5599110.31	5599110.43	5599110.56 0.0278 0.0241
Jupiter 10	0618-09-13 08:09 G	5599459.74	5599459.84	5599459.96 0.0486 0.0426
Uranus 1	0623-07-21 17:45 G	5601232.06	5601232.24	5601232.43 0.0146 0.0099
Uranus 1	0624-07-25 18:00 G	5601602.03	5601602.25	5601602.50 0.0146 0.0051
Jupiter 10	0625-04-12 23:02 G	5601863.41	5601863.46	5601863.53 0.0534 0.0513
Uranus 1	0625-07-30 18:28 G	5601972.02	5601972.27	5601972.52 0.0145 0.0001
Uranus 1	0626-08-04 18:43 G	5602342.05	5602342.28	5602342.53 0.0145 0.0048
Uranus 1	0627-08-09 18:57 G	5602712.12	5602712.29	5602712.49 0.0145 0.0097
Mars 10	628-07-10 02:52 G	5603047.58	5603047.62	5603047.66 0.1603 0.1559
Uranus 1	0628-08-13 19:26 G	5603082.31	5603082.31	5603082.33 0.0145 0.0145
Jupiter 10	0630-09-17 14:23 G	5603846.92	5603847.10	5603847.29 0.0487 0.0290
Saturn 10	0632-03-24 10:48 G	5604400.73	5604400.95	5604401.18 0.0280 0.0109
Neptune 1	10634-04-21 04:19 G	5605158.64	5605158.68	5605158.78 0.0089 0.0086
Neptune 1	10635-04-23 15:50 G	5605526.05	5605526.16	5605526.34 0.0089 0.0074
Neptune 1	10636-04-25 03:50 G	5605893.47	5605893.66	5605893.85 0.0089 0.0061
Neptune 1	10637-04-27 15:07 G	5606260.92	5606261.13	5606261.35 0.0089 0.0048
Neptune 1	10638-04-30 02:23 G	5606628.38	5606628.60	5606628.84 0.0089 0.0036
Neptune 1	10639-05-02 13:55 G	5606995.83	5606996.08	5606996.32 0.0089 0.0024
Neptune 1	10640-05-04 00:57 G	5607363.29	5607363.54	5607363.80 0.0089 0.0011
Neptune 1	10641-05-06 12:00 G	5607730.74	5607731.00	5607731.25 0.0089 0.0001
Neptune 1	10642-05-08 23:02 G	5608098.21	5608098.46	5608098.71 0.0089 0.0013
Jupiter 10	)642-09-21 19:11 G	5608234.08	5608234.30	5608234.52 0.0487 0.0156

Neptune 10643-05-11 09:21 G 5608465.67 5608465.89 5608466.15 0.0089 0.0026 Neptune 10644-05-12 20:09 G 5608833.13 5608833.34 5608833.59 0.0089 0.0038 Neptune 10645-05-15 06:57 G 5609200.60 5609200.79 5609201.02 0.0089 0.0050 Neptune 10646-05-17 17:45 G 5609568.07 5609568.24 5609568.44 0.0089 0.0062 Saturn 10646-09-23 20:38 G 5609697.12 5609697.36 5609697.61 0.0279 0.0018 Neptune 10647-05-20 04:19 G 5609935.56 5609935.68 5609935.84 0.0089 0.0074 Jupiter 10648-03-16 23:02 G 5610237.37 5610237.46 5610237.56 0.0543 0.0491 Neptune 10648-05-21 14:52 G 5610303.08 5610303.12 5610303.21 0.0089 0.0086 Jupiter 10654-09-26 02:38 G 5612621.38 5612621.61 5612621.85 0.0488 0.0014 Jupiter 10660-03-22 08:23 G 5614625.66 5614625.85 5614626.05 0.0542 0.0289 Saturn 10662-04-01 00:43 G 5615365.37 5615365.53 5615365.71 0.0280 0.0196 Uranus 10665-01-19 08:52 G 5616389.75 5616389.87 5616390.01 0.0133 0.0114 Uranus 10666-01-23 16:48 G 5616759.00 5616759.20 5616759.42 0.0133 0.0077 Jupiter 10666-09-30 09:50 G 5617008.69 5617008.91 5617009.14 0.0490 0.0129 Uranus 10667-01-28 00:57 G 5617128.30 5617128.54 5617128.79 0.0133 0.0039 Uranus 10668-02-01 08:52 G 5617497.62 5617497.87 5617498.13 0.0133 0.0001 Uranus 10669-02-04 16:48 G 5617866.96 5617867.20 5617867.45 0.0133 0.0037 Uranus 10670-02-09 00:28 G 5618236.32 5618236.52 5618236.75 0.0133 0.0075 Uranus 10671-02-13 08:52 G 5618605.75 5618605.87 5618606.02 0.0133 0.0113 Jupiter 10672-03-27 16:33 G 5619013.96 5619014.19 5619014.42 0.0540 0.0087 Saturn 10675-09-18 01:40 G 5620283.46 5620283.57 5620283.71 0.0280 0.0240 Jupiter 10678-10-04 19:55 G 5621396.13 5621396.33 5621396.52 0.0491 0.0275 Jupiter 10684-04-01 19:11 G 5623402.07 5623402.30 5623402.53 0.0538 0.0105 Jupiter 10690-10-09 05:31 G 5625783.61 5625783.73 5625783.85 0.0493 0.0420 Saturn 10691-03-26 15:50 G 5625951.92 5625952.16 5625952.40 0.0280 0.0046 Jupiter 10696-04-06 21:36 G 5627790.22 5627790.40 5627790.60 0.0537 0.0295 10700-11-06 14:09 G 5629463.83 5629464.09 5629464.36 0.0080 0.0001 Pluto Jupiter 10701-09-13 14:23 G 5629775.02 5629775.10 5629775.20 0.0486 0.0450 Saturn 10705-09-26 03:36 G 5631248.42 5631248.65 5631248.89 0.0279 0.0083 Uranus 10706-07-18 06:00 G 5631543.73 5631543.75 5631543.80 0.0146 0.0144

10707-07-14 02:38 G 5631904.43 5631904.61 5631904.79 0.1601 0.0466 Mars Uranus 10707-07-23 06:00 G 5631913.58 5631913.75 5631913.96 0.0146 0.0096 Jupiter 10708-04-13 00:00 G 5632178.40 5632178.50 5632178.60 0.0536 0.0476 Uranus 10708-07-27 06:28 G 5632283.55 5632283.77 5632284.02 0.0146 0.0047 Uranus 10709-08-01 07:11 G 5632653.55 5632653.80 5632654.05 0.0145 0.0003 Uranus 10710-08-06 07:40 G 5633023.59 5633023.82 5633024.06 0.0145 0.0053 Uranus 10711-08-11 07:55 G 5633393.66 5633393.83 5633394.02 0.0145 0.0101 Jupiter 10713-09-17 20:52 G 5634162.20 5634162.37 5634162.55 0.0486 0.0313 Mars 10716-01-13 09:07 G 5635009.84 5635009.88 5635009.92 0.1932 0.1897 Neptune 10717-10-21 04:04 G 5635656.57 5635656.67 5635656.81 0.0088 0.0078 Neptune 10718-10-23 16:19 G 5636024.02 5636024.18 5636024.36 0.0088 0.0066 Neptune 10719-10-26 04:19 G 5636391.49 5636391.68 5636391.89 0.0088 0.0055 Neptune 10720-10-27 16:04 G 5636758.96 5636759.17 5636759.42 0.0088 0.0043 Saturn 10721-04-03 06:43 G 5636916.69 5636916.78 5636916.87 0.0280 0.0259 Neptune 10721-10-30 04:04 G 5637126.45 5637126.67 5637126.94 0.0088 0.0032 Neptune 10722-11-01 16:33 G 5637493.93 5637494.19 5637494.44 0.0088 0.0019 Neptune 10723-11-04 04:48 G 5637861.44 5637861.70 5637861.96 0.0088 0.0007 Neptune 10724-11-05 17:02 G 5638228.95 5638229.21 5638229.47 0.0088 0.0006 Jupiter 10725-09-22 02:38 G 5638549.39 5638549.61 5638549.83 0.0487 0.0175 Neptune 10725-11-08 05:02 G 5638596.47 5638596.71 5638596.98 0.0088 0.0018 Neptune 10726-11-10 17:31 G 5638964.00 5638964.23 5638964.49 0.0088 0.0030 Neptune 10727-11-13 06:00 G 5639331.54 5639331.75 5639332.00 0.0088 0.0042 Neptune 10728-11-14 18:28 G 5639699.09 5639699.27 5639699.50 0.0088 0.0055 Neptune 10729-11-17 06:57 G 5640066.64 5640066.79 5640066.99 0.0088 0.0067 Neptune 10730-11-19 19:26 G 5640434.22 5640434.31 5640434.46 0.0088 0.0079 Jupiter 10731-03-18 04:33 G 5640552.62 5640552.69 5640552.76 0.0543 0.0515 Saturn 10734-09-20 07:26 G 5641834.63 5641834.81 5641835.01 0.0280 0.0176 Jupiter 10737-09-26 10:48 G 5642936.71 5642936.95 5642937.18 0.0488 0.0034 Jupiter 10743-03-23 10:33 G 5644940.76 5644940.94 5644941.13 0.0541 0.0320 Uranus 10749-01-20 21:07 G 5647071.26 5647071.38 5647071.54 0.0133 0.0111

Jupiter 10749-09-30 18:28 G 5647324.05 5647324.27 5647324.51 0.0490 0.0109 Uranus 10750-01-25 05:16 G 5647440.51 5647440.72 5647440.94 0.0133 0.0073 Saturn 10750-03-28 19:11 G 5647503.06 5647503.30 5647503.55 0.0280 0.0015 Uranus 10751-01-29 13:26 G 5647809.81 5647810.06 5647810.31 0.0133 0.0035 Uranus 10752-02-02 21:21 G 5648179.14 5648179.39 5648179.65 0.0133 0.0004 Uranus 10753-02-06 05:16 G 5648548.48 5648548.72 5648548.97 0.0133 0.0041 Uranus 10754-02-10 13:11 G 5648917.86 5648918.05 5648918.27 0.0133 0.0079 Uranus 10755-02-14 21:07 G 5649287.29 5649287.38 5649287.53 0.0133 0.0118 Jupiter 10755-03-28 15:36 G 5649328.92 5649329.15 5649329.37 0.0540 0.0124 Jupiter 10761-10-05 01:40 G 5651711.37 5651711.57 5651711.78 0.0490 0.0247 Saturn 10764-09-27 07:26 G 5652799.61 5652799.81 5652800.03 0.0279 0.0145 Jupiter 10767-04-02 18:43 G 5653717.05 5653717.28 5653717.51 0.0540 0.0066 Jupiter 10773-10-09 11:02 G 5656098.82 5656098.96 5656099.10 0.0492 0.0391 Saturn 10779-03-23 11:45 G 5658089.85 5658089.99 5658090.15 0.0278 0.0221 Jupiter 10779-04-08 01:40 G 5658105.37 5658105.57 5658105.77 0.0538 0.0261 Jupiter 10784-09-12 23:16 G 5660090.41 5660090.47 5660090.54 0.0485 0.0465 10786-07-16 02:23 G 5660761.43 5660761.60 5660761.77 0.1600 0.0624 Mars Uranus 10790-07-18 17:31 G 5662225.18 5662225.23 5662225.31 0.0146 0.0141 Jupiter 10791-04-13 07:26 G 5662493.70 5662493.81 5662493.94 0.0536 0.0452 Uranus 10791-07-23 17:45 G 5662595.06 5662595.24 5662595.45 0.0146 0.0092 Uranus 10792-07-27 18:28 G 5662965.04 5662965.27 5662965.52 0.0146 0.0043 Uranus 10793-08-01 19:11 G 5663335.05 5663335.30 5663335.55 0.0145 0.0007 Saturn 10793-09-21 11:16 G 5663385.75 5663385.97 5663386.20 0.0280 0.0116 Uranus 10794-08-06 19:55 G 5663705.10 5663705.33 5663705.56 0.0145 0.0057 Mars 10795-01-17 08:38 G 5663868.80 5663868.86 5663868.93 0.1936 0.1826 Uranus 10795-08-11 20:09 G 5664075.18 5664075.34 5664075.52 0.0145 0.0106 Jupiter 10796-09-17 05:45 G 5664477.57 5664477.74 5664477.92 0.0486 0.0329 Neptune 10799-04-23 22:48 G 5665426.35 5665426.45 5665426.59 0.0089 0.0079 Neptune 10800-04-25 10:19 G 5665793.77 5665793.93 5665794.11 0.0089 0.0066 Neptune 10801-04-27 21:36 G 5666161.21 5666161.40 5666161.61 0.0089 0.0054

Neptune	e 10802-04-30 08:52 G	5666528.66	5666528.87	5666529.11 0.0089 0.0042
Neptune	e 10803-05-02 20:23 G	5666896.12	5666896.35	5666896.60 0.0089 0.0030
Neptune	e 10804-05-04 07:26 G	5667263.57	5667263.81	5667264.07 0.0089 0.0018
Neptune	e 10805-05-06 18:57 G	5667631.04	5667631.29	5667631.55 0.0089 0.0006
Neptune	e 10806-05-09 06:00 G	5667998.50	5667998.75	5667999.01 0.0089 0.0006
Neptune	e 10807-05-11 17:02 G	5668365.96	5668366.21	5668366.46 0.0089 0.0018
Neptune	e 10808-05-13 03:36 G	5668733.42	5668733.65	5668733.90 0.0089 0.0031
Jupiter	10808-09-21 12:28 G	5668864.80	5668865.02	5668865.23 0.0487 0.0193
Saturn	10809-03-29 21:36 G	5669054.16	5669054.40	5669054.63 0.0280 0.0072
Neptune	e 10809-05-15 14:38 G	5669100.89	5669101.11	5669101.34 0.0089 0.0042
Neptune	e 10810-05-18 01:26 G	5669468.36	5669468.56	5669468.77 0.0089 0.0054
Neptune	e 10811-05-20 12:00 G	5669835.84	5669836.00	5669836.18 0.0089 0.0066
Neptune	e 10812-05-21 22:19 G	5670203.34	5670203.43	5670203.58 0.0089 0.0078
Jupiter	10820-09-25 18:57 G	5673252.06	5673252.29	5673252.53 0.0488 0.0057
Saturn	10823-09-29 09:21 G	5674350.73	5674350.89	5674351.07 0.0279 0.0200
Jupiter	10826-03-22 08:38 G	5675255.69	5675255.86	5675256.04 0.0542 0.0360
Jupiter	10832-09-30 02:52 G	5677639.39	5677639.62	5677639.86 0.0489 0.0086
Uranus	10833-01-21 10:19 G	5677752.80	5677752.93	5677753.10 0.0133 0.0107
Uranus	10834-01-25 18:28 G	5678122.07	5678122.27	5678122.51 0.0133 0.0069
Uranus	10835-01-30 02:52 G	5678491.37	5678491.62	5678491.87 0.0133 0.0031
Uranus	10836-02-03 10:48 G	5678860.70	5678860.95	5678861.21 0.0133 0.0008
Uranus	10837-02-06 18:43 G	5679230.05	5679230.28	5679230.53 0.0133 0.0046
Uranus	10838-02-11 02:38 G	5679599.43	5679599.61	5679599.82 0.0133 0.0084
Saturn	10838-03-24 15:07 G	5679640.94	5679641.13	5679641.33 0.0278 0.0162
Jupiter	10838-03-27 17:45 G	5679644.02	5679644.24	5679644.46 0.0541 0.0158
Uranus	10839-02-15 11:02 G	5679968.86	5679968.96	5679969.07 0.0133 0.0122
Jupiter	10844-10-04 10:19 G	5682026.72	5682026.93	5682027.14 0.0490 0.0227
Jupiter	10850-04-02 02:38 G	5684032.38	5684032.61	5684032.84 0.0540 0.0043
Saturn	10852-09-22 12:57 G	5684936.80	5684937.04	5684937.28 0.0280 0.0060
Jupiter	10856-10-08 20:23 G	5686414.20	5686414.35	5686414.51 0.0492 0.0373

Pluto 10858-05-10 00:43 G 5686992.37 5686992.53 5686992.74 0.0064 0.0044
Pluto 10859-05-11 11:45 G 5687358.84 5687358.99 5687359.21 0.0064 0.0045
Jupiter 10862-04-07 07:26 G 5688420.60 5688420.81 5688421.02 0.0538 0.0233
Jupiter 10867-09-13 09:50 G 5690405.88 5690405.91 5690405.95 0.0485 0.0479
Saturn 10868-03-30 23:02 G 5690605.25 5690605.46 5690605.68 0.0280 0.0128
Jupiter 10874-04-12 10:04 G 5692808.78 5692808.92 5692809.06 0.0536 0.0419
Uranus 10874-07-19 06:28 G 5692906.71 5692906.77 5692906.88 0.0146 0.0137
Uranus 10875-07-24 06:57 G 5693276.61 5693276.79 5693277.01 0.0146 0.0088
Uranus 10876-07-28 07:55 G 5693646.59 5693646.83 5693647.08 0.0146 0.0038
Uranus 10877-08-02 08:38 G 5694016.61 5694016.86 5694017.11 0.0145 0.0012
Uranus 10878-08-07 09:07 G 5694386.66 5694386.88 5694387.12 0.0145 0.0062
Uranus 10879-08-12 09:36 G 5694756.75 5694756.90 5694757.07 0.0145 0.0111
Jupiter 10879-09-17 16:04 G 5694793.01 5694793.17 5694793.34 0.0486 0.0347
Neptune 10881-10-20 08:38 G 5695556.80 5695556.86 5695556.97 0.0088 0.0083
Saturn 10882-09-30 09:36 G 5695901.81 5695901.90 5695902.01 0.0279 0.0253
Neptune 10882-10-22 20:38 G 5695924.23 5695924.36 5695924.53 0.0088 0.0072
Neptune 10883-10-25 08:38 G 5696291.69 5696291.86 5696292.07 0.0088 0.0061
Neptune 10884-10-26 20:38 G 5696659.17 5696659.36 5696659.60 0.0088 0.0049
Neptune 10885-10-29 08:38 G 5697026.64 5697026.86 5697027.11 0.0088 0.0037
Neptune 10886-10-31 20:52 G 5697394.13 5697394.37 5697394.63 0.0088 0.0026
Neptune 10887-11-03 09:07 G 5697761.63 5697761.88 5697762.15 0.0088 0.0013
Neptune 10888-11-04 21:21 G 5698129.13 5698129.39 5698129.65 0.0088 0.0002
Neptune 10889-11-07 09:36 G 5698496.65 5698496.90 5698497.16 0.0088 0.0011
Neptune 10890-11-09 21:50 G 5698864.16 5698864.41 5698864.67 0.0088 0.0023
Jupiter 10891-09-21 22:48 G 5699180.24 5699180.45 5699180.67 0.0486 0.0210
Neptune 10891-11-12 10:19 G 5699231.70 5699231.93 5699232.18 0.0088 0.0035
Neptune 10892-11-13 22:33 G 5699599.24 5699599.44 5699599.68 0.0088 0.0047
Neptune 10893-11-16 11:02 G 5699966.79 5699966.96 5699967.18 0.0088 0.0059
Neptune 10894-11-18 23:31 G 5700334.35 5700334.48 5700334.67 0.0088 0.0071
Neptune 10895-11-21 12:43 G 5700701.94 5700702.03 5700702.14 0.0088 0.0082

Saturn	10897-03-25 17:31 G	5701192.01	5701192.23	5701192.46 0.0278 0.0105
Jupiter	10903-09-27 04:33 G	5703567.46	5703567.69	5703567.92 0.0487 0.0073
Jupiter	10909-03-22 16:48 G	5705571.03	5705571.20	5705571.36 0.0543 0.0380
Saturn	10911-09-25 13:40 G	5706487.83	5706488.07	5706488.32 0.0280 0.0008
Mars	10912-07-13 11:31 G	5706779.83	5706779.98	5706780.14 0.1605 0.0892
Jupiter	10915-10-01 12:43 G	5707954.79	5707955.03	5707955.26 0.0489 0.0069
Uranus	10917-01-23 00:00 G	5708434.35	5708434.50	5708434.68 0.0133 0.0102
Uranus	10918-01-27 08:09 G	5708803.62	5708803.84	5708804.07 0.0133 0.0064
Uranus	10919-01-31 16:19 G	5709172.93	5709173.18	5709173.43 0.0133 0.0026
Uranus	10920-02-05 00:14 G	5709542.26	5709542.51	5709542.77 0.0133 0.0013
Uranus	10921-02-08 07:55 G	5709911.61	5709911.83	5709912.08 0.0133 0.0051
Jupiter	10921-03-28 00:43 G	5709959.31	5709959.53	5709959.74 0.0541 0.0183
Uranus	10922-02-12 15:50 G	5710280.99	5710281.16	5710281.37 0.0133 0.0089
Uranus	10923-02-17 00:00 G	5710650.43	5710650.50	5710650.59 0.0133 0.0127
Saturn	10927-04-03 00:14 G	5712156.34	5712156.51	5712156.71 0.0280 0.0184
Jupiter	10927-10-05 21:21 G	5712342.18	5712342.39	5712342.60 0.0490 0.0210
Jupiter	10933-04-02 06:00 G	5714347.51	5714347.75	5714347.98 0.0540 0.0016
Jupiter	10939-10-10 06:00 G	5716729.59	5716729.75	5716729.92 0.0491 0.0350
Saturn	10940-09-19 02:09 G	5717074.49	5717074.59	5717074.71 0.0281 0.0248
Jupiter	10945-04-07 06:43 G	5718735.56	5718735.78	5718735.99 0.0539 0.0195
Pluto	10947-11-10 09:07 G	5719682.67	5719682.88	5719683.09 0.0080 0.0047
Jupiter	10951-10-14 15:50 G	5721117.15	5721117.16	5721117.18 0.0492 0.0491
Saturn	10956-03-27 20:38 G	5722743.12	5722743.36	5722743.60 0.0278 0.0047
Jupiter	10957-04-12 12:43 G	5723123.88	5723124.03	5723124.20 0.0538 0.0386
Uranus	10958-07-20 18:00 G	5723588.17	5723588.25	5723588.37 0.0146 0.0133
Uranus	10959-07-25 18:28 G	5723958.08	5723958.27	5723958.49 0.0146 0.0084
Uranus	10960-07-29 19:26 G	5724328.08	5724328.31	5724328.57 0.0146 0.0034
Uranus	10961-08-03 20:23 G	5724698.10	5724698.35	5724698.60 0.0146 0.0017
Uranus	10962-08-08 21:07 G	5725068.16	5725068.38	5725068.61 0.0145 0.0067
Jupiter	10962-09-18 02:09 G	5725108.44	5725108.59	5725108.75 0.0485 0.0360

Neptune 10963-04-24 05:02 G 5725326.64 5725326.71 5725326.82 0.0089 0.0084 Uranus 10963-08-13 21:21 G 5725438.26 5725438.39 5725438.56 0.0145 0.0117 Neptune 10964-04-25 16:48 G 5725694.05 5725694.20 5725694.35 0.0089 0.0072 Neptune 10965-04-28 03:36 G 5726061.49 5726061.65 5726061.86 0.0089 0.0061 Neptune 10966-04-30 15:21 G 5726428.94 5726429.14 5726429.37 0.0089 0.0048 Neptune 10967-05-03 02:38 G 5726796.38 5726796.61 5726796.85 0.0089 0.0036 Neptune 10968-05-04 13:55 G 5727163.84 5727164.08 5727164.34 0.0089 0.0025 Neptune 10969-05-07 01:11 G 5727531.30 5727531.55 5727531.81 0.0089 0.0013 Neptune 10970-05-09 12:28 G 5727898.77 5727899.02 5727899.28 0.0089 0.0002 Saturn 10970-09-26 13:55 G 5728038.84 5728039.08 5728039.32 0.0280 0.0047 Neptune 10971-05-11 23:45 G 5728266.24 5728266.49 5728266.74 0.0089 0.0011 Neptune 10972-05-13 10:33 G 5728633.70 5728633.94 5728634.19 0.0089 0.0023 Neptune 10973-05-15 21:21 G 5729001.17 5729001.39 5729001.64 0.0089 0.0035 Neptune 10974-05-18 08:09 G 5729368.64 5729368.84 5729369.07 0.0089 0.0047 Jupiter 10974-09-22 08:38 G 5729495.66 5729495.86 5729496.07 0.0486 0.0225 Neptune 10975-05-20 18:57 G 5729736.11 5729736.29 5729736.49 0.0089 0.0058 Neptune 10976-05-22 05:31 G 5730103.59 5730103.73 5730103.90 0.0089 0.0070 Neptune 10977-05-24 16:19 G 5730471.09 5730471.18 5730471.30 0.0089 0.0081 Saturn 10986-04-04 02:23 G 5733707.48 5733707.60 5733707.73 0.0280 0.0239 Jupiter 10986-09-26 15:21 G 5733882.91 5733883.14 5733883.38 0.0487 0.0089 Mars 10991-07-16 11:31 G 5735636.80 5735636.98 5735637.17 0.1603 0.0212 Jupiter 10992-03-21 20:09 G 5735886.20 5735886.34 5735886.50 0.0542 0.0408 Jupiter 10998-09-30 23:31 G 5738270.25 5738270.48 5738270.72 0.0488 0.0050 10999-09-21 01:40 G 5738625.40 5738625.57 5738625.75 0.0281 0.0197

## 12TH MILLENNIUM CE

## This is a list of transits of Earth in the 12th millennium CE.

FROM MAX- C START MAX END SUNRAD DEPTH S

TRANSIT

TIME

Uranus 11001-01-24 13:55 G 5739115.92 5739116.08 5739116.27 0.0133 0.0097 11002-01-28 22:04 G 5739485.20 5739485.42 5739485.66 0.0133 0.0059 Uranus 11003-02-02 06:14 G 5739854.51 5739854.76 5739855.02 0.0133 0.0021 Uranus 11004-02-06 14:09 G 5740223.84 5740224.09 5740224.35 0.0133 0.0018 Jupiter 11004-03-27 22:04 G 5740274.21 5740274.42 5740274.63 0.0542 0.0221 Uranus 11005-02-09 21:50 G 5740593.19 5740593.41 5740593.65 0.0133 0.0056 Uranus 11006-02-14 05:45 G 5740962.57 5740962.74 5740962.93 0.0133 0.0094 Uranus 11007-02-18 13:26 G 5741332.05 5741332.06 5741332.11 0.0133 0.0132 Jupiter 11010-10-06 07:40 G 5742657.60 5742657.82 5742658.04 0.0489 0.0191 Saturn 11015-03-31 00:14 G 5744294.26 5744294.51 5744294.75 0.0278 0.0011 Jupiter 11016-04-02 05:45 G 5744662.51 5744662.74 5744662.97 0.0541 0.0024 Jupiter 11022-10-10 14:38 G 5747044.94 5747045.11 5747045.28 0.0491 0.0330 Jupiter 11028-04-07 14:38 G 5749050.90 5749051.11 5749051.34 0.0539 0.0175 Saturn 11029-09-28 14:38 G 5749589.89 5749590.11 5749590.35 0.0280 0.0100 Jupiter 11034-10-15 00:28 G 5751432.46 5751432.52 5751432.59 0.0492 0.0472 Jupiter 11040-04-12 20:23 G 5753439.18 5753439.35 5753439.52 0.0537 0.0361 Uranus 11042-07-22 07:26 G 5754269.71 5754269.81 5754269.94 0.0146 0.0128 Uranus 11043-07-27 08:23 G 5754639.63 5754639.85 5754640.06 0.0146 0.0078 Saturn 11044-03-24 08:09 G 5754880.73 5754880.84 5754880.98 0.0278 0.0239 Uranus 11044-07-31 09:07 G 5755009.63 5755009.88 5755010.13 0.0146 0.0028 Uranus 11045-08-05 09:36 G 5755379.65 5755379.90 5755380.15 0.0146 0.0022 Jupiter 11045-09-18 12:43 G 5755423.89 5755424.03 5755424.19 0.0486 0.0374 Uranus 11046-08-10 10:19 G 5755749.72 5755749.93 5755750.16 0.0145 0.0072 Neptune 11046-10-24 00:43 G 5755824.43 5755824.53 5755824.68 0.0088 0.0077 Uranus 11047-08-15 10:48 G 5756119.82 5756119.95 5756120.10 0.0145 0.0122

Neptune 11047-10-26 12:43 G 5756191.89 5756192.03 5756192.23 0.0088 0.0066 Neptune 11048-10-28 00:57 G 5756559.34 5756559.54 5756559.75 0.0088 0.0054 Neptune 11049-10-30 12:43 G 5756926.82 5756927.03 5756927.28 0.0088 0.0043 Neptune 11050-11-02 00:57 G 5757294.31 5757294.54 5757294.79 0.0088 0.0031 Neptune 11051-11-04 12:57 G 5757661.80 5757662.04 5757662.30 0.0088 0.0020 Neptune 11052-11-06 01:11 G 5758029.30 5758029.55 5758029.81 0.0088 0.0008 Neptune 11053-11-08 13:11 G 5758396.79 5758397.05 5758397.31 0.0088 0.0004 Neptune 11054-11-11 01:26 G 5758764.31 5758764.56 5758764.82 0.0088 0.0015 Neptune 11055-11-13 13:26 G 5759131.83 5759132.06 5759132.32 0.0088 0.0027 Neptune 11056-11-15 02:09 G 5759499.36 5759499.59 5759499.82 0.0088 0.0039 Jupiter 11057-09-22 19:55 G 5759811.13 5759811.33 5759811.53 0.0486 0.0240 Neptune 11057-11-17 14:09 G 5759866.89 5759867.09 5759867.32 0.0088 0.0051 Saturn 11058-09-23 01:26 G 5760176.36 5760176.56 5760176.78 0.0281 0.0146 Neptune 11058-11-20 02:38 G 5760234.45 5760234.61 5760234.82 0.0088 0.0062 Neptune 11059-11-22 15:21 G 5760602.02 5760602.14 5760602.30 0.0088 0.0074 Neptune 11060-11-24 04:33 G 5760969.62 5760969.69 5760969.76 0.0088 0.0085 Jupiter 11069-09-27 02:38 G 5764198.38 5764198.61 5764198.84 0.0487 0.0104 11070-07-19 11:45 G 5764493.88 5764493.99 5764494.09 0.1601 0.1304 Mars Saturn 11074-04-01 04:33 G 5765845.46 5765845.69 5765845.93 0.0278 0.0070 Jupiter 11075-03-22 17:45 G 5766201.10 5766201.24 5766201.37 0.0543 0.0444 Mars 11079-01-18 04:33 G 5767598.51 5767598.69 5767598.88 0.1932 0.0933 Jupiter 11081-10-01 07:40 G 5768585.59 5768585.82 5768586.06 0.0488 0.0032 Uranus 11084-01-21 19:55 G 5769428.29 5769428.33 5769428.39 0.0133 0.0130 Uranus 11085-01-25 04:19 G 5769797.50 5769797.68 5769797.86 0.0133 0.0092 Uranus 11086-01-29 12:14 G 5770166.79 5770167.01 5770167.25 0.0133 0.0054 Uranus 11087-02-02 20:09 G 5770536.09 5770536.34 5770536.60 0.0133 0.0016 Jupiter 11087-03-28 04:19 G 5770589.47 5770589.68 5770589.89 0.0542 0.0244 Uranus 11088-02-07 04:04 G 5770905.42 5770905.67 5770905.93 0.0133 0.0023 Saturn 11088-09-29 17:16 G 5771141.02 5771141.22 5771141.43 0.0280 0.0156 Uranus 11089-02-10 11:31 G 5771274.77 5771274.98 5771275.22 0.0133 0.0062

Uranus 11090-02-14 19:11 G 5771644.15 5771644.30 5771644.49 0.0133 0.0100 Jupiter 11093-10-05 15:36 G 5772972.93 5772973.15 5772973.37 0.0489 0.0172 Jupiter 11099-04-02 12:57 G 5774977.81 5774978.04 5774978.27 0.0541 0.0047 Saturn 11103-03-27 13:11 G 5776431.87 5776432.05 5776432.24 0.0278 0.0179 Pluto 11105-05-14 19:26 G 5777211.06 5777211.31 5777211.57 0.0064 0.0009 Jupiter 11105-10-11 00:14 G 5777360.34 5777360.51 5777360.70 0.0491 0.0312 Jupiter 11111-04-08 18:00 G 5779366.03 5779366.25 5779366.47 0.0539 0.0144 11117-07-14 20:23 G 5781655.24 5781655.35 5781655.45 0.1609 0.1323 Mars Saturn 11117-09-25 03:07 G 5781727.40 5781727.63 5781727.87 0.0281 0.0091 Jupiter 11117-10-15 10:19 G 5781747.85 5781747.93 5781748.03 0.0492 0.0452 Jupiter 11123-04-13 17:02 G 5783754.03 5783754.21 5783754.40 0.0538 0.0322 Uranus 11126-07-23 19:11 G 5784951.18 5784951.30 5784951.44 0.0146 0.0124 Neptune 11127-04-25 10:04 G 5785226.91 5785226.92 5785226.97 0.0089 0.0089 Uranus 11127-07-28 19:55 G 5785321.11 5785321.33 5785321.55 0.0146 0.0074 Neptune 11128-04-26 21:21 G 5785594.29 5785594.39 5785594.54 0.0089 0.0078 Uranus 11128-08-01 20:38 G 5785691.11 5785691.36 5785691.61 0.0146 0.0024 Jupiter 11128-09-18 23:45 G 5785739.35 5785739.49 5785739.64 0.0485 0.0386 Neptune 11129-04-29 09:21 G 5785961.73 5785961.89 5785962.07 0.0089 0.0066 Uranus 11129-08-06 21:21 G 5786061.14 5786061.39 5786061.64 0.0146 0.0027 Neptune 11130-05-01 20:09 G 5786329.16 5786329.34 5786329.57 0.0089 0.0055 Uranus 11130-08-11 21:36 G 5786431.20 5786431.40 5786431.63 0.0146 0.0078 Neptune 11131-05-04 07:55 G 5786696.62 5786696.83 5786697.07 0.0089 0.0043 Uranus 11131-08-16 22:33 G 5786801.32 5786801.44 5786801.56 0.0145 0.0127 Neptune 11132-05-05 19:26 G 5787064.07 5787064.31 5787064.55 0.0089 0.0031 Saturn 11133-04-03 10:48 G 5787396.74 5787396.95 5787397.17 0.0279 0.0132 Neptune 11133-05-08 06:28 G 5787431.53 5787431.77 5787432.03 0.0089 0.0019 Neptune 11134-05-10 18:00 G 5787799.00 5787799.25 5787799.50 0.0089 0.0007 Jupiter 11135-04-18 21:07 G 5788142.32 5788142.38 5788142.46 0.0537 0.0507 Neptune 11135-05-13 05:02 G 5788166.46 5788166.71 5788166.97 0.0089 0.0005 Neptune 11136-05-14 16:19 G 5788533.94 5788534.18 5788534.44 0.0089 0.0016

Neptune 11137-05-17 03:21 G 5788901.41 5788901.64 5788901.89 0.0089 0.0028 Neptune 11138-05-19 14:38 G 5789268.88 5789269.11 5789269.34 0.0089 0.0040 Neptune 11139-05-22 01:11 G 5789636.36 5789636.55 5789636.77 0.0089 0.0051 Neptune 11140-05-23 12:28 G 5790003.84 5790004.02 5790004.20 0.0089 0.0062 Jupiter 11140-09-23 03:36 G 5790126.46 5790126.65 5790126.85 0.0486 0.0257 Neptune 11141-05-25 22:33 G 5790371.33 5790371.44 5790371.61 0.0089 0.0074 Neptune 11142-05-28 09:21 G 5790738.84 5790738.89 5790738.99 0.0089 0.0085 Saturn 11147-10-02 21:21 G 5792692.24 5792692.39 5792692.55 0.0280 0.0214 Jupiter 11152-09-27 09:50 G 5794513.68 5794513.91 5794514.14 0.0487 0.0122 Jupiter 11158-03-22 23:31 G 5796516.37 5796516.48 5796516.60 0.0543 0.0467 Saturn 11162-03-28 20:09 G 5797983.12 5797983.34 5797983.57 0.0278 0.0116 Jupiter 11164-10-01 16:33 G 5798900.96 5798901.19 5798901.43 0.0488 0.0016 Uranus 11168-01-23 10:19 G 5800109.87 5800109.93 5800110.03 0.0133 0.0126 Uranus 11169-01-26 18:28 G 5800479.09 5800479.27 5800479.48 0.0133 0.0088 Uranus 11170-01-31 02:52 G 5800848.39 5800848.62 5800848.86 0.0133 0.0049 Jupiter 11170-03-28 06:57 G 5800904.60 5800904.79 5800905.00 0.0542 0.0272 Uranus 11171-02-04 10:48 G 5801217.69 5801217.95 5801218.21 0.0133 0.0010 Uranus 11172-02-08 18:14 G 5801587.02 5801587.26 5801587.52 0.0133 0.0029 Uranus 11173-02-12 01:40 G 5801956.37 5801956.57 5801956.81 0.0133 0.0067 Uranus 11174-02-16 09:36 G 5802325.75 5802325.90 5802326.06 0.0133 0.0105 Saturn 11176-09-26 07:11 G 5803278.56 5803278.80 5803279.05 0.0280 0.0034 Jupiter 11176-10-06 01:11 G 5803288.33 5803288.55 5803288.77 0.0489 0.0154 Jupiter 11182-04-02 07:40 G 5805292.59 5805292.82 5805293.05 0.0541 0.0088 Jupiter 11188-10-10 09:07 G 5807675.69 5807675.88 5807676.07 0.0490 0.0292 Saturn 11192-04-04 18:28 G 5808948.10 5808948.27 5808948.44 0.0279 0.0196 Pluto 11193-11-12 03:21 G 5809534.48 5809534.64 5809534.80 0.0080 0.0064 Jupiter 11194-04-07 13:11 G 5809680.83 5809681.05 5809681.28 0.0540 0.0104 Mars 11196-07-16 19:55 G 5810512.15 5810512.33 5810512.52 0.1607 0.0227 Jupiter 11200-10-14 15:07 G 5812063.02 5812063.13 5812063.25 0.0491 0.0427 Saturn 11205-09-20 21:50 G 5813865.35 5813865.41 5813865.47 0.0281 0.0272

Jupiter 11206-04-12 21:07 G 5814069.19 5814069.38 5814069.58 0.0539 0.0295 Saturn 11206-10-04 03:50 G 5814243.63 5814243.66 5814243.71 0.0280 0.0276 Uranus 11210-07-24 08:52 G 5815632.75 5815632.87 5815633.03 0.0146 0.0120 Neptune 11210-10-24 05:02 G 5815724.64 5815724.71 5815724.83 0.0088 0.0082 Uranus 11211-07-29 09:36 G 5816002.69 5816002.90 5816003.14 0.0146 0.0070 Jupiter 11211-09-19 06:14 G 5816054.64 5816054.76 5816054.89 0.0485 0.0404 Neptune 11211-10-26 16:48 G 5816092.07 5816092.20 5816092.37 0.0088 0.0071 Uranus 11212-08-02 10:33 G 5816372.69 5816372.94 5816373.19 0.0146 0.0019 Neptune 11212-10-28 04:33 G 5816459.53 5816459.69 5816459.91 0.0088 0.0060 Uranus 11213-08-07 11:02 G 5816742.72 5816742.96 5816743.21 0.0146 0.0032 Neptune 11213-10-30 16:33 G 5816827.00 5816827.19 5816827.43 0.0088 0.0049 Uranus 11214-08-12 11:31 G 5817112.79 5817112.98 5817113.20 0.0146 0.0083 Neptune 11214-11-02 05:02 G 5817194.48 5817194.71 5817194.95 0.0088 0.0037 Uranus 11215-08-17 12:00 G 5817482.91 5817483.00 5817483.12 0.0145 0.0132 Neptune 11215-11-04 17:02 G 5817561.97 5817562.21 5817562.47 0.0088 0.0026 Neptune 11216-11-06 05:02 G 5817929.46 5817929.71 5817929.97 0.0088 0.0015 Neptune 11217-11-08 17:16 G 5818296.96 5818297.22 5818297.49 0.0088 0.0004 Jupiter 11218-04-18 02:38 G 5818457.52 5818457.61 5818457.72 0.0537 0.0479 Neptune 11218-11-11 05:31 G 5818664.47 5818664.73 5818664.99 0.0088 0.0008 Neptune 11219-11-13 17:16 G 5819031.98 5819032.22 5819032.49 0.0088 0.0020 Neptune 11220-11-15 05:31 G 5819399.49 5819399.73 5819399.98 0.0088 0.0031 Saturn 11221-03-30 05:02 G 5819534.47 5819534.71 5819534.95 0.0278 0.0049 Neptune 11221-11-17 18:00 G 5819767.02 5819767.25 5819767.48 0.0088 0.0043 Neptune 11222-11-20 06:00 G 5820134.56 5820134.75 5820134.97 0.0088 0.0054 Jupiter 11223-09-23 11:16 G 5820441.78 5820441.97 5820442.17 0.0486 0.0275 Neptune 11223-11-22 18:28 G 5820502.11 5820502.27 5820502.46 0.0088 0.0065 Neptune 11224-11-24 06:57 G 5820869.68 5820869.79 5820869.93 0.0088 0.0077 Neptune 11225-11-26 19:40 G 5821237.30 5821237.32 5821237.36 0.0088 0.0088 Jupiter 11235-09-27 18:28 G 5824829.05 5824829.27 5824829.50 0.0487 0.0139 Saturn 11235-09-28 13:40 G 5824829.83 5824830.07 5824830.32 0.0280 0.0030

Jupiter 11241-03-21 17:16 G 5826831.15 5826831.22 5826831.31 0.0543 0.0506
Jupiter 11247-10-02 01:11 G 5829216.31 5829216.55 5829216.78 0.0487 0.0010
Saturn 11250-03-25 05:16 G 5830121.68 5830121.72 5830121.79 0.0278 0.0270
Saturn 11251-04-07 03:21 G 5830499.57 5830499.64 5830499.73 0.0279 0.0263
Uranus 11252-01-24 00:57 G 5830791.44 5830791.54 5830791.65 0.0133 0.0121
Uranus 11253-01-27 08:52 G 5831160.68 5831160.87 5831161.08 0.0133 0.0083
Jupiter 11253-03-27 00:00 G 5831219.31 5831219.50 5831219.69 0.0543 0.0314
Uranus 11254-01-31 17:02 G 5831529.98 5831530.21 5831530.46 0.0133 0.0045
Uranus 11255-02-05 00:43 G 5831899.28 5831899.53 5831899.79 0.0133 0.0006
Uranus 11256-02-09 08:38 G 5832268.61 5832268.86 5832269.11 0.0133 0.0033
Uranus 11257-02-12 15:50 G 5832637.96 5832638.16 5832638.39 0.0133 0.0072
Uranus 11258-02-16 23:31 G 5833007.35 5833007.48 5833007.63 0.0133 0.0110
Jupiter 11259-10-06 05:16 G 5833603.50 5833603.72 5833603.95 0.0488 0.0129
Saturn 11264-09-22 06:43 G 5835416.62 5835416.78 5835416.96 0.0281 0.0205
Jupiter 11265-04-01 09:07 G 5835607.66 5835607.88 5835608.11 0.0542 0.0120
Jupiter 11271-10-10 13:11 G 5837990.85 5837991.05 5837991.24 0.0489 0.0267
Mars 11275-07-19 19:55 G 5839369.18 5839369.33 5839369.49 0.1605 0.0883
Jupiter 11277-04-06 17:31 G 5839996.00 5839996.23 5839996.46 0.0540 0.0074
Saturn 11280-03-31 14:52 G 5841085.87 5841086.12 5841086.36 0.0278 0.0019
Jupiter 11283-10-14 21:21 G 5842378.26 5842378.39 5842378.52 0.0491 0.0404
Jupiter 11289-04-11 22:33 G 5844384.24 5844384.44 5844384.64 0.0539 0.0262
Neptune 11292-04-26 02:23 G 5845494.53 5845494.60 5845494.72 0.0089 0.0083
Neptune 11293-04-28 14:23 G 5845861.95 5845862.10 5845862.26 0.0089 0.0071
Neptune 11294-05-01 01:40 G 5846229.39 5846229.57 5846229.77 0.0089 0.0060
Uranus 11294-07-24 21:07 G 5846314.24 5846314.38 5846314.54 0.0146 0.0116
Jupiter 11294-09-18 13:40 G 5846369.96 5846370.07 5846370.19 0.0485 0.0421
Saturn 11294-09-29 22:33 G 5846381.22 5846381.44 5846381.68 0.0280 0.0096
Neptune 11295-05-03 12:43 G 5846596.84 5846597.03 5846597.27 0.0089 0.0049
Uranus 11295-07-29 21:36 G 5846684.18 5846684.40 5846684.63 0.0146 0.0066
Neptune 11296-05-05 00:14 G 5846964.30 5846964.51 5846964.76 0.0089 0.0037

Uranus 11296-08-02 22:19 G 5847054.18 5847054.43 5847054.68 0.0146 0.0015 Neptune 11297-05-07 11:45 G 5847331.75 5847331.99 5847332.24 0.0089 0.0025 Uranus 11297-08-07 22:48 G 5847424.21 5847424.45 5847424.70 0.0146 0.0036 Neptune 11298-05-09 22:48 G 5847699.21 5847699.45 5847699.71 0.0089 0.0014 Uranus 11298-08-12 23:16 G 5847794.28 5847794.47 5847794.69 0.0146 0.0087 Neptune 11299-05-12 10:19 G 5848066.68 5848066.93 5848067.19 0.0089 0.0002 Uranus 11299-08-17 23:45 G 5848164.42 5848164.49 5848164.59 0.0145 0.0137 Neptune 11300-05-14 21:21 G 5848434.14 5848434.39 5848434.65 0.0089 0.0009 Jupiter 11301-04-17 20:52 G 5848772.24 5848772.37 5848772.51 0.0537 0.0437 Neptune 11301-05-17 08:23 G 5848801.61 5848801.85 5848802.11 0.0089 0.0021 Neptune 11302-05-19 19:26 G 5849169.09 5849169.31 5849169.56 0.0089 0.0033 Neptune 11303-05-22 06:28 G 5849536.57 5849536.77 5849537.01 0.0089 0.0044 Neptune 11304-05-23 17:16 G 5849904.05 5849904.22 5849904.45 0.0089 0.0055 Neptune 11305-05-26 04:19 G 5850271.53 5850271.68 5850271.87 0.0089 0.0066 Neptune 11306-05-28 15:07 G 5850639.02 5850639.13 5850639.27 0.0089 0.0077 Jupiter 11306-09-23 18:57 G 5850757.11 5850757.29 5850757.48 0.0486 0.0292 Neptune 11307-05-31 01:40 G 5851006.56 5851006.57 5851006.63 0.0089 0.0088 Saturn 11309-03-27 15:07 G 5851672.97 5851673.13 5851673.30 0.0278 0.0202 Jupiter 11318-09-27 22:19 G 5855144.21 5855144.43 5855144.65 0.0486 0.0164 Saturn 11323-09-25 18:00 G 5856968.03 5856968.25 5856968.47 0.0281 0.0133 Jupiter 11324-03-21 15:50 G 5857146.14 5857146.16 5857146.19 0.0544 0.0541 Jupiter 11330-10-02 04:19 G 5859531.45 5859531.68 5859531.92 0.0487 0.0030 Uranus 11336-01-25 15:07 G 5861473.02 5861473.13 5861473.26 0.0133 0.0117 Jupiter 11336-03-27 02:23 G 5861534.42 5861534.60 5861534.78 0.0543 0.0345 Uranus 11337-01-28 23:02 G 5861842.27 5861842.46 5861842.69 0.0133 0.0079 Uranus 11338-02-02 07:11 G 5862211.57 5862211.80 5862212.06 0.0133 0.0040 Uranus 11339-02-06 15:07 G 5862580.87 5862581.13 5862581.39 0.0133 0.0001 Saturn 11339-04-04 01:40 G 5862637.34 5862637.57 5862637.80 0.0279 0.0090 Uranus 11340-02-10 22:48 G 5862950.20 5862950.45 5862950.69 0.0133 0.0038 Uranus 11341-02-14 06:00 G 5863319.56 5863319.75 5863319.97 0.0133 0.0077

Uranus 11342-02-18 13:55 G 5863688.96 5863689.08 5863689.21 0.0133 0.0115 Jupiter 11342-10-06 10:48 G 5863918.72 5863918.95 5863919.18 0.0488 0.0107 Jupiter 11348-04-01 10:04 G 5865922.70 5865922.92 5865923.14 0.0542 0.0151 11351-05-17 04:19 G 5867063.58 5867063.86 0.0064 0.0054 Pluto 5867063.68 Pluto 11352-05-17 16:33 G 5867429.97 5867430.19 5867430.41 0.0064 0.0034 Saturn 11353-10-02 09:07 G 5867932.69 5867932.88 5867933.08 0.0280 0.0166 Jupiter 11354-10-10 19:26 G 5868306.11 5868306.31 5868306.52 0.0489 0.0245 Jupiter 11360-04-06 11:02 G 5870310.73 5870310.96 5870311.19 0.0540 0.0032 Mars 11363-01-18 23:45 G 5871328.28 5871328.49 5871328.70 0.1927 0.0024 Jupiter 11366-10-15 03:36 G 5872693.50 5872693.65 5872693.80 0.0491 0.0382 Saturn 11368-03-29 00:57 G 5873224.33 5873224.54 5873224.76 0.0279 0.0133 Jupiter 11372-04-11 14:52 G 5874698.91 5874699.12 5874699.34 0.0539 0.0218 Neptune 11374-10-24 09:36 G 5875624.86 5875624.90 5875624.95 0.0088 0.0086 Neptune 11375-10-26 20:38 G 5875992.26 5875992.36 5875992.52 0.0088 0.0076 Neptune 11376-10-28 08:23 G 5876359.70 5876359.85 5876360.05 0.0088 0.0065 Jupiter 11377-09-18 17:16 G 5876685.14 5876685.22 5876685.31 0.0485 0.0445 Neptune 11377-10-30 20:23 G 5876727.17 5876727.35 5876727.57 0.0088 0.0054 Uranus 11378-07-26 11:02 G 5876995.82 5876995.96 5876996.14 0.0146 0.0112 Neptune 11378-11-02 08:23 G 5877094.64 5877094.85 5877095.10 0.0088 0.0043 Uranus 11379-07-31 11:31 G 5877365.76 5877365.98 5877366.22 0.0146 0.0061 Neptune 11379-11-04 20:23 G 5877462.12 5877462.35 5877462.60 0.0088 0.0032 Uranus 11380-08-04 12:14 G 5877735.76 5877736.01 5877736.27 0.0146 0.0010 Neptune 11380-11-06 08:23 G 5877829.61 5877829.85 5877830.12 0.0088 0.0022 Uranus 11381-08-09 12:43 G 5878105.79 5878106.03 5878106.28 0.0146 0.0041 Neptune 11381-11-08 20:52 G 5878197.11 5878197.37 5878197.63 0.0088 0.0009 Uranus 11382-08-14 13:26 G 5878475.87 5878476.06 5878476.26 0.0146 0.0092 Saturn 11382-09-27 06:28 G 5878519.53 5878519.77 5878520.01 0.0281 0.0058 Neptune 11382-11-11 08:52 G 5878564.61 5878564.87 5878565.13 0.0088 0.0002 Uranus 11383-08-19 13:55 G 5878846.03 5878846.08 5878846.14 0.0145 0.0142 Neptune 11383-11-13 20:52 G 5878932.12 5878932.37 5878932.63 0.0088 0.0013

Jupiter 11384-04-16 20:38 G 5879087.22 5879087.36 5879087.52 0.0538 0.0403 5879299.87 5879300.14 0.0088 0.0025 Neptune 11384-11-15 08:52 G 5879299.63 Neptune 11385-11-17 21:21 G 5879667.16 5879667.39 5879667.63 0.0088 0.0035 Neptune 11386-11-20 09:36 G 5880034.68 5880034.90 5880035.13 0.0088 0.0047 Neptune 11387-11-22 21:50 G 5880402.22 5880402.41 5880402.61 0.0088 0.0058 Neptune 11388-11-24 10:19 G 5880769.77 5880769.93 5880770.09 0.0088 0.0069 Jupiter 11389-09-22 22:19 G 5881072.26 5881072.43 5881072.61 0.0485 0.0316 Neptune 11389-11-26 23:02 G 5881137.35 5881137.46 5881137.57 0.0088 0.0080 Saturn 11398-04-05 12:28 G 5884188.83 5884189.02 5884189.23 0.0279 0.0161 11401-07-18 04:04 G 5885387.50 Mars 5885387.67 5885387.84 0.1611 0.0669 Jupiter 11401-09-28 03:21 G 5885459.42 5885459.64 5885459.86 0.0486 0.0185 Saturn 11412-10-04 20:52 G 5889484.24 5889484.37 5889484.50 0.0280 0.0237 Jupiter 11413-10-02 10:19 G 5889846.70 5889846.93 5889847.17 0.0487 0.0050 Jupiter 11419-03-27 20:38 G 5891849.20 5891849.36 5891849.53 0.0543 0.0385 Uranus 11420-01-27 05:45 G 5892154.61 5892154.74 5892154.88 0.0133 0.0112 Uranus 11421-01-30 13:26 G 5892523.86 5892524.06 5892524.29 0.0133 0.0074 Uranus 11422-02-03 21:36 G 5892893.16 5892893.40 5892893.65 0.0133 0.0035 Uranus 11423-02-08 05:16 G 5893262.46 5893262.72 5893262.97 0.0133 0.0004 Uranus 11424-02-12 12:57 G 5893631.80 5893632.04 5893632.28 0.0133 0.0043 Uranus 11425-02-15 20:09 G 5894001.16 5894001.34 5894001.56 0.0133 0.0082 Jupiter 11425-10-06 16:48 G 5894233.97 5894234.20 5894234.43 0.0488 0.0085 Uranus 11426-02-20 03:50 G 5894370.57 5894370.66 5894370.78 0.0133 0.0120 Saturn 11427-04-01 10:33 G 5894775.70 5894775.94 5894776.18 0.0279 0.0064 Jupiter 11431-04-02 01:55 G 5896237.37 5896237.58 5896237.80 0.0542 0.0195 Jupiter 11437-10-10 21:21 G 5898621.18 5898621.39 5898621.61 0.0489 0.0214 Pluto 11440-11-16 10:04 G 5899753.67 5899753.92 5899754.16 0.0080 0.0029 Saturn 11441-09-29 18:57 G 5900071.05 5900071.29 5900071.54 0.0280 0.0016 Jupiter 11443-04-07 08:52 G 5900625.64 5900625.87 5900626.10 0.0541 0.0008 Jupiter 11449-10-15 05:02 G 5903008.55 5903008.71 5903008.88 0.0490 0.0351 Jupiter 11455-04-12 17:02 G 5905013.99 5905014.21 5905014.43 0.0540 0.0184

Neptune 11456-04-27 06:00 G 5905394.73 5905394.75 5905394.84 0.0089 0.0088 Saturn 11457-04-07 23:31 G 5905740.34 5905740.48 5905740.61 0.0279 0.0231 Neptune 11457-04-29 18:00 G 5905762.15 5905762.25 5905762.41 0.0089 0.0077 Neptune 11458-05-02 05:31 G 5906129.59 5906129.73 5906129.93 0.0089 0.0066 Neptune 11459-05-04 17:45 G 5906497.04 5906497.24 5906497.45 0.0089 0.0054 Neptune 11460-05-06 05:16 G 5906864.50 5906864.72 5906864.95 0.0089 0.0043 Jupiter 11460-09-18 22:19 G 5907000.38 5907000.43 5907000.50 0.0485 0.0465 Neptune 11461-05-08 16:19 G 5907231.96 5907232.18 5907232.43 0.0089 0.0032 Jupiter 11461-10-19 13:26 G 5907396.04 5907396.06 5907396.10 0.0492 0.0488 Neptune 11462-05-11 03:50 G 5907599.42 5907599.66 5907599.92 0.0089 0.0020 Uranus 11462-07-27 23:02 G 5907677.29 5907677.46 5907677.63 0.0146 0.0107 Neptune 11463-05-13 15:21 G 5907966.88 5907967.14 5907967.39 0.0089 0.0009 Uranus 11463-08-01 23:16 G 5908047.25 5908047.47 5908047.71 0.0146 0.0057 Neptune 11464-05-15 02:38 G 5908334.35 5908334.61 5908334.87 0.0089 0.0003 Uranus 11464-08-05 23:45 G 5908417.24 5908417.49 5908417.75 0.0146 0.0006 Neptune 11465-05-17 13:40 G 5908701.82 5908702.07 5908702.33 0.0089 0.0014 Uranus 11465-08-11 00:14 G 5908787.28 5908787.51 5908787.76 0.0146 0.0046 Neptune 11466-05-20 00:43 G 5909069.29 5909069.53 5909069.78 0.0089 0.0025 Uranus 11466-08-16 00:43 G 5909157.36 5909157.53 5909157.74 0.0146 0.0097 Jupiter 11467-04-17 22:33 G 5909402.28 5909402.44 5909402.61 0.0538 0.0370 Neptune 11467-05-22 12:00 G 5909436.77 5909437.00 5909437.24 0.0089 0.0036 Neptune 11468-05-23 23:16 G 5909804.26 5909804.47 5909804.69 0.0089 0.0048 Neptune 11469-05-26 09:36 G 5910171.74 5910171.90 5910172.12 0.0089 0.0059 Neptune 11470-05-28 21:07 G 5910539.23 5910539.38 5910539.55 0.0089 0.0069 Saturn 11470-09-24 01:40 G 5910657.45 5910657.57 5910657.71 0.0281 0.0236 Neptune 11471-05-31 07:55 G 5910906.74 5910906.83 5910906.95 0.0089 0.0080 Jupiter 11472-09-23 04:04 G 5911387.50 5911387.67 5911387.84 0.0485 0.0335 Mars 11480-07-20 03:36 G 5914244.47 5914244.65 5914244.83 0.1609 0.0435 Jupiter 11484-09-27 09:21 G 5915774.68 5915774.89 5915775.11 0.0486 0.0206 Saturn 11486-04-02 19:11 G 5916327.05 5916327.30 5916327.54 0.0279 0.0005

Jupiter 11496-10-01 13:11 G 5920161.82 5920162.05 5920162.29 0.0486 0.0079 Saturn 11500-10-02 06:57 G 5921622.56 5921622.79 5921623.03 0.0280 0.0089 Jupiter 11502-03-27 16:33 G 5922164.05 5922164.19 5922164.34 0.0544 0.0426 Uranus 11504-01-28 19:55 G 5922836.18 5922836.48 0.0133 0.0107 5922836.33 Uranus 11505-02-01 03:36 G 5923205.44 5923205.65 5923205.88 0.0133 0.0069 Uranus 11506-02-05 11:31 G 5923574.73 5923574.98 5923575.23 0.0133 0.0030 Uranus 11507-02-09 19:11 G 5923944.04 5923944.30 5923944.56 0.0133 0.0009 Uranus 11508-02-14 02:38 G 5924313.39 5924313.86 0.0133 0.0049 5924313.61 Jupiter 11508-10-06 19:55 G 5924549.10 5924549.33 5924549.56 0.0487 0.0056 Uranus 11509-02-17 10:19 G 5924682.75 5924682.93 5924683.13 0.0133 0.0087 Uranus 11510-02-21 17:45 G 5925052.18 5925052.24 5925052.34 0.0133 0.0126 Jupiter 11514-04-02 02:38 G 5926552.41 5926552.61 5926552.83 0.0543 0.0231 Saturn 11515-03-29 11:02 G 5926913.83 5926913.96 5926914.10 0.0278 0.0228 Jupiter 11520-10-11 02:09 G 5928936.38 5928936.59 5928936.81 0.0489 0.0191 Jupiter 11526-04-07 11:16 G 5930940.74 5930940.97 5930941.20 0.0541 0.0039 Saturn 11529-09-26 12:28 G 5932208.83 5932209.02 5932209.22 0.0281 0.0164 Jupiter 11532-10-15 11:16 G 5933323.79 5933323.97 5933324.14 0.0490 0.0328 Jupiter 11538-04-12 14:09 G 5935328.87 5935329.09 5935329.32 0.0540 0.0146 Neptune 11539-10-28 01:55 G 5935892.50 5935892.58 5935892.71 0.0088 0.0080 Neptune 11540-10-29 13:11 G 5936259.93 5936260.05 5936260.24 0.0088 0.0070 Neptune 11541-11-01 01:11 G 5936627.38 5936627.55 5936627.76 0.0088 0.0059 Neptune 11542-11-03 12:57 G 5936994.84 5936995.04 5936995.27 0.0088 0.0048 Jupiter 11543-09-20 04:48 G 5937315.69 5937315.70 5937315.72 0.0485 0.0484 Neptune 11543-11-06 00:57 G 5937362.31 5937362.54 5937362.79 0.0088 0.0037 Jupiter 11544-10-19 19:40 G 5937711.25 5937711.32 5937711.40 0.0491 0.0464 Neptune 11544-11-07 13:11 G 5937729.80 5937730.05 5937730.29 0.0088 0.0026 Saturn 11545-04-05 02:38 G 5937878.38 5937878.61 5937878.85 0.0279 0.0070 Neptune 11545-11-10 01:11 G 5938097.29 5938097.55 5938097.80 0.0088 0.0015 Uranus 11546-07-29 12:14 G 5938358.85 5938359.01 5938359.20 0.0146 0.0103 Neptune 11546-11-12 13:11 G 5938464.79 5938465.05 5938465.31 0.0088 0.0005

Uranus 11547-08-03 12:28 G 5938728.80 5938729.02 5938729.27 0.0146 0.0052
Neptune 11547-11-15 01:11 G 5938832.29 5938832.55 5938832.81 0.0088 0.0007
Uranus 11548-08-07 13:11 G 5939098.80 5939099.05 5939099.31 0.0146 0.0002
Neptune 11548-11-16 13:11 G 5939199.80 5939200.05 5939200.31 0.0088 0.0018
Uranus 11549-08-12 13:40 G 5939468.84 5939469.07 5939469.31 0.0146 0.0051
Neptune 11549-11-19 01:26 G 5939567.31 5939567.56 5939567.81 0.0088 0.0029
Jupiter 11550-04-17 17:31 G 5939717.05 5939717.23 5939717.41 0.0538 0.0328
Uranus 11550-08-17 14:23 G 5939838.92 5939839.10 5939839.28 0.0146 0.0102
Neptune 11550-11-21 13:11 G 5939934.83 5939935.05 5939935.30 0.0088 0.0040
Neptune 11551-11-24 01:26 G 5940302.36 5940302.56 5940302.78 0.0088 0.0050
Neptune 11552-11-25 13:26 G 5940669.90 5940670.06 5940670.27 0.0088 0.0062
Neptune 11553-11-28 01:40 G 5941037.44 5941037.57 5941037.74 0.0088 0.0072
Neptune 11554-11-30 14:23 G 5941405.02 5941405.10 5941405.20 0.0088 0.0083
Jupiter 11555-09-24 08:38 G 5941702.71 5941702.86 5941703.02 0.0485 0.0361
Mars 11559-07-24 03:36 G 5943101.60 5943101.65 5943101.70 0.1607 0.1543
Saturn 11559-10-04 17:02 G 5943174.01 5943174.21 5943174.41 0.0280 0.0160
Jupiter 11562-04-22 21:07 G 5944105.30 5944105.38 5944105.46 0.0538 0.0504
Jupiter 11567-09-28 14:23 G 5946089.89 5946090.10 5946090.30 0.0485 0.0230
Saturn 11574-03-30 18:57 G 5948465.10 5948465.29 5948465.49 0.0277 0.0161
Jupiter 11579-10-02 19:26 G 5950477.08 5950477.31 5950477.54 0.0486 0.0098
Jupiter 11585-03-26 19:55 G 5952479.21 5952479.33 5952479.46 0.0544 0.0451
Uranus 11588-01-29 09:50 G 5953517.75 5953517.91 5953518.07 0.0133 0.0102
Saturn 11588-09-27 21:50 G 5953760.18 5953760.41 5953760.64 0.0281 0.0095
Uranus 11589-02-01 17:16 G 5953887.01 5953887.22 5953887.46 0.0133 0.0064
Uranus 11590-02-06 01:26 G 5954256.31 5954256.56 5954256.82 0.0133 0.0024
Uranus 11591-02-10 09:07 G 5954625.63 5954625.88 5954626.14 0.0133 0.0015
Jupiter 11591-10-07 02:23 G 5954864.37 5954864.60 5954864.84 0.0487 0.0037
Uranus 11592-02-14 16:48 G 5954994.97 5954995.20 5954995.44 0.0133 0.0054
Uranus 11593-02-18 00:14 G 5955364.34 5955364.51 5955364.71 0.0133 0.0093
Uranus 11594-02-22 08:09 G 5955733.81 5955733.84 5955733.89 0.0133 0.0131

Jupiter 11597-04-01 02:09 G 5956867.39 5956867.59 5956867.80 0.0542 0.0265 11598-05-21 06:14 G 5957282.50 5957282.76 5957283.01 0.0064 0.0002 Pluto Jupiter 11603-10-11 09:21 G 5959251.68 5959251.89 5959252.12 0.0489 0.0170 Saturn 11604-04-06 08:23 G 5959429.64 5959429.85 5959430.07 0.0279 0.0132 Mars 11606-07-18 10:04 G 5960262.79 5960262.92 5960263.05 0.1616 0.1163 Jupiter 11609-04-06 07:40 G 5961255.59 5961255.82 5961256.05 0.0541 0.0077 Jupiter 11615-10-15 15:21 G 5963638.96 5963639.14 5963639.33 0.0489 0.0298 Saturn 11618-10-06 00:28 G 5964725.38 5964725.52 5964725.67 0.0280 0.0226 Jupiter 11621-04-11 11:45 G 5965643.77 5965643.99 5965644.22 0.0541 0.0106 Neptune 11621-04-29 21:36 G 5965662.33 5965662.40 5965662.54 0.0089 0.0082 Neptune 11622-05-02 09:36 G 5966029.77 5966029.90 5966030.09 0.0089 0.0071 Neptune 11623-05-04 21:36 G 5966397.23 5966397.40 5966397.61 0.0089 0.0060 Neptune 11624-05-06 09:07 G 5966764.69 5966764.88 5966765.12 0.0089 0.0049 Neptune 11625-05-08 20:52 G 5967132.16 5967132.37 5967132.62 0.0089 0.0038 5967500.10 0.0089 0.0027 Neptune 11626-05-11 08:09 G 5967499.62 5967499.84 Neptune 11627-05-13 19:55 G 5967867.08 5967867.33 5967867.59 0.0089 0.0015 Jupiter 11627-10-19 23:45 G 5968026.38 5968026.49 5968026.60 0.0490 0.0435 Neptune 11628-05-15 07:11 G 5968234.55 5968234.80 5968235.06 0.0089 0.0004 Neptune 11629-05-17 18:28 G 5968602.02 5968602.27 5968602.53 0.0089 0.0007 Neptune 11630-05-20 05:45 G 5968969.49 5968969.74 5968969.99 0.0089 0.0018 Uranus 11630-07-29 23:31 G 5969040.31 5969040.48 5969040.68 0.0146 0.0098 Neptune 11631-05-22 16:48 G 5969336.97 5969337.20 5969337.45 0.0089 0.0029 Uranus 11631-08-04 00:00 G 5969410.26 5969410.50 5969410.74 0.0146 0.0047 Neptune 11632-05-24 03:50 G 5969704.44 5969704.66 5969704.89 0.0089 0.0041 Uranus 11632-08-08 00:14 G 5969780.26 5969780.51 5969780.77 0.0146 0.0005 Saturn 11633-04-01 01:55 G 5970016.35 5970016.58 5970016.81 0.0277 0.0097 Jupiter 11633-04-16 19:55 G 5970032.14 5970032.33 5970032.53 0.0540 0.0295 Neptune 11633-05-26 14:52 G 5970071.92 5970072.12 5970072.34 0.0089 0.0051 Uranus 11633-08-13 00:43 G 5970150.30 5970150.53 5970150.77 0.0146 0.0056 Neptune 11634-05-29 01:55 G 5970439.42 5970439.58 5970439.78 0.0089 0.0062 Uranus 11634-08-18 01:11 G 5970520.39 5970520.55 5970520.73 0.0146 0.0107 Neptune 11635-05-31 12:43 G 5970806.91 5970807.03 5970807.20 0.0089 0.0073 Neptune 11636-06-02 00:14 G 5971174.43 5971174.51 5971174.60 0.0089 0.0083 Jupiter 11638-09-23 16:04 G 5972018.03 5972018.17 5972018.32 0.0485 0.0377 Jupiter 11645-04-22 02:23 G 5974420.51 5974420.60 5974420.72 0.0538 0.0478 Mars 11647-01-19 18:14 G 5975058.08 5975058.26 5975058.44 0.1921 0.0888 Saturn 11647-09-30 04:33 G 5975311.45 5975311.69 5975311.93 0.0281 0.0031 Jupiter 11650-09-27 22:04 G 5976405.22 5976405.42 5976405.62 0.0485 0.0247 Jupiter 11662-10-02 03:36 G 5980792.42 5980792.65 5980792.88 0.0486 0.0118 Saturn 11663-04-08 12:28 G 5980980.85 5980981.02 5980981.21 0.0279 0.0192 Jupiter 11668-03-25 18:14 G 5982794.16 5982794.26 5982794.36 0.0543 0.0485 Uranus 11672-01-29 22:48 G 5984199.30 5984199.45 5984199.65 0.0133 0.0098 Uranus 11673-02-02 07:11 G 5984568.57 5984568.80 5984569.03 0.0133 0.0058 Uranus 11674-02-06 15:07 G 5984937.88 5984938.13 5984938.38 0.0133 0.0019 Jupiter 11674-10-06 09:21 G 5985179.65 5985179.89 5985180.12 0.0487 0.0015 Uranus 11675-02-10 22:48 G 5985307.20 5985307.45 5985307.70 0.0133 0.0020 Uranus 11676-02-15 06:28 G 5985676.55 5985676.77 5985677.01 0.0133 0.0060 Saturn 11676-09-23 22:19 G 5985898.34 5985898.43 5985898.53 0.0282 0.0260 Uranus 11677-02-18 14:09 G 5986045.93 5986046.09 5986046.27 0.0133 0.0098 Jupiter 11680-03-30 22:48 G 5987182.26 5987182.45 5987182.65 0.0543 0.0305 Mars 11685-07-20 10:48 G 5989119.76 5989119.95 5989120.13 0.1614 0.0039 Jupiter 11686-10-10 16:19 G 5989566.96 5989567.18 5989567.40 0.0488 0.0145 11686-11-18 15:50 G 5989605.94 5989606.16 5989606.40 0.0080 0.0038 Pluto Saturn 11692-04-02 06:57 G 5991567.55 5991567.79 5991568.04 0.0277 0.0036 Jupiter 11692-04-05 08:38 G 5991570.64 5991570.86 5991571.09 0.0543 0.0112 Jupiter 11698-10-14 22:48 G 5993954.26 5993954.45 5993954.65 0.0489 0.0279 Neptune 11703-10-28 07:11 G 5995792.75 5995792.80 5995792.90 0.0088 0.0084 Jupiter 11704-04-11 18:14 G 5995959.03 5995959.26 5995959.49 0.0541 0.0082 Neptune 11704-10-29 18:57 G 5996160.17 5996160.29 5996160.45 0.0088 0.0074 Neptune 11705-11-01 06:43 G 5996527.60 5996527.78 5996527.96 0.0088 0.0063 Saturn 11706-10-02 09:07 G 5996862.63 5996862.88 5996863.12 0.0281 0.0030 5996895.25 5996895.48 0.0088 0.0053 Neptune 11706-11-03 18:00 G 5996895.06 Neptune 11707-11-06 06:00 G 5997262.53 5997262.75 5997262.98 0.0088 0.0042 Neptune 11708-11-07 17:31 G 5997630.00 5997630.23 5997630.49 0.0088 0.0032 Neptune 11709-11-10 05:31 G 5997997.49 5997997.73 5997997.99 0.0088 0.0021 Jupiter 11710-10-20 07:55 G 5998341.71 5998341.83 5998341.96 0.0490 0.0415 Neptune 11710-11-12 17:31 G 5998364.98 5998365.23 5998365.49 0.0088 0.0010 Neptune 11711-11-15 05:45 G 5998732.48 5998732.74 5998733.00 0.0088 0.0001 Neptune 11712-11-16 18:00 G 5999099.99 5999100.25 5999100.51 0.0088 0.0011 Uranus 11713-07-26 12:43 G 5999352.01 5999352.03 5999352.09 0.0146 0.0144 Neptune 11713-11-19 05:45 G 5999467.50 5999467.74 5999468.01 0.0088 0.0023 Uranus 11714-07-31 12:43 G 5999721.85 5999722.03 5999722.24 0.0146 0.0094 Neptune 11714-11-21 17:45 G 5999835.02 5999835.24 5999835.50 0.0088 0.0033 Uranus 11715-08-05 13:11 G 6000091.81 6000092.05 6000092.29 0.0146 0.0042 Neptune 11715-11-24 06:28 G 6000202.54 6000202.77 6000203.00 0.0088 0.0044 Jupiter 11716-04-16 23:31 G 6000347.28 6000347.48 6000347.69 0.0539 0.0265 Uranus 11716-08-09 13:26 G 6000461.81 6000462.06 6000462.31 0.0146 0.0009 Neptune 11716-11-25 18:14 G 6000570.07 6000570.26 6000570.48 0.0088 0.0055 Uranus 11717-08-14 13:55 G 6000831.86 6000832.08 6000832.32 0.0146 0.0061 Neptune 11717-11-28 06:14 G 6000937.61 6000937.76 6000937.96 0.0088 0.0066 Uranus 11718-08-19 14:23 G 6001201.95 6001202.10 6001202.27 0.0146 0.0112 Neptune 11718-11-30 18:43 G 6001305.16 6001305.28 6001305.43 0.0088 0.0076 Neptune 11719-12-03 06:43 G 6001672.76 6001672.78 6001672.87 0.0088 0.0087 Saturn 11721-03-28 18:43 G 6002154.26 6002154.28 6002154.32 0.0277 0.0275 Jupiter 11721-09-24 01:26 G 6002333.43 6002333.56 6002333.70 0.0485 0.0393 Saturn 11722-04-10 15:36 G 6002532.05 6002532.15 6002532.27 0.0279 0.0250 Jupiter 11728-04-22 02:52 G 6004735.50 6004735.62 6004735.76 0.0538 0.0443 Jupiter 11733-09-28 06:43 G 6006720.59 6006720.78 6006720.98 0.0485 0.0267 Saturn 11735-09-27 00:28 G 6007449.36 6007449.52 6007449.69 0.0282 0.0204 Jupiter 11745-10-02 12:57 G 6011107.82 6011108.04 6011108.27 0.0486 0.0135

Jupiter 11751-03-26 17:45 G 6013109.18 6013109.24 6013109.31 0.0544 0.0519 Saturn 11751-04-05 11:02 G 6013118.71 6013118.96 6013119.20 0.0277 0.0023 Uranus 11755-01-27 04:33 G 6014511.67 6014511.69 6014511.71 0.0133 0.0132 Uranus 11756-01-31 12:43 G 6014880.86 6014881.03 6014881.22 0.0133 0.0093 Uranus 11757-02-03 20:38 G 6015250.13 6015250.36 6015250.60 0.0133 0.0054 Jupiter 11757-10-06 18:14 G 6015495.02 6015495.26 6015495.49 0.0486 0.0006 Uranus 11758-02-08 04:33 G 6015619.44 6015619.69 6015619.95 0.0133 0.0015 Uranus 11759-02-12 12:28 G 6015988.77 6015989.02 6015989.27 0.0133 0.0025 Uranus 11760-02-16 20:09 G 6016358.13 6016358.34 6016358.58 0.0133 0.0065 Uranus 11761-02-20 03:50 G 6016727.52 6016727.66 6016727.84 0.0133 0.0104 Jupiter 11763-04-01 05:31 G 6017497.55 6017497.73 6017497.92 0.0544 0.0326 Mars 11764-07-23 10:33 G 6017976.81 6017976.94 6017977.08 0.1611 0.1092 Saturn 11765-10-03 11:45 G 6018413.75 6018413.99 6018414.22 0.0281 0.0086 Jupiter 11769-10-11 01:26 G 6019882.33 6019882.56 6019882.79 0.0488 0.0128 Jupiter 11775-04-06 14:09 G 6021885.87 6021886.09 6021886.32 0.0542 0.0138 Saturn 11780-03-29 21:07 G 6023705.24 6023705.38 6023705.54 0.0277 0.0218 Jupiter 11781-10-15 09:07 G 6024269.69 6024269.88 6024270.08 0.0489 0.0261 Neptune 11785-04-30 02:23 G 6025562.55 6025562.60 6025562.69 0.0089 0.0086 Neptune 11786-05-02 14:23 G 6025929.98 6025930.10 6025930.26 0.0089 0.0075 Jupiter 11787-04-11 20:09 G 6026274.11 6026274.34 6026274.57 0.0541 0.0050 Neptune 11787-05-05 01:55 G 6026297.43 6026297.58 6026297.79 0.0089 0.0065 Neptune 11788-05-06 13:55 G 6026664.90 6026665.08 6026665.31 0.0089 0.0054 Neptune 11789-05-09 01:40 G 6027032.36 6027032.57 6027032.81 0.0089 0.0043 Neptune 11790-05-11 13:40 G 6027399.84 6027400.07 6027400.32 0.0089 0.0031 Neptune 11791-05-14 01:11 G 6027767.31 6027767.55 6027767.80 0.0089 0.0021 Neptune 11792-05-15 12:43 G 6028134.77 6028135.03 6028135.28 0.0089 0.0010 Neptune 11793-05-18 00:00 G 6028502.24 6028502.50 6028502.75 0.0089 0.0001 Jupiter 11793-10-19 16:48 G 6028657.06 6028657.20 6028657.34 0.0490 0.0392 Neptune 11794-05-20 11:02 G 6028869.72 6028869.96 6028870.22 0.0089 0.0012 Saturn 11794-09-28 00:57 G 6029000.34 6029000.54 6029000.75 0.0282 0.0151

Neptune 11795-05-22 22:04 G 6029237.19 6029237.42 6029237.68 0.0089 0.0023 Neptune 11796-05-24 09:36 G 6029604.66 6029604.90 6029605.13 0.0089 0.0034 Neptune 11797-05-26 20:23 G 6029972.14 6029972.35 6029972.58 0.0089 0.0045 Uranus 11797-07-27 00:14 G 6030033.47 6030033.60 0.0146 0.0141 6030033.51 Neptune 11798-05-29 07:11 G 6030339.62 6030339.80 6030340.02 0.0089 0.0055 Uranus 11798-08-01 00:14 G 6030403.32 6030403.51 6030403.72 0.0146 0.0090 Jupiter 11799-04-16 22:19 G 6030662.22 6030662.43 6030662.64 0.0541 0.0228 Neptune 11799-05-31 18:43 G 6030707.12 6030707.28 6030707.46 0.0089 0.0065 Uranus 11799-08-06 00:28 G 6030773.28 6030773.52 6030773.77 0.0146 0.0039 6031074.72 6031074.87 0.0089 0.0076 Neptune 11800-06-03 05:16 G 6031074.61 Uranus 11800-08-11 00:43 G 6031143.29 6031143.53 6031143.79 0.0146 0.0014 Neptune 11801-06-05 16:33 G 6031442.14 6031442.19 6031442.27 0.0089 0.0086 Uranus 11801-08-16 01:26 G 6031513.33 6031513.56 6031513.79 0.0146 0.0065 Uranus 11802-08-21 01:26 G 6031883.44 6031883.56 6031883.74 0.0145 0.0117 Jupiter 11804-09-24 12:43 G 6032648.91 6032649.03 6032649.17 0.0484 0.0405 Saturn 11810-04-07 14:09 G 6034669.86 6034670.09 6034670.33 0.0277 0.0080 Jupiter 11811-04-23 05:31 G 6035050.59 6035050.73 6035050.89 0.0539 0.0412 Jupiter 11816-09-28 16:48 G 6037036.02 6037036.20 6037036.40 0.0485 0.0280 Saturn 11824-10-05 12:14 G 6039964.81 6039965.01 6039965.24 0.0281 0.0140 Jupiter 11828-10-02 22:48 G 6041423.23 6041423.45 6041423.68 0.0485 0.0150 Jupiter 11834-03-27 00:43 G 6043424.51 6043424.53 6043424.56 0.0544 0.0539 Uranus 11839-01-28 17:02 G 6045193.15 6045193.21 6045193.28 0.0133 0.0128 Saturn 11839-04-01 23:16 G 6045256.28 6045256.47 6045256.68 0.0277 0.0163 Uranus 11840-02-02 01:26 G 6045562.37 6045562.56 6045562.75 0.0133 0.0089 Jupiter 11840-10-07 05:02 G 6045810.47 6045810.71 6045810.94 0.0486 0.0022 Uranus 11841-02-05 09:21 G 6045931.66 6045931.89 6045932.14 0.0133 0.0050 Uranus 11842-02-09 17:45 G 6046300.98 6046301.24 6046301.49 0.0133 0.0010 Uranus 11843-02-14 01:26 G 6046670.32 6046670.56 6046670.82 0.0133 0.0030 Uranus 11844-02-18 09:50 G 6047039.69 6047039.91 6047040.12 0.0133 0.0069 Pluto 11844-05-23 21:36 G 6047135.17 6047135.40 6047135.65 0.0064 0.0024

Uranus 11845-02-21 17:02 G 6047409.09 6047409.21 6047409.38 0.0133 0.0109 Pluto 11845-05-25 08:52 G 6047501.85 6047501.87 6047501.92 0.0064 0.0064 Jupiter 11846-04-01 08:38 G 6047812.69 6047812.86 6047813.04 0.0543 0.0353 Jupiter 11852-10-11 12:00 G 6050197.77 6050198.00 6050198.23 0.0487 0.0110 Saturn 11853-09-30 00:14 G 6050551.28 6050551.51 6050551.74 0.0282 0.0101 Jupiter 11858-04-06 11:31 G 6052200.76 6052200.98 6052201.20 0.0543 0.0174 Jupiter 11864-10-15 19:26 G 6054585.11 6054585.31 6054585.52 0.0488 0.0243 Neptune 11867-10-28 13:55 G 6055693.08 6055693.08 6055693.12 0.0088 0.0088 Neptune 11868-10-30 00:57 G 6056060.45 6056060.54 6056060.69 0.0088 0.0078 Saturn 11869-04-08 16:48 G 6056220.99 6056221.20 6056221.42 0.0277 0.0136 Neptune 11869-11-01 12:28 G 6056427.88 6056428.02 6056428.21 0.0088 0.0068 Jupiter 11870-04-11 20:23 G 6056589.12 6056589.35 6056589.58 0.0542 0.0018 Neptune 11870-11-04 00:28 G 6056795.33 6056795.52 6056795.72 0.0088 0.0057 Neptune 11871-11-06 12:00 G 6057162.79 6057163.00 6057163.23 0.0088 0.0047 Neptune 11872-11-07 23:31 G 6057530.26 6057530.48 6057530.73 0.0088 0.0037 Neptune 11873-11-10 11:16 G 6057897.73 6057897.97 6057898.22 0.0088 0.0026 Neptune 11874-11-12 23:02 G 6058265.21 6058265.46 6058265.73 0.0088 0.0016 Neptune 11875-11-15 11:02 G 6058632.70 6058632.96 6058633.22 0.0088 0.0006 Jupiter 11876-10-20 01:55 G 6058972.43 6058972.58 6058972.73 0.0489 0.0374 Neptune 11876-11-16 23:02 G 6059000.20 6059000.46 6059000.72 0.0088 0.0006 Neptune 11877-11-19 11:02 G 6059367.71 6059367.96 6059368.22 0.0088 0.0016 Neptune 11878-11-21 23:16 G 6059735.23 6059735.47 6059735.72 0.0088 0.0027 Neptune 11879-11-24 11:16 G 6060102.75 6060102.97 6060103.22 0.0088 0.0037 Neptune 11880-11-25 23:45 G 6060470.27 6060470.49 6060470.71 0.0088 0.0048 Uranus 11881-07-28 13:11 G 6060714.98 6060715.05 6060715.15 0.0145 0.0137 Neptune 11881-11-28 11:16 G 6060837.80 6060837.97 6060838.19 0.0088 0.0059 Jupiter 11882-04-17 06:28 G 6060977.56 6060977.77 6060977.99 0.0541 0.0208 Uranus 11882-08-02 13:11 G 6061084.85 6061085.05 6061085.26 0.0146 0.0086 Neptune 11882-11-30 23:45 G 6061205.34 6061205.49 6061205.67 0.0088 0.0069 Uranus 11883-08-07 13:11 G 6061454.82 6061455.05 6061455.31 0.0146 0.0035

Saturn 11883-10-07 12:43 G 6061515.86 6061516.03 6061516.22 0.0281 0.0193 6061573.01 6061573.14 0.0088 0.0079 Neptune 11883-12-03 12:14 G 6061572.91 Uranus 11884-08-11 13:55 G 6061824.83 6061825.08 6061825.33 0.0146 0.0018 Uranus 11885-08-16 14:09 G 6062194.88 6062195.33 0.0145 0.0070 6062195.09 Uranus 11886-08-21 14:52 G 6062564.99 6062565.12 6062565.27 0.0145 0.0121 Jupiter 11887-09-24 23:02 G 6062964.35 6062964.46 6062964.58 0.0484 0.0417 Mars 11890-07-21 16:19 G 6063995.01 6063995.18 6063995.36 0.1619 0.0525 Jupiter 11894-04-22 13:11 G 6065365.89 6065366.05 6065366.21 0.0539 0.0387 Saturn 11898-04-03 01:40 G 6066807.35 6066807.57 6066807.80 0.0277 0.0108 Jupiter 11899-09-29 03:50 G 6067351.48 6067351.66 6067351.85 0.0485 0.0293 Jupiter 11911-10-04 10:19 G 6071738.71 6071738.93 6071739.15 0.0485 0.0164 Saturn 11912-10-01 23:02 G 6072102.22 6072102.46 6072102.71 0.0282 0.0052 Uranus 11923-01-30 05:31 G 6075874.66 6075874.73 6075874.83 0.0133 0.0125 Jupiter 11923-10-08 16:48 G 6076125.96 6076126.20 6076126.43 0.0486 0.0034 Uranus 11924-02-03 14:23 G 6076243.90 6076244.10 6076244.30 0.0133 0.0085 Uranus 11925-02-06 22:19 G 6076613.20 6076613.43 6076613.68 0.0133 0.0046 Uranus 11926-02-11 06:43 G 6076982.53 6076982.78 6076983.04 0.0133 0.0006 Uranus 11927-02-15 14:52 G 6077351.87 6077352.12 6077352.37 0.0133 0.0034 Uranus 11928-02-19 22:33 G 6077721.24 6077721.44 6077721.67 0.0133 0.0074 Saturn 11928-04-10 19:55 G 6077772.16 6077772.33 6077772.51 0.0277 0.0192 Uranus 11929-02-23 06:43 G 6078090.66 6078090.78 6078090.92 0.0133 0.0113 Jupiter 11929-04-01 06:28 G 6078127.62 6078127.77 6078127.94 0.0544 0.0388 11931-01-21 14:38 G 6078788.02 6078788.11 6078788.20 0.1914 0.1716 Mars Jupiter 11935-10-12 21:21 G 6080513.16 6080513.39 6080513.63 0.0487 0.0094 Jupiter 11941-04-06 18:28 G 6082516.06 6082516.27 6082516.49 0.0543 0.0194 Saturn 11942-10-09 13:11 G 6083066.95 6083067.05 6083067.19 0.0281 0.0245 Jupiter 11947-10-17 04:48 G 6084900.50 6084900.70 6084900.91 0.0488 0.0226 Neptune 11950-05-03 18:57 G 6085830.20 6085830.29 6085830.43 0.0089 0.0080 Neptune 11951-05-06 07:11 G 6086197.65 6086197.80 6086197.97 0.0089 0.0069 Neptune 11952-05-07 18:28 G 6086565.10 6086565.27 6086565.49 0.0089 0.0059 Jupiter 11953-04-12 04:04 G 6086904.44 6086904.67 6086904.91 0.0542 0.0011 Neptune 11953-05-10 06:43 G 6086932.57 6086932.78 6086933.01 0.0089 0.0048 Neptune 11954-05-12 18:14 G 6087300.05 6087300.26 6087300.51 0.0089 0.0038 Neptune 11955-05-15 06:00 G 6087667.52 6087667.75 6087668.01 0.0089 0.0027 Neptune 11956-05-16 18:00 G 6088035.00 6088035.25 6088035.50 0.0089 0.0015 Saturn 11957-04-05 04:48 G 6088358.47 6088358.70 6088358.95 0.0277 0.0052 Neptune 11957-05-19 05:31 G 6088402.47 6088402.73 6088402.99 0.0089 0.0005 Neptune 11958-05-21 16:48 G 6088769.95 6088770.20 6088770.46 0.0089 0.0006 Neptune 11959-05-24 03:50 G 6089137.42 6089137.66 6089137.93 0.0089 0.0017 Jupiter 11959-10-21 12:28 G 6089287.87 6089288.02 6089288.19 0.0489 0.0359 Neptune 11960-05-25 15:07 G 6089504.90 6089505.13 6089505.39 0.0089 0.0028 Neptune 11961-05-28 02:09 G 6089872.38 6089872.59 6089872.84 0.0089 0.0038 Neptune 11962-05-30 13:26 G 6090239.86 6090240.06 6090240.29 0.0089 0.0049 Neptune 11963-06-02 00:14 G 6090607.34 6090607.51 6090607.73 0.0089 0.0059 6090974.97 6090975.16 0.0089 0.0069 Neptune 11964-06-03 11:16 G 6090974.84 Jupiter 11965-04-17 10:19 G 6091292.71 6091292.93 6091293.15 0.0541 0.0180 Neptune 11965-06-05 22:33 G 6091342.35 6091342.44 6091342.58 0.0089 0.0079 Uranus 11965-07-30 00:57 G 6091396.45 6091396.54 6091396.65 0.0145 0.0133 Uranus 11966-08-04 00:43 G 6091766.33 6091766.53 6091766.74 0.0145 0.0082 Uranus 11967-08-09 00:57 G 6092136.30 6092136.54 6092136.79 0.0145 0.0030 Uranus 11968-08-13 01:26 G 6092506.31 6092506.56 6092506.81 0.0145 0.0022 11969-07-24 17:02 G 6092852.04 6092852.21 6092852.38 0.1616 0.0622 Mars Uranus 11969-08-18 01:40 G 6092876.36 6092876.57 6092876.80 0.0145 0.0074 Uranus 11970-08-23 02:23 G 6093246.47 6093246.60 6093246.73 0.0145 0.0125 Jupiter 11970-09-25 10:33 G 6093279.84 6093279.94 6093280.05 0.0484 0.0429 Saturn 11971-10-03 22:48 G 6093653.20 6093653.45 6093653.70 0.0282 0.0001 Jupiter 11971-10-25 21:50 G 6093675.41 6093675.41 6093675.43 0.0490 0.0489 Jupiter 11977-04-22 10:33 G 6095680.77 6095680.94 6095681.12 0.0540 0.0352 Jupiter 11982-09-29 16:04 G 6097666.99 6097667.17 6097667.35 0.0485 0.0303 Saturn 11986-03-31 04:33 G 6098945.63 6098945.69 6098945.75 0.0276 0.0268

 Saturn
 11987-04-12 23:31 G
 6099323.39
 6099323.48
 6099323.61
 0.0277
 0.0249

 Jupiter
 11989-04-27 16:19 G
 6100069.15
 6100069.18
 6100069.23
 0.0538
 0.0529

 Jupiter
 11994-10-03 19:40 G
 6102054.10
 6102054.32
 6102054.54
 0.0485
 0.0179

 Saturn
 12000-09-27 07:11 G
 6104239.70
 6104239.80
 6104239.93
 0.0282
 0.0249

## 13TH MILLENNIUM CE

## This is a list of transits of Earth in the 13th millennium CE.

FROM MAX- C START MAX END SUNRAD DEPTH S

TRANSIT

TIME

Jupiter 12006-10-08 01:26 G 6106441.33 6106441.56 6106441.79 0.0486 0.0050 **Uranus** 12007-01-30 17:16 G 6106556.14 6106556.22 6106556.35 0.0133 0.0121 12008-02-04 02:09 G 6106925.40 6106925.59 6106925.80 0.0133 0.0081 Uranus Uranus 12009-02-07 10:33 G 6107294.70 6107294.94 6107295.19 0.0133 0.0041 12010-01-25 10:04 G 6107646.84 6107646.92 6107646.99 0.1920 0.1785 Mars Uranus 12010-02-11 19:11 G 6107664.04 6107664.30 6107664.56 0.0133 0.0002 Uranus 12011-02-16 03:07 G 6108033.39 6108033.63 6108033.88 0.0133 0.0039 Uranus 12012-02-20 11:02 G 6108402.77 6108402.96 6108403.18 0.0133 0.0079 Jupiter 12012-03-31 14:09 G 6108442.93 6108443.09 6108443.24 0.0544 0.0407 Uranus 12013-02-23 18:57 G 6108772.19 6108772.29 6108772.42 0.0133 0.0118 Saturn 12016-04-06 09:21 G 6109909.64 6109909.89 6109910.13 0.0277 0.0008 Jupiter 12018-10-12 07:40 G 6110828.59 6110828.82 6110829.05 0.0487 0.0078 Jupiter 12024-04-05 22:19 G 6112831.22 6112831.43 6112831.64 0.0543 0.0220 Saturn 12030-10-04 23:45 G 6115204.25 6115204.49 6115204.74 0.0282 0.0052 Jupiter 12030-10-16 15:21 G 6115215.94 6115216.14 6115216.36 0.0488 0.0211

Neptune 12032-10-30 08:09 G 6115960.76 6115960.84 6115960.96 0.0088 0.0081 Neptune 12033-11-01 19:55 G 6116328.19 6116328.33 6116328.49 0.0088 0.0071 Neptune 12034-11-04 07:26 G 6116695.64 6116695.81 6116696.01 0.0088 0.0061 Neptune 12035-11-06 19:11 G 6117063.09 6117063.30 6117063.52 0.0088 0.0051 Jupiter 12036-04-11 00:00 G 6117219.27 6117219.50 6117219.73 0.0542 0.0043 Neptune 12036-11-08 06:28 G 6117430.55 6117430.77 6117431.01 0.0088 0.0041 Neptune 12037-11-10 18:14 G 6117798.03 6117798.26 6117798.51 0.0088 0.0031 Neptune 12038-11-13 05:45 G 6118165.50 6118165.74 6118166.01 0.0088 0.0021 Neptune 12039-11-15 18:00 G 6118532.99 6118533.25 6118533.51 0.0088 0.0010 Neptune 12040-11-17 05:45 G 6118900.48 6118900.74 6118901.00 0.0088 0.0001 Neptune 12041-11-19 17:31 G 6119267.98 6119268.23 6119268.49 0.0088 0.0010 Jupiter 12042-10-20 23:02 G 6119603.30 6119603.46 6119603.63 0.0489 0.0342 Neptune 12042-11-22 05:31 G 6119635.49 6119635.73 6119635.99 0.0088 0.0021 Neptune 12043-11-24 17:31 G 6120003.00 6120003.23 6120003.49 0.0088 0.0031 Neptune 12044-11-26 05:45 G 6120370.52 6120370.74 6120370.98 0.0088 0.0041 Saturn 12045-04-01 09:21 G 6120496.74 6120496.89 6120497.06 0.0277 0.0210 Neptune 12045-11-28 18:00 G 6120738.05 6120738.25 6120738.47 0.0088 0.0052 Neptune 12046-12-01 06:00 G 6121105.59 6121105.75 6121105.96 0.0088 0.0062 Neptune 12047-12-03 18:00 G 6121473.13 6121473.25 6121473.43 0.0088 0.0072 Jupiter 12048-04-16 06:57 G 6121607.57 6121607.79 6121608.02 0.0542 0.0144 Neptune 12048-12-05 06:14 G 6121840.70 6121840.76 6121840.89 0.0088 0.0083 Uranus 12049-07-30 13:11 G 6122077.95 6122078.05 6122078.18 0.0145 0.0128 Uranus 12050-08-04 12:57 G 6122447.84 6122448.04 6122448.26 0.0145 0.0078 Uranus 12051-08-09 13:26 G 6122817.81 6122818.06 6122818.31 0.0145 0.0026 Uranus 12052-08-13 13:40 G 6123187.82 6123188.07 6123188.32 0.0145 0.0026 Uranus 12053-08-18 13:55 G 6123557.88 6123558.08 6123558.31 0.0145 0.0079 Jupiter 12053-09-24 19:26 G 6123595.22 6123595.31 6123595.40 0.0484 0.0443 Uranus 12054-08-23 14:38 G 6123928.00 6123928.11 6123928.22 0.0145 0.0130 Jupiter 12054-10-25 04:33 G 6123990.64 6123990.69 6123990.77 0.0490 0.0469 Saturn 12059-09-29 10:48 G 6125790.78 6125790.95 6125791.14 0.0282 0.0191

Jupiter 12060-04-21 16:04 G 6125995.99 6125996.17 6125996.36 0.0540 0.0328 Jupiter 12065-09-29 00:14 G 6127982.34 6127982.51 6127982.69 0.0484 0.0318 Jupiter 12072-04-26 23:16 G 6130384.39 6130384.47 6130384.55 0.0539 0.0504 Saturn 12075-04-08 14:52 G 6131460.88 6131461.12 6131461.36 0.0277 0.0066 Jupiter 12077-10-03 04:48 G 6132369.49 6132369.70 6132369.92 0.0485 0.0194 Saturn 12089-10-06 03:21 G 6136755.42 6136755.64 6136755.87 0.0281 0.0108 Jupiter 12089-10-07 11:31 G 6136756.75 6136756.98 6136757.22 0.0486 0.0066 12090-05-26 16:48 G 6136988.02 6136988.20 6136988.42 0.0064 0.0040 Pluto Uranus 12091-01-31 05:31 G 6137237.63 6137237.73 6137237.88 0.0133 0.0117 12091-05-28 03:50 G 6137354.51 6137354.66 6137354.86 0.0064 0.0048 Pluto Uranus 12092-02-04 14:23 G 6137606.91 6137607.10 6137607.32 0.0133 0.0077 Uranus 12093-02-07 23:02 G 6137976.22 6137976.46 6137976.71 0.0133 0.0037 Uranus 12094-02-12 07:40 G 6138345.56 6138345.82 6138346.08 0.0133 0.0004 Uranus 12095-02-16 15:36 G 6138714.92 6138715.15 6138715.40 0.0133 0.0044 Jupiter 12095-03-31 08:38 G 6138757.74 6138757.86 6138758.01 0.0544 0.0443 Mars 12095-07-21 21:36 G 6138870.26 6138870.40 6138870.55 0.1624 0.1038 Uranus 12096-02-20 23:45 G 6139084.30 6139084.49 6139084.70 0.0133 0.0083 Uranus 12097-02-24 07:26 G 6139453.73 6139453.81 6139453.92 0.0133 0.0123 Jupiter 12101-10-12 17:45 G 6141144.01 6141144.24 6141144.47 0.0486 0.0064 Saturn 12104-04-03 15:36 G 6142047.95 6142048.15 6142048.36 0.0277 0.0149 Jupiter 12107-04-06 16:33 G 6143145.98 6143146.19 6143146.39 0.0544 0.0258 Jupiter 12113-10-16 21:50 G 6145531.20 6145531.41 6145531.63 0.0487 0.0190 Neptune 12114-05-04 01:11 G 6145730.49 6145730.55 6145730.67 0.0089 0.0084 Neptune 12115-05-06 13:11 G 6146097.92 6146098.05 6146098.21 0.0089 0.0073 Neptune 12116-05-08 01:11 G 6146465.38 6146465.55 6146465.74 0.0089 0.0063 Neptune 12117-05-10 12:43 G 6146832.84 6146833.03 6146833.26 0.0089 0.0053 Neptune 12118-05-13 00:43 G 6147200.31 6147200.53 6147200.76 0.0089 0.0042 Saturn 12118-10-01 16:48 G 6147341.99 6147342.20 6147342.43 0.0282 0.0129 Jupiter 12119-04-12 03:07 G 6147534.40 6147534.63 6147534.86 0.0543 0.0069 Neptune 12119-05-15 12:14 G 6147567.79 6147568.01 6147568.26 0.0089 0.0032

Neptune 12120-05-17 00:00 G 6147935.26 6147935.50 6147935.76 0.0089 0.0021 Neptune 12121-05-19 11:45 G 6148302.74 6148302.99 6148303.25 0.0089 0.0011 Neptune 12122-05-21 23:16 G 6148670.22 6148670.47 6148670.73 0.0089 0.0002 Neptune 12123-05-24 10:48 G 6149037.70 6149037.95 6149038.20 0.0089 0.0011 Neptune 12124-05-25 21:50 G 6149405.17 6149405.41 6149405.67 0.0089 0.0021 Neptune 12125-05-28 09:07 G 6149772.65 6149772.88 6149773.13 0.0089 0.0032 Jupiter 12125-10-21 04:48 G 6149918.53 6149918.70 6149918.89 0.0488 0.0320 Neptune 12126-05-30 20:23 G 6150140.13 6150140.35 6150140.58 0.0089 0.0042 Neptune 12127-06-02 06:57 G 6150507.61 6150507.79 6150508.02 0.0089 0.0053 Neptune 12128-06-03 18:14 G 6150875.10 6150875.26 6150875.46 0.0089 0.0062 Neptune 12129-06-06 05:16 G 6151242.59 6151242.72 6151242.88 0.0089 0.0072 Neptune 12130-06-08 16:04 G 6151610.10 6151610.17 6151610.30 0.0089 0.0083 Jupiter 12131-04-17 12:28 G 6151922.80 6151923.02 6151923.25 0.0542 0.0118 Uranus 12133-08-01 00:28 G 6152759.41 6152759.52 6152759.67 0.0145 0.0124 Saturn 12134-04-10 22:48 G 6153012.23 6153012.45 6153012.67 0.0277 0.0130 Uranus 12134-08-06 00:28 G 6153129.30 6153129.52 6153129.74 0.0145 0.0073 Uranus 12135-08-11 00:28 G 6153499.28 6153499.52 6153499.78 0.0145 0.0022 Uranus 12136-08-15 00:43 G 6153869.29 6153869.53 6153869.78 0.0145 0.0031 Jupiter 12136-09-25 03:36 G 6153910.58 6153910.65 6153910.73 0.0484 0.0457 Uranus 12137-08-20 00:43 G 6154239.34 6154239.53 6154239.75 0.0145 0.0083 Jupiter 12137-10-25 12:43 G 6154305.94 6154306.03 6154306.12 0.0490 0.0449 Uranus 12138-08-25 00:57 G 6154609.46 6154609.54 6154609.65 0.0145 0.0135 Jupiter 12143-04-22 18:43 G 6156311.09 6156311.28 6156311.48 0.0540 0.0298 Jupiter 12148-09-29 09:07 G 6158297.71 6158297.88 6158298.05 0.0484 0.0333 Saturn 12148-10-08 09:07 G 6158306.69 6158306.88 6158307.08 0.0281 0.0169 Jupiter 12155-04-27 18:00 G 6160699.14 6160699.25 6160699.37 0.0539 0.0466 Jupiter 12160-10-03 14:09 G 6162684.89 6162685.09 6162685.31 0.0485 0.0208 Saturn 12163-04-05 23:16 G 6163599.24 6163599.47 6163599.70 0.0277 0.0086 Jupiter 12172-10-07 17:16 G 6167071.99 6167072.22 6167072.45 0.0485 0.0086 12174-07-24 22:33 G 6167727.26 6167727.44 6167727.63 0.1622 0.0133 Mars

Uranus 12175-02-01 17:16 G 6167919.09 6167919.22 6167919.36 0.0133 0.0112 Uranus 12176-02-06 01:40 G 6168288.37 6168288.57 6168288.80 0.0133 0.0073 Uranus 12177-02-09 10:33 G 6168657.69 6168657.94 6168658.19 0.0133 0.0032 Saturn 12177-10-03 01:40 G 6168893.33 6168893.57 6168893.81 0.0282 0.0062 Uranus 12178-02-13 19:11 G 6169027.04 6169027.30 6169027.56 0.0133 0.0008 Jupiter 12178-03-31 09:07 G 6169072.77 6169072.88 6169073.00 0.0544 0.0473 Uranus 12179-02-18 03:07 G 6169396.40 6169396.63 6169396.87 0.0133 0.0048 Pluto 12179-11-26 23:16 G 6169678.31 6169678.47 6169678.67 0.0080 0.0057 Uranus 12180-02-22 11:16 G 6169765.78 6169765.97 6169766.17 0.0133 0.0088 Uranus 12181-02-25 18:57 G 6170135.24 6170135.29 6170135.37 0.0133 0.0128 Jupiter 12184-10-11 23:02 G 6171459.22 6171459.46 6171459.69 0.0486 0.0042 Jupiter 12190-04-05 20:23 G 6173461.16 6173461.35 6173461.55 0.0544 0.0285 Saturn 12193-04-12 07:26 G 6174563.65 6174563.81 6174564.00 0.0277 0.0196 Jupiter 12196-10-16 04:48 G 6175846.48 6175846.70 6175846.92 0.0487 0.0170 Neptune 12196-10-30 16:04 G 6175861.10 6175861.17 6175861.24 0.0088 0.0084 Neptune 12197-11-02 03:07 G 6176228.52 6176228.63 6176228.79 0.0088 0.0075 Neptune 12198-11-04 14:52 G 6176595.97 6176596.12 6176596.31 0.0088 0.0065 Neptune 12199-11-07 02:23 G 6176963.41 6176963.60 6176963.81 0.0088 0.0055 Neptune 12200-11-09 14:09 G 6177330.88 6177331.09 6177331.32 0.0088 0.0045 Neptune 12201-11-12 01:40 G 6177698.34 6177698.57 6177698.82 0.0088 0.0035 Jupiter 12202-04-12 04:48 G 6177849.48 6177849.70 6177849.93 0.0543 0.0098 Neptune 12202-11-14 13:40 G 6178065.82 6178066.07 6178066.32 0.0088 0.0025 Neptune 12203-11-17 01:11 G 6178433.30 6178433.55 6178433.81 0.0088 0.0015 Neptune 12204-11-18 12:57 G 6178800.78 6178801.04 6178801.30 0.0088 0.0005 Neptune 12205-11-21 00:43 G 6179168.28 6179168.53 6179168.79 0.0088 0.0005 Neptune 12206-11-23 12:43 G 6179535.78 6179536.03 6179536.29 0.0088 0.0015 Saturn 12207-10-11 17:02 G 6179858.09 6179858.21 6179858.36 0.0281 0.0233 Neptune 12207-11-26 00:28 G 6179903.28 6179903.52 6179903.78 0.0088 0.0025 Jupiter 12208-10-21 12:57 G 6180233.85 6180234.04 6180234.22 0.0488 0.0301 Neptune 12208-11-27 12:28 G 6180270.79 6180271.02 6180271.27 0.0088 0.0036

Neptune 12209-11-30 00:57 G 6180638.32 6180638.54 6180638.77 0.0088 0.0046 Neptune 12210-12-02 13:11 G 6181005.85 6181006.05 6181006.26 0.0088 0.0055 Neptune 12211-12-05 01:26 G 6181373.40 6181373.56 6181373.74 0.0088 0.0066 Neptune 12212-12-06 13:26 G 6181740.95 6181741.06 6181741.21 0.0088 0.0076 Neptune 12213-12-09 01:40 G 6182108.53 6182108.57 6182108.66 0.0088 0.0086 Jupiter 12214-04-17 06:28 G 6182237.54 6182237.77 6182238.00 0.0542 0.0078 Uranus 12217-08-02 12:00 G 6183440.88 6183441.00 6183441.16 0.0145 0.0121 Uranus 12218-08-07 11:45 G 6183810.79 6183810.99 6183811.23 0.0145 0.0070 Uranus 12219-08-12 12:14 G 6184180.76 6184181.01 6184181.26 0.0145 0.0017 Jupiter 12219-09-26 11:31 G 6184225.94 6184225.98 6184226.04 0.0484 0.0472 Uranus 12220-08-16 12:00 G 6184550.76 6184551.00 6184551.25 0.0145 0.0036 Jupiter 12220-10-25 20:09 G 6184621.23 6184621.34 6184621.45 0.0489 0.0430 Uranus 12221-08-21 12:14 G 6184920.82 6184921.01 6184921.22 0.0145 0.0088 Saturn 12222-04-08 08:09 G 6185150.60 6185150.84 6185151.09 0.0277 0.0020 Uranus 12222-08-26 12:00 G 6185290.95 6185291.00 6185291.09 0.0145 0.0140 Jupiter 12226-04-22 11:45 G 6186625.78 6186625.99 6186626.19 0.0541 0.0257 Jupiter 12231-09-30 14:23 G 6188612.94 6188613.10 6188613.26 0.0484 0.0353 Saturn 12236-10-05 12:14 G 6190444.76 6190445.01 6190445.26 0.0282 0.0007 Jupiter 12238-04-27 18:43 G 6191014.15 6191014.28 6191014.42 0.0540 0.0434 Jupiter 12243-10-04 18:57 G 6193000.09 6193000.29 6193000.50 0.0484 0.0230 Saturn 12251-04-02 21:50 G 6195737.31 6195737.41 6195737.51 0.0277 0.0251 Saturn 12252-04-14 17:45 G 6196115.17 6196115.24 6196115.32 0.0278 0.0263 Mars 12253-07-27 23:45 G 6196584.38 6196584.49 6196584.60 0.1619 0.1282 Jupiter 12255-10-08 23:16 G 6197387.24 6197387.47 6197387.70 0.0485 0.0106 Uranus 12259-02-03 04:33 G 6198600.56 6198600.69 6198600.85 0.0133 0.0110 Uranus 12260-02-07 13:26 G 6198969.86 6198970.06 6198970.30 0.0133 0.0069 Uranus 12261-02-10 22:33 G 6199339.19 6199339.44 6199339.69 0.0133 0.0028 Jupiter 12261-03-31 10:33 G 6199387.85 6199387.94 6199388.03 0.0544 0.0499 Uranus 12262-02-15 06:43 G 6199708.53 6199708.78 6199709.04 0.0133 0.0013 Uranus 12263-02-19 14:38 G 6200077.89 6200078.11 6200078.36 0.0133 0.0053

Uranus 12264-02-23 22:33 G 6200447.27 6200447.44 6200447.64 0.0133 0.0093 Uranus 12265-02-27 06:28 G 6200816.77 6200816.77 6200816.80 0.0133 0.0133 Saturn 12265-09-29 19:11 G 6201031.18 6201031.30 6201031.43 0.0282 0.0241 Jupiter 12267-10-13 06:00 G 6201774.51 6201774.75 6201774.98 0.0486 0.0024 Jupiter 12273-04-05 14:23 G 6203775.92 6203776.10 6203776.29 0.0543 0.0323 Neptune 12278-05-04 07:55 G 6205630.79 6205630.83 6205630.91 0.0089 0.0087 Neptune 12279-05-06 20:09 G 6205998.22 6205998.34 6205998.48 0.0089 0.0077 Jupiter 12279-10-17 11:31 G 6206161.76 6206161.98 6206162.21 0.0487 0.0151 Neptune 12280-05-08 07:55 G 6206365.68 6206365.83 6206366.01 0.0089 0.0067 Saturn 12281-04-09 17:31 G 6206701.99 6206702.23 6206702.47 0.0278 0.0047 Neptune 12281-05-10 19:40 G 6206733.14 6206733.32 6206733.53 0.0089 0.0057 Neptune 12282-05-13 07:26 G 6207100.61 6207100.81 6207101.04 0.0089 0.0047 Neptune 12283-05-15 18:57 G 6207468.07 6207468.29 6207468.54 0.0089 0.0037 Neptune 12284-05-17 07:11 G 6207835.55 6207835.80 6207836.04 0.0089 0.0026 Jupiter 12285-04-10 20:38 G 6208164.14 6208164.36 6208164.59 0.0543 0.0141 Neptune 12285-05-19 18:43 G 6208203.03 6208203.28 6208203.54 0.0089 0.0016 Neptune 12286-05-22 06:28 G 6208570.51 6208570.77 6208571.03 0.0089 0.0005 Neptune 12287-05-24 18:00 G 6208938.00 6208938.25 6208938.51 0.0089 0.0005 Neptune 12288-05-26 05:31 G 6209305.49 6209305.73 6209305.99 0.0089 0.0016 Neptune 12289-05-28 17:02 G 6209672.96 6209673.21 6209673.45 0.0089 0.0026 Neptune 12290-05-31 03:50 G 6210040.45 6210040.66 6210040.91 0.0089 0.0036 Neptune 12291-06-02 15:07 G 6210407.93 6210408.13 6210408.37 0.0089 0.0046 Jupiter 12291-10-21 15:50 G 6210548.97 6210549.16 6210549.35 0.0488 0.0274 Neptune 12292-06-04 02:09 G 6210775.41 6210775.59 6210775.81 0.0089 0.0056 Neptune 12293-06-06 13:40 G 6211142.91 6211143.07 6211143.25 0.0089 0.0066 12294-01-26 07:55 G 6211376.66 6211376.83 6211377.01 0.1913 0.0991 Mars Neptune 12294-06-09 00:28 G 6211510.40 6211510.52 6211510.66 0.0089 0.0075 Neptune 12295-06-11 11:16 G 6211877.92 6211877.97 6211878.07 0.0089 0.0085 Saturn 12295-10-08 00:14 G 6211996.27 6211996.51 6211996.75 0.0282 0.0080 Jupiter 12297-04-16 04:33 G 6212552.46 6212552.69 6212552.93 0.0543 0.0043

Mars 12300-07-23 02:09 G 6213745.55 6213745.59 6213745.63 0.1631 0.1589
Uranus 12301-08-03 23:45 G 6214122.34 6214122.49 6214122.64 0.0145 0.0117
Uranus 12302-08-08 23:02 G 6214492.25 6214492.46 6214492.69 0.0145 0.0065
Uranus 12303-08-13 23:02 G 6214862.21 6214862.46 6214862.71 0.0145 0.0013
Jupiter 12303-10-26 22:33 G 6214936.31 6214936.44 6214936.58 0.0489 0.0401
Uranus 12304-08-17 22:33 G 6215232.21 6215232.44 6215232.70 0.0145 0.0041
Uranus 12305-08-22 22:33 G 6215602.26 6215602.44 6215602.65 0.0145 0.0092
Uranus 12306-08-27 22:48 G 6215972.42 6215972.45 6215972.49 0.0145 0.0144
Jupiter 12309-04-22 13:55 G 6216940.87 6216941.08 6216941.29 0.0541 0.0225
Saturn 12310-04-05 08:38 G 6217288.68 6217288.86 6217289.05 0.0277 0.0182
Jupiter 12314-09-30 19:55 G 6218928.18 6218928.33 6218928.48 0.0484 0.0372
Jupiter 12321-04-27 20:09 G 6221329.20 6221329.34 6221329.50 0.0540 0.0404
Saturn 12324-10-02 06:28 G 6222582.59 6222582.77 6222582.98 0.0282 0.0170
Jupiter 12326-10-05 01:11 G 6223315.35 6223315.55 6223315.75 0.0485 0.0248
Pluto 12336-05-30 12:00 G 6226840.89 6226841.00 6226841.14 0.0064 0.0055
Pluto 12337-05-31 23:31 G 6227207.26 6227207.48 6227207.71 0.0064 0.0032
Jupiter 12338-10-09 05:45 G 6227702.51 6227702.74 6227702.97 0.0485 0.0125
Saturn 12340-04-12 02:52 G 6228253.41 6228253.62 6228253.85 0.0278 0.0115
Uranus 12343-02-04 14:52 G 6229281.99 6229282.12 6229282.30 0.0133 0.0107
Uranus 12344-02-09 00:14 G 6229651.29 6229651.51 6229651.73 0.0133 0.0066
Orallus 12544-02-03 00:14 G 0223051:23 0223051:31 0223051:73 0:0105 0:0000
Jupiter 12344-03-31 02:23 G 6229702.57 6229702.60 6229702.63 0.0544 0.0539
Jupiter 12344-03-31 02:23 G 6229702.57 6229702.60 6229702.63 0.0544 0.0539
Jupiter 12344-03-31 02:23 G 6229702.57 6229702.60 6229702.63 0.0544 0.0539 Uranus 12345-02-12 08:38 G 6230020.62 6230020.86 6230021.12 0.0133 0.0025
Jupiter       12344-03-31 02:23 G       6229702.57       6229702.60       6229702.63 0.0544 0.0539         Uranus       12345-02-12 08:38 G       6230020.62       6230020.86       6230021.12 0.0133 0.0025         Uranus       12346-02-16 17:16 G       6230389.97       6230390.22       6230390.48 0.0133 0.0016
Jupiter       12344-03-31 02:23 G       6229702.57       6229702.60       6229702.63 0.0544 0.0539         Uranus       12345-02-12 08:38 G       6230020.62       6230020.86       6230021.12 0.0133 0.0025         Uranus       12346-02-16 17:16 G       6230389.97       6230390.22       6230390.48 0.0133 0.0016         Uranus       12347-02-21 00:57 G       6230759.33       6230759.54       6230759.79 0.0133 0.0057
Jupiter       12344-03-31 02:23 G       6229702.57       6229702.60       6229702.63 0.0544 0.0539         Uranus       12345-02-12 08:38 G       6230020.62       6230020.86       6230021.12 0.0133 0.0025         Uranus       12346-02-16 17:16 G       6230389.97       6230390.22       6230390.48 0.0133 0.0016         Uranus       12347-02-21 00:57 G       6230759.33       6230759.54       6230759.79 0.0133 0.0057         Uranus       12348-02-25 09:07 G       6231128.72       6231128.88       6231129.07 0.0133 0.0097
Jupiter       12344-03-31 02:23 G       6229702.57       6229702.60       6229702.63 0.0544 0.0539         Uranus       12345-02-12 08:38 G       6230020.62       6230020.86       6230021.12 0.0133 0.0025         Uranus       12346-02-16 17:16 G       6230389.97       6230390.22       6230390.48 0.0133 0.0016         Uranus       12347-02-21 00:57 G       6230759.33       6230759.54       6230759.79 0.0133 0.0057         Uranus       12348-02-25 09:07 G       6231128.72       6231128.88       6231129.07 0.0133 0.0097         Jupiter       12350-10-13 09:07 G       6232089.64       6232089.88       6232090.11 0.0486 0.0004
Jupiter       12344-03-31 02:23 G       6229702.57       6229702.60       6229702.63 0.0544 0.0539         Uranus       12345-02-12 08:38 G       6230020.62       6230020.86       6230021.12 0.0133 0.0025         Uranus       12346-02-16 17:16 G       6230389.97       6230390.22       6230390.48 0.0133 0.0016         Uranus       12347-02-21 00:57 G       6230759.33       6230759.54       6230759.79 0.0133 0.0057         Uranus       12348-02-25 09:07 G       6231128.72       6231128.88       6231129.07 0.0133 0.0097         Jupiter       12350-10-13 09:07 G       6232089.64       6232089.88       6232090.11 0.0486 0.0004         Saturn       12354-10-10 12:43 G       6233547.83       6233548.03       6233548.24 0.0282 0.0154

Jupiter 12362-10-17 14:52 G 6236476.89 6236477.12 6236477.35 0.0486 0.0124 Neptune 12362-11-05 23:31 G 6236496.33 6236496.48 6236496.65 0.0088 0.0068 Neptune 12363-11-08 10:48 G 6236863.78 6236863.95 6236864.17 0.0088 0.0059 Neptune 12364-11-09 22:33 G 6237231.24 6237231.44 6237231.67 0.0088 0.0049 Neptune 12365-11-12 10:33 G 6237598.72 6237598.94 6237599.18 0.0088 0.0039 Neptune 12366-11-14 21:50 G 6237966.19 6237966.41 6237966.68 0.0088 0.0030 Neptune 12367-11-17 09:36 G 6238333.66 6238333.90 6238334.17 0.0088 0.0020 Jupiter 12368-04-10 21:07 G 6238479.16 6238479.38 6238479.60 0.0544 0.0174 Neptune 12368-11-18 21:36 G 6238701.14 6238701.40 6238701.66 0.0088 0.0010 Saturn 12369-04-06 19:11 G 6238840.08 6238840.30 6238840.53 0.0277 0.0113 Neptune 12369-11-21 09:21 G 6239068.63 6239068.89 6239069.15 0.0088 0.0001 Neptune 12370-11-23 21:07 G 6239436.12 6239436.38 6239436.64 0.0088 0.0010 Neptune 12371-11-26 08:38 G 6239803.62 6239803.86 6239804.13 0.0088 0.0020 Neptune 12372-11-27 20:38 G 6240171.13 6240171.36 6240171.62 0.0088 0.0030 Neptune 12373-11-30 08:52 G 6240538.64 6240538.87 6240539.10 0.0088 0.0040 Jupiter 12374-10-21 20:23 G 6240864.15 6240864.35 6240864.56 0.0487 0.0251 Neptune 12374-12-02 20:52 G 6240906.17 6240906.37 6240906.60 0.0088 0.0049 Neptune 12375-12-05 08:52 G 6241273.69 6241273.87 6241274.08 0.0088 0.0059 Neptune 12376-12-06 20:52 G 6241641.24 6241641.37 6241641.56 0.0088 0.0070 Neptune 12377-12-09 09:36 G 6242008.80 6242008.90 6242009.03 0.0088 0.0079 Neptune 12378-12-11 21:50 G 6242376.41 6242376.41 6242376.44 0.0088 0.0088 12379-07-26 03:50 G 6242602.48 6242602.66 6242602.85 0.1628 0.0391 Mars Jupiter 12380-04-16 06:14 G 6242867.52 6242867.76 6242867.99 0.0543 0.0016 Saturn 12383-10-04 18:43 G 6244134.06 6244134.28 6244134.52 0.0282 0.0097 Uranus 12385-08-04 10:04 G 6244803.79 6244803.92 6244804.10 0.0145 0.0114 Uranus 12386-08-09 09:50 G 6245173.70 6245173.91 6245174.15 0.0145 0.0062 Jupiter 12386-10-26 04:19 G 6245251.54 6245251.68 6245251.84 0.0489 0.0381 Uranus 12387-08-14 09:50 G 6245543.66 6245543.91 6245544.17 0.0145 0.0010 Uranus 12388-08-18 09:21 G 6245913.66 6245913.89 6245914.14 0.0145 0.0043 Uranus 12389-08-23 09:36 G 6246283.71 6246283.90 6246284.09 0.0145 0.0096

Jupiter 12392-04-21 09:21 G 6247255.67 6247255.89 6247256.11 0.0541 0.0186 Jupiter 12397-09-30 01:40 G 6249243.44 6249243.57 6249243.71 0.0484 0.0391 Saturn 12399-04-14 12:00 G 6249804.82 6249805.00 6249805.19 0.0278 0.0181 Jupiter 12404-04-26 13:26 G 6251643.89 6251644.06 6251644.23 0.0540 0.0361 Jupiter 12409-10-04 05:02 G 6253630.52 6253630.71 6253630.90 0.0484 0.0273 Saturn 12413-10-12 00:57 G 6255099.39 6255099.54 6255099.68 0.0281 0.0226 Jupiter 12416-05-01 18:28 G 6256032.23 6256032.27 6256032.31 0.0539 0.0530 Jupiter 12421-10-08 09:50 G 6258017.69 6258017.91 6258018.14 0.0485 0.0149 Pluto 12425-11-29 16:04 G 6259530.94 6259531.17 6259531.42 0.0080 0.0030 Uranus 12427-02-05 01:55 G 6259963.43 6259963.58 6259963.75 0.0133 0.0103 Uranus 12428-02-09 11:02 G 6260332.73 6260332.96 6260333.19 0.0133 0.0062 Saturn 12428-04-08 05:16 G 6260391.48 6260391.72 6260391.97 0.0277 0.0044 Uranus 12429-02-12 19:26 G 6260702.07 6260702.31 6260702.58 0.0133 0.0022 Uranus 12430-02-17 04:04 G 6261071.41 6261071.67 6261071.92 0.0133 0.0020 Uranus 12431-02-21 12:00 G 6261440.78 6261441.00 6261441.24 0.0133 0.0060 Uranus 12432-02-25 20:09 G 6261810.18 6261810.34 6261810.51 0.0133 0.0101 Jupiter 12433-10-12 14:23 G 6262404.86 6262405.10 6262405.33 0.0485 0.0025 Jupiter 12439-04-05 12:00 G 6264405.84 6264406.00 6264406.17 0.0544 0.0389 Saturn 12442-10-06 06:14 G 6265685.51 6265685.76 6265686.00 0.0282 0.0025 Neptune 12443-05-07 04:19 G 6265898.57 6265898.68 6265898.80 0.0089 0.0080 Neptune 12444-05-08 15:36 G 6266266.02 6266266.15 6266266.34 0.0089 0.0071 Neptune 12445-05-11 03:50 G 6266633.49 6266633.66 6266633.86 0.0089 0.0061 Jupiter 12445-10-16 20:38 G 6266792.13 6266792.36 6266792.59 0.0486 0.0104 Neptune 12446-05-13 15:21 G 6267000.95 6267001.14 6267001.37 0.0089 0.0051 Neptune 12447-05-16 03:21 G 6267368.42 6267368.64 6267368.88 0.0089 0.0041 Neptune 12448-05-17 14:52 G 6267735.89 6267736.12 6267736.37 0.0089 0.0031 Neptune 12449-05-20 02:38 G 6268103.37 6268103.61 6268103.87 0.0089 0.0021 Neptune 12450-05-22 14:09 G 6268470.84 6268471.09 6268471.35 0.0089 0.0011 Jupiter 12451-04-10 18:28 G 6268794.05 6268794.27 6268794.48 0.0543 0.0209 Neptune 12451-05-25 01:55 G 6268838.33 6268838.58 6268838.84 0.0089 0.0001

Neptune 12452-05-26 13:26 G 6269205.81 6269206.06 6269206.32 0.0089 0.0010 Neptune 12453-05-29 00:43 G 6269573.30 6269573.53 6269573.79 0.0089 0.0021 Neptune 12454-05-31 12:14 G 6269940.78 6269941.01 6269941.26 0.0089 0.0030 Neptune 12455-06-02 23:16 G 6270308.26 6270308.47 6270308.72 0.0089 0.0040 Neptune 12456-06-04 11:16 G 6270675.75 6270675.97 6270676.18 0.0089 0.0050 Saturn 12457-04-02 23:31 G 6270978.41 6270978.48 6270978.54 0.0277 0.0267 Neptune 12457-06-06 21:50 G 6271043.23 6271043.41 6271043.61 0.0089 0.0059 Jupiter 12457-10-21 02:52 G 6271179.41 6271179.62 6271179.83 0.0487 0.0229 Saturn 12458-04-15 19:55 G 6271356.22 6271356.33 6271356.45 0.0278 0.0246 Neptune 12458-06-09 08:52 G 6271410.73 6271410.87 6271411.05 0.0089 0.0069 12458-07-28 05:31 G 6271459.57 6271459.73 6271459.90 0.1625 0.0803 Mars Neptune 12459-06-11 20:09 G 6271778.23 6271778.34 6271778.47 0.0089 0.0078 Neptune 12460-06-13 06:43 G 6272145.77 6272145.78 6272145.85 0.0089 0.0088 Jupiter 12463-04-16 00:14 G 6273182.28 6273182.51 6273182.74 0.0542 0.0029 Uranus 12469-08-04 21:21 G 6275485.24 6275485.39 6275485.56 0.0145 0.0111 Jupiter 12469-10-25 07:40 G 6275566.66 6275566.82 6275566.98 0.0488 0.0350 Uranus 12470-08-09 20:38 G 6275855.14 6275855.36 6275855.60 0.0145 0.0059 Uranus 12471-08-14 20:23 G 6276225.10 6276225.35 6276225.60 0.0145 0.0006 Saturn 12471-10-01 02:52 G 6276272.51 6276272.62 6276272.75 0.0282 0.0245 Uranus 12472-08-18 19:40 G 6276595.09 6276595.32 6276595.57 0.0145 0.0047 Uranus 12473-08-23 19:26 G 6276965.14 6276965.31 6276965.51 0.0145 0.0100 Jupiter 12475-04-21 05:45 G 6277570.51 6277570.74 6277570.96 0.0542 0.0146 Jupiter 12480-09-29 07:40 G 6279558.70 6279558.82 6279558.95 0.0484 0.0411 Jupiter 12481-10-29 15:07 G 6279954.09 6279954.13 6279954.18 0.0489 0.0477 Saturn 12487-04-10 14:09 G 6281942.84 6281943.09 6281943.33 0.0277 0.0023 Jupiter 12487-04-26 14:23 G 6281958.93 6281959.10 6281959.29 0.0541 0.0328 Jupiter 12492-10-03 11:16 G 6283945.78 6283945.97 6283946.15 0.0484 0.0290 Jupiter 12499-05-01 21:50 G 6286347.34 6286347.41 6286347.50 0.0539 0.0503 Saturn 12501-10-08 15:50 G 6287236.92 6287237.16 6287237.41 0.0282 0.0045 Jupiter 12504-10-08 16:19 G 6288332.97 6288333.18 6288333.41 0.0485 0.0168

Uranus 12511-02-06 11:31 G 6290644.82 6290644.98 6290645.15 0.0133 0.0100 Uranus 12512-02-10 20:09 G 6291014.13 6291014.34 6291014.59 0.0133 0.0060 Uranus 12513-02-14 05:02 G 6291383.46 6291383.71 6291383.97 0.0133 0.0019 Uranus 12514-02-18 13:26 G 6291752.81 6291753.06 6291753.32 0.0133 0.0023 Uranus 12515-02-22 21:36 G 6292122.18 6292122.40 6292122.63 0.0133 0.0064 Uranus 12516-02-27 05:31 G 6292491.59 6292491.73 6292491.91 0.0133 0.0104 Saturn 12516-04-05 06:14 G 6292529.60 6292529.76 6292529.93 0.0277 0.0203 Jupiter 12516-10-12 21:07 G 6292720.15 6292720.38 6292720.62 0.0486 0.0045 Jupiter 12522-04-05 07:55 G 6294720.69 6294720.83 6294720.98 0.0544 0.0425 Neptune 12525-11-03 20:38 G 6296029.29 6296029.36 6296029.49 0.0088 0.0081 Neptune 12526-11-06 08:38 G 6296396.72 6296396.86 6296397.02 0.0088 0.0071 Neptune 12527-11-08 19:40 G 6296764.16 6296764.32 6296764.52 0.0088 0.0062 Jupiter 12528-10-17 01:55 G 6297107.35 6297107.58 6297107.81 0.0486 0.0078 Neptune 12528-11-10 07:11 G 6297131.62 6297131.80 6297132.04 0.0088 0.0053 Neptune 12529-11-12 19:11 G 6297499.09 6297499.30 6297499.54 0.0088 0.0043 Saturn 12530-10-03 11:16 G 6297823.78 6297823.97 6297824.16 0.0282 0.0179 Neptune 12530-11-15 06:43 G 6297866.55 6297866.78 6297867.04 0.0088 0.0034 Neptune 12531-11-17 18:28 G 6298234.04 6298234.27 6298234.54 0.0088 0.0024 Neptune 12532-11-19 06:28 G 6298601.52 6298601.77 6298602.03 0.0088 0.0014 Neptune 12533-11-21 18:14 G 6298969.01 6298969.26 6298969.53 0.0088 0.0005 Jupiter 12534-04-10 13:26 G 6299108.85 6299109.06 6299109.27 0.0544 0.0250 Neptune 12534-11-24 06:00 G 6299336.50 6299336.75 6299337.02 0.0088 0.0006 6299704.24 6299704.51 0.0088 0.0015 Neptune 12535-11-26 17:45 G 6299704.00 Neptune 12536-11-28 06:00 G 6300071.50 6300071.75 6300072.00 0.0088 0.0025 Neptune 12537-11-30 17:45 G 6300439.01 6300439.24 6300439.49 0.0088 0.0034 Neptune 12538-12-03 05:16 G 6300806.52 6300806.72 6300806.97 0.0088 0.0044 Neptune 12539-12-05 17:45 G 6301174.04 6301174.24 6301174.46 0.0088 0.0053 Jupiter 12540-10-21 08:09 G 6301494.63 6301494.84 6301495.05 0.0487 0.0204 Neptune 12540-12-07 05:45 G 6301541.58 6301541.74 6301541.94 0.0088 0.0063 Neptune 12541-12-09 18:14 G 6301909.12 6301909.26 6301909.42 0.0088 0.0072

Neptune	12542-12-12 06:14 G	6302276.70	6302276.76	6302276.88 0.0088 0.0082
Saturn	12546-04-12 21:36 G	6303494.17	6303494.40	6303494.63 0.0277 0.0087
Jupiter	12546-04-16 00:00 G	6303497.27	6303497.50	6303497.73 0.0544 0.0065
Jupiter	12552-10-25 13:55 G	6305881.91	6305882.08	6305882.26 0.0488 0.0330
Uranus	12553-08-06 07:40 G	6306166.66	6306166.82	6306167.00 0.0145 0.0107
Uranus	12554-08-11 06:57 G	6306536.56	6306536.79	6306537.03 0.0145 0.0055
Uranus	12555-08-16 06:28 G	6306906.52	6306906.77	6306907.02 0.0145 0.0003
Uranus	12556-08-20 05:45 G	6307276.51	6307276.74	6307276.99 0.0145 0.0051
Uranus	12557-08-25 05:31 G	6307646.57	6307646.73	6307646.92 0.0145 0.0103
Jupiter	12558-04-21 10:04 G	6307885.70	6307885.92	6307886.15 0.0542 0.0121
Saturn	12560-10-09 23:31 G	6308788.26	6308788.48	6308788.71 0.0282 0.0110
Jupiter	12563-09-30 14:52 G	6309874.02	6309874.12	6309874.24 0.0484 0.0426
Jupiter	12564-10-29 22:19 G	6310269.35	6310269.43	6310269.51 0.0489 0.0457
Jupiter	12570-04-26 15:36 G	6312273.96	6312274.15	6312274.35 0.0541 0.0295
Saturn	12575-04-07 11:16 G	6314080.77	6314080.97	6314081.19 0.0277 0.0143
Jupiter	12575-10-04 18:57 G	6314261.11	6314261.29	6314261.47 0.0484 0.0308
Mars	12578-01-27 08:23 G	6315106.64	6315106.85	6315107.05 0.1906 0.0300
Jupiter	12582-05-01 19:55 G	6316662.21	6316662.33	6316662.44 0.0539 0.0467
Pluto	12582-06-02 10:04 G	6316693.88	6316693.92	6316694.03 0.0064 0.0061
Pluto	12583-06-03 22:04 G	6317060.19	6317060.42	6317060.66 0.0064 0.0026
Mars	12584-07-25 08:09 G	6317477.69	6317477.84	6317478.00 0.1634 0.0938
Jupiter	12587-10-08 23:16 G	6318648.26	6318648.47	6318648.69 0.0484 0.0190
Saturn	12589-10-04 17:16 G	6319375.00	6319375.22	6319375.44 0.0282 0.0117
Uranus	12595-02-06 21:21 G	6321326.23	6321326.39	6321326.58 0.0133 0.0098
Uranus	12596-02-11 06:14 G	6321695.54	6321695.76	6321696.01 0.0133 0.0056
Uranus	12597-02-14 15:07 G	6322064.88	6322065.13	6322065.39 0.0133 0.0015
Uranus	12598-02-18 23:16 G	6322434.22	6322434.47	6322434.73 0.0133 0.0026
Uranus	12599-02-23 07:26 G	6322803.60	6322803.81	6322804.04 0.0133 0.0067
Jupiter	12599-10-13 05:02 G	6323035.48	6323035.71	6323035.95 0.0485 0.0064
Uranus	12600-02-27 15:50 G	6323173.02	6323173.16	6323173.32 0.0133 0.0108

Jupiter 12605-04-05 06:28 G 6325035.65 6325035.77 6325035.89 0.0545 0.0458 Saturn 12605-04-15 03:21 G 6325045.44 6325045.64 6325045.85 0.0276 0.0148 Neptune 12607-05-08 12:43 G 6325798.94 6325799.03 6325799.13 0.0089 0.0083 Neptune 12608-05-10 00:28 G 6326166.40 6326166.52 6326166.69 0.0089 0.0074 Neptune 12609-05-12 12:43 G 6326533.86 6326534.03 6326534.22 0.0089 0.0064 Neptune 12610-05-15 00:14 G 6326901.34 6326901.51 6326901.74 0.0089 0.0055 Neptune 12611-05-17 12:14 G 6327268.81 6327269.01 6327269.25 0.0089 0.0045 Jupiter 12611-10-18 09:36 G 6327422.67 6327422.90 6327423.13 0.0486 0.0060 Neptune 12612-05-19 00:14 G 6327636.28 6327636.51 6327636.75 0.0089 0.0035 Neptune 12613-05-21 12:00 G 6328003.75 6328004.00 6328004.25 0.0089 0.0025 Neptune 12614-05-23 23:16 G 6328371.23 6328371.47 6328371.74 0.0089 0.0016 Neptune 12615-05-26 11:02 G 6328738.71 6328738.96 6328739.22 0.0089 0.0006 Neptune 12616-05-27 22:33 G 6329106.19 6329106.44 6329106.70 0.0089 0.0005 Jupiter 12617-04-10 18:28 G 6329424.07 6329424.27 6329424.47 0.0544 0.0272 Neptune 12617-05-30 10:04 G 6329473.67 6329473.92 6329474.18 0.0089 0.0015 Neptune 12618-06-01 21:36 G 6329841.16 6329841.40 6329841.65 0.0089 0.0025 Neptune 12619-06-04 09:07 G 6330208.65 6330208.88 6330209.12 0.0089 0.0034 Saturn 12619-10-13 05:02 G 6330339.51 6330339.71 6330339.90 0.0282 0.0170 Neptune 12620-06-05 20:09 G 6330576.13 6330576.34 6330576.58 0.0089 0.0044 Neptune 12621-06-08 07:40 G 6330943.63 6330943.82 6330944.03 0.0089 0.0054 Neptune 12622-06-10 18:28 G 6331311.12 6331311.27 6331311.48 0.0089 0.0064 Neptune 12623-06-13 05:45 G 6331678.61 6331678.74 6331678.91 0.0089 0.0072 Jupiter 12623-10-22 16:04 G 6331809.96 6331810.17 6331810.39 0.0487 0.0188 Neptune 12624-06-14 17:02 G 6332046.12 6332046.21 6332046.32 0.0089 0.0081 Jupiter 12629-04-16 03:21 G 6333812.42 6333812.64 6333812.87 0.0543 0.0092 Saturn 12634-04-09 15:36 G 6335631.92 6335632.15 6335632.39 0.0277 0.0085 Jupiter 12635-10-26 22:48 G 6336197.27 6336197.45 6336197.64 0.0488 0.0311 Uranus 12637-08-07 17:45 G 6336848.08 6336848.24 6336848.43 0.0145 0.0104 Uranus 12638-08-12 17:16 G 6337217.98 6337218.22 6337218.45 0.0145 0.0051 Uranus 12639-08-17 16:33 G 6337587.94 6337588.19 6337588.44 0.0145 0.0001

Uranus 12640-08-21 15:50 G 6337957.94 6337958.16 6337958.40 0.0145 0.0054 Jupiter 12641-04-21 09:50 G 6338200.68 6338200.91 6338201.14 0.0542 0.0087 Uranus 12641-08-26 15:50 G 6338327.99 6338328.16 6338328.33 0.0145 0.0106 6340189.49 6340189.59 0.0484 0.0443 Jupiter 12646-09-30 23:45 G 6340189.41 Jupiter 12647-10-31 05:31 G 6340584.62 6340584.73 6340584.84 0.0488 0.0433 Saturn 12648-10-06 20:23 G 6340926.11 6340926.35 6340926.59 0.0282 0.0060 Jupiter 12653-04-26 12:57 G 6342588.84 6342589.04 6342589.25 0.0542 0.0259 Jupiter 12658-10-05 05:02 G 6344576.54 6344576.71 6344576.89 0.0484 0.0322 Mars 12663-07-29 10:19 G 6346334.75 6346334.93 6346335.12 0.1631 0.0279 Saturn 12664-04-16 07:55 G 6346596.66 6346596.83 6346596.99 0.0276 0.0205 Jupiter 12665-05-01 21:21 G 6346977.26 6346977.39 6346977.53 0.0541 0.0436 Jupiter 12670-10-09 08:52 G 6348963.66 6348963.87 6348964.08 0.0484 0.0202 Pluto 12671-12-03 11:16 G 6349383.72 6349383.97 6349384.24 0.0080 0.0013 Saturn 12678-10-14 08:23 G 6351890.72 6351890.85 6351891.01 0.0282 0.0228 Uranus 12679-02-08 06:14 G 6352007.59 6352007.76 6352007.95 0.0133 0.0094 Uranus 12680-02-12 15:07 G 6352376.90 6352377.13 6352377.37 0.0133 0.0053 Uranus 12681-02-15 23:45 G 6352746.24 6352746.49 6352746.75 0.0133 0.0012 Uranus 12682-02-20 08:09 G 6353115.59 6353115.84 6353116.09 0.0133 0.0029 Jupiter 12682-10-13 14:09 G 6353350.86 6353351.09 6353351.32 0.0485 0.0078 Uranus 12683-02-24 16:33 G 6353484.98 6353485.19 6353485.41 0.0133 0.0071 Uranus 12684-02-29 00:43 G 6353854.40 6353854.53 6353854.68 0.0133 0.0111 Jupiter 12688-04-04 12:00 G 6355350.90 6355351.00 6355351.11 0.0544 0.0479 Neptune 12689-11-04 07:11 G 6355929.74 6355929.80 6355929.91 0.0088 0.0083 Neptune 12690-11-06 18:14 G 6356297.15 6356297.26 6356297.43 0.0088 0.0074 Neptune 12691-11-09 06:00 G 6356664.59 6356664.75 6356664.94 0.0088 0.0065 Neptune 12692-11-10 17:16 G 6357032.04 6357032.22 6357032.44 0.0088 0.0056 Saturn 12693-04-10 18:28 G 6357183.03 6357183.27 6357183.52 0.0277 0.0029 Neptune 12693-11-13 04:33 G 6357399.50 6357399.69 6357399.94 0.0088 0.0047 Jupiter 12694-10-17 19:26 G 6357738.08 6357738.31 6357738.55 0.0486 0.0044 Neptune 12694-11-15 16:33 G 6357766.97 6357767.19 6357767.44 0.0088 0.0037

Neptune 12695-11-18 04:04 G 6358134.44 6358134.67 6358134.93 0.0088 0.0028 Neptune 12696-11-19 16:19 G 6358501.93 6358502.18 6358502.44 0.0088 0.0018 Neptune 12697-11-22 03:50 G 6358869.41 6358869.66 6358869.93 0.0088 0.0009 Neptune 12698-11-24 15:50 G 6359236.90 6359237.16 6359237.42 0.0088 0.0001 Neptune 12699-11-27 03:21 G 6359604.39 6359604.64 6359604.91 0.0088 0.0011 Jupiter 12700-04-10 20:09 G 6359739.15 6359739.34 6359739.54 0.0544 0.0300 Neptune 12700-11-29 15:36 G 6359971.89 6359972.15 6359972.40 0.0088 0.0020 Neptune 12701-12-02 02:52 G 6360339.39 6360339.62 6360339.88 0.0088 0.0029 Neptune 12702-12-04 15:07 G 6360706.90 6360707.13 6360707.37 0.0088 0.0038 Neptune 12703-12-07 02:38 G 6361074.42 6361074.61 6361074.85 0.0088 0.0049 Neptune 12704-12-08 14:52 G 6361441.94 6361442.12 6361442.33 0.0088 0.0057 Neptune 12705-12-11 03:07 G 6361809.48 6361809.63 6361809.82 0.0088 0.0067 Jupiter 12706-10-23 01:40 G 6362125.35 6362125.57 6362125.79 0.0486 0.0167 Neptune 12706-12-13 15:36 G 6362177.02 6362177.15 6362177.28 0.0088 0.0076 Saturn 12707-10-09 21:21 G 6362477.14 6362477.39 6362477.63 0.0282 0.0007 Neptune 12707-12-16 04:04 G 6362544.60 6362544.67 6362544.74 0.0088 0.0085 Jupiter 12712-04-16 00:00 G 6364127.27 6364127.50 6364127.72 0.0544 0.0128 Jupiter 12718-10-27 08:38 G 6366512.67 6366512.86 6366513.04 0.0487 0.0292 Uranus 12721-08-09 03:21 G 6367529.47 6367529.64 6367529.83 0.0145 0.0101 Saturn 12722-04-06 16:48 G 6367770.09 6367770.20 6367770.32 0.0276 0.0243 Uranus 12722-08-14 02:38 G 6367899.37 6367899.61 6367899.85 0.0145 0.0048 Saturn 12723-04-19 11:16 G 6368147.90 6368147.97 6368148.05 0.0276 0.0260 Uranus 12723-08-19 01:55 G 6368269.33 6368269.58 6368269.84 0.0145 0.0005 Jupiter 12724-04-21 09:36 G 6368515.67 6368515.90 6368516.13 0.0543 0.0056 Uranus 12724-08-23 01:26 G 6368639.33 6368639.56 6368639.79 0.0145 0.0058 Uranus 12725-08-28 00:57 G 6369009.39 6369009.54 6369009.71 0.0145 0.0111 Jupiter 12729-10-01 10:33 G 6370504.86 6370504.94 6370505.02 0.0484 0.0453 Jupiter 12730-10-31 14:09 G 6370899.98 6370900.09 6370900.22 0.0488 0.0416 Jupiter 12736-04-26 20:38 G 6372904.15 6372904.36 6372904.57 0.0542 0.0238 Saturn 12736-10-03 00:57 G 6373063.46 6373063.54 6373063.64 0.0283 0.0260

Saturn 12737-10-16 10:04 G 6373441.91 6373441.92 6373441.95 0.0282 0.0281 Jupiter 12741-10-05 15:07 G 6374891.96 6374892.13 6374892.30 0.0484 0.0334 Mars 12742-08-01 12:28 G 6375191.95 6375192.02 6375192.10 0.1628 0.1485 Jupiter 12748-05-02 04:04 G 6377292.52 6377292.67 6377292.82 0.0540 0.0411 Saturn 12752-04-12 20:52 G 6378734.13 6378734.37 6378734.62 0.0276 0.0025 Jupiter 12753-10-09 19:11 G 6379279.10 6379279.30 6379279.51 0.0484 0.0216 Uranus 12762-02-05 06:28 G 6382319.76 6382319.77 6382319.81 0.0133 0.0133 Uranus 12763-02-09 15:36 G 6382688.98 6382689.15 6382689.35 0.0133 0.0092 6383058.51 6383058.76 0.0133 0.0051 Uranus 12764-02-14 00:14 G 6383058.29 Uranus 12765-02-17 09:07 G 6383427.63 6383427.88 6383428.14 0.0133 0.0009 Jupiter 12765-10-14 00:57 G 6383666.31 6383666.54 6383666.77 0.0485 0.0094 Uranus 12766-02-21 17:31 G 6383796.99 6383797.23 6383797.49 0.0133 0.0033 Saturn 12766-10-10 21:07 G 6384028.14 6384028.38 6384028.62 0.0282 0.0043 Uranus 12767-02-26 01:55 G 6384166.38 6384166.58 6384166.80 0.0133 0.0074 6384535.92 6384536.07 0.0133 0.0115 Uranus 12768-03-01 10:04 G 6384535.81 Jupiter 12771-04-05 07:55 G 6385665.76 6385665.83 6385665.91 0.0545 0.0513 Neptune 12771-05-08 21:21 G 6385699.35 6385699.39 6385699.49 0.0089 0.0086 Neptune 12772-05-10 09:21 G 6386066.79 6386066.89 6386067.05 0.0089 0.0077 Neptune 12773-05-12 22:04 G 6386434.26 6386434.42 6386434.60 0.0089 0.0067 Neptune 12774-05-15 09:50 G 6386801.73 6386801.91 6386802.12 0.0089 0.0058 Neptune 12775-05-17 22:04 G 6387169.21 6387169.42 6387169.64 0.0089 0.0048 Neptune 12776-05-19 09:36 G 6387536.68 6387536.90 6387537.14 0.0089 0.0039 Neptune 12777-05-21 21:21 G 6387904.16 6387904.39 6387904.64 0.0089 0.0029 Jupiter 12777-10-18 07:11 G 6388053.56 6388053.80 6388054.03 0.0485 0.0031 Neptune 12778-05-24 09:07 G 6388271.64 6388271.88 6388272.14 0.0089 0.0019 Neptune 12779-05-26 20:52 G 6388639.11 6388639.37 6388639.62 0.0089 0.0009 Neptune 12780-05-28 08:23 G 6389006.59 6389006.85 6389007.11 0.0089 0.0000 Saturn 12781-04-07 19:40 G 6389321.15 6389321.32 6389321.51 0.0276 0.0189 Neptune 12781-05-30 19:40 G 6389374.07 6389374.32 6389374.58 0.0089 0.0010 Neptune 12782-06-02 07:26 G 6389741.56 6389741.81 6389742.06 0.0089 0.0019 Jupiter 12783-04-10 18:14 G 6390054.08 6390054.26 6390054.45 0.0545 0.0332 Neptune 12783-06-04 18:28 G 6390109.04 6390109.27 6390109.53 0.0089 0.0029 Neptune 12784-06-06 06:14 G 6390476.53 6390476.76 6390477.00 0.0089 0.0038 Neptune 12785-06-08 17:16 G 6390844.03 6390844.22 6390844.46 0.0089 0.0048 Neptune 12786-06-11 04:48 G 6391211.52 6391211.70 6391211.91 0.0089 0.0057 Neptune 12787-06-13 16:19 G 6391579.02 6391579.18 6391579.36 0.0089 0.0066 Neptune 12788-06-15 03:21 G 6391946.51 6391946.64 6391946.78 0.0089 0.0075 Neptune 12789-06-17 14:23 G 6392314.04 6392314.10 6392314.19 0.0089 0.0085 Mars 12789-07-26 12:00 G 6392352.93 6392353.00 6392353.08 0.1641 0.1499 Jupiter 12789-10-22 11:16 G 6392440.76 6392440.97 6392441.20 0.0486 0.0153 Jupiter 12795-04-16 06:57 G 6394442.57 6394442.79 6394443.02 0.0544 0.0148 Saturn 12795-10-05 01:26 G 6394614.41 6394614.56 6394614.74 0.0283 0.0209 Jupiter 12801-10-26 18:14 G 6396828.07 6396828.26 6396828.46 0.0487 0.0277 Uranus 12805-08-09 13:26 G 6398210.87 6398211.06 6398211.25 0.0145 0.0097 Uranus 12806-08-14 12:14 G 6398580.78 6398581.01 6398581.26 0.0145 0.0045 Jupiter 12807-04-21 17:16 G 6398830.99 6398831.22 6398831.45 0.0543 0.0034 Uranus 12807-08-19 11:45 G 6398950.73 6398950.99 6398951.24 0.0145 0.0008 Uranus 12808-08-23 11:02 G 6399320.74 6399320.96 6399321.19 0.0145 0.0061 Uranus 12809-08-28 10:33 G 6399690.80 6399690.94 6399691.11 0.0145 0.0114 Saturn 12811-04-14 23:45 G 6400285.25 6400285.49 6400285.72 0.0276 0.0079 Jupiter 12812-09-30 21:07 G 6400820.33 6400820.38 6400820.45 0.0484 0.0465 Jupiter 12813-10-31 01:11 G 6401215.42 6401215.55 6401215.69 0.0488 0.0400 Jupiter 12819-04-27 00:28 G 6403219.30 6403219.52 6403219.73 0.0542 0.0211 Jupiter 12824-10-05 02:38 G 6405207.45 6405207.61 6405207.77 0.0484 0.0346 Saturn 12825-10-11 19:55 G 6405579.11 6405579.33 6405579.57 0.0282 0.0092 Pluto 12829-06-06 20:23 G 6406913.12 6406913.35 6406913.61 0.0064 0.0020 Jupiter 12831-05-02 01:55 G 6407607.41 6407607.58 6407607.74 0.0541 0.0377 Jupiter 12836-10-09 07:55 G 6409594.63 6409594.83 6409595.04 0.0484 0.0226 Saturn 12840-04-08 22:48 G 6410872.24 6410872.45 6410872.67 0.0276 0.0134 Uranus 12846-02-05 14:38 G 6413001.07 6413001.11 6413001.17 0.0133 0.0131

Uranus 12847-02-09 23:45 G 6413370.32 6413370.49 6413370.70 0.0133 0.0089 Uranus 12848-02-14 08:52 G 6413739.63 6413739.87 6413740.11 0.0133 0.0048 Jupiter 12848-10-13 11:31 G 6413981.75 6413981.98 6413982.21 0.0484 0.0106 Uranus 12849-02-17 17:31 G 6414108.97 6414109.23 6414109.49 0.0133 0.0006 Uranus 12850-02-22 01:55 G 6414478.34 6414478.58 6414478.83 0.0133 0.0036 Uranus 12851-02-26 10:33 G 6414847.74 6414847.94 6414848.16 0.0133 0.0077 Uranus 12852-03-01 18:43 G 6415217.18 6415217.28 6415217.41 0.0133 0.0118 Neptune 12853-11-04 17:31 G 6415830.19 6415830.23 6415830.32 0.0088 0.0085 Jupiter 12854-04-04 13:55 G 6415981.04 6415981.08 6415981.13 0.0545 0.0531 Saturn 12854-10-06 02:09 G 6416165.40 6416165.59 6416165.80 0.0283 0.0157 Neptune 12854-11-07 05:02 G 6416197.60 6416197.71 6416197.85 0.0088 0.0076 Neptune 12855-11-09 16:48 G 6416565.04 6416565.20 6416565.37 0.0088 0.0067 Neptune 12856-11-11 03:21 G 6416932.48 6416932.64 6416932.86 0.0088 0.0059 Neptune 12857-11-13 14:52 G 6417299.93 6417300.12 6417300.36 0.0088 0.0050 Neptune 12858-11-16 02:52 G 6417667.39 6417667.62 6417667.85 0.0088 0.0040 Neptune 12859-11-18 14:38 G 6418034.87 6418035.11 6418035.36 0.0088 0.0031 Jupiter 12860-10-17 17:02 G 6418368.97 6418369.21 6418369.44 0.0485 0.0018 Neptune 12860-11-20 02:09 G 6418402.35 6418402.59 6418402.85 0.0088 0.0022 Neptune 12861-11-22 13:55 G 6418769.83 6418770.08 6418770.35 0.0088 0.0013 12862-01-28 11:16 G 6418836.77 6418836.97 6418837.17 0.1898 0.0292 Mars Neptune 12862-11-25 01:55 G 6419137.32 6419137.58 6419137.84 0.0088 0.0004 Neptune 12863-11-27 13:55 G 6419504.82 6419505.08 6419505.34 0.0088 0.0006 Neptune 12864-11-29 01:26 G 6419872.31 6419872.56 6419872.83 0.0088 0.0015 Neptune 12865-12-01 13:26 G 6420239.82 6420240.06 6420240.32 0.0088 0.0024 Jupiter 12866-04-10 02:09 G 6420369.42 6420369.59 6420369.78 0.0545 0.0351 Neptune 12866-12-04 01:26 G 6420607.33 6420607.56 6420607.81 0.0088 0.0034 Neptune 12867-12-06 13:26 G 6420974.84 6420975.06 6420975.29 0.0088 0.0043 Mars 12868-07-28 13:55 G 6421209.90 6421210.08 6421210.27 0.1638 0.0281 Neptune 12868-12-08 00:57 G 6421342.36 6421342.54 6421342.78 0.0088 0.0053 Neptune 12869-12-10 12:57 G 6421709.88 6421710.04 6421710.25 0.0088 0.0061

Saturn 12870-04-16 02:23 G 6421836.39 6421836.60 6421836.82 0.0276 0.0132 Neptune 12870-12-13 01:11 G 6422077.42 6422077.55 6422077.73 0.0088 0.0070 Neptune 12871-12-15 13:11 G 6422444.97 6422445.05 6422445.20 0.0088 0.0080 Jupiter 12872-10-21 22:19 G 6422756.21 6422756.43 6422756.66 0.0486 0.0139 Neptune 12872-12-17 01:55 G 6422812.56 6422812.58 6422812.62 0.0088 0.0088 Jupiter 12878-04-15 11:16 G 6424757.75 6424757.97 6424758.20 0.0544 0.0171 Saturn 12884-10-12 19:26 G 6427130.11 6427130.31 6427130.53 0.0282 0.0140 Jupiter 12884-10-26 05:45 G 6427143.54 6427143.74 6427143.94 0.0487 0.0262 Uranus 12889-08-09 22:33 G 6428892.26 6428892.44 6428892.63 0.0145 0.0095 Jupiter 12890-04-20 13:55 G 6429145.84 6429146.08 6429146.31 0.0543 0.0007 Uranus 12890-08-14 21:36 G 6429262.16 6429262.40 6429262.64 0.0145 0.0042 Uranus 12891-08-19 20:52 G 6429632.12 6429632.37 6429632.62 0.0145 0.0011 Uranus 12892-08-23 20:23 G 6430002.13 6430002.35 6430002.58 0.0145 0.0064 Uranus 12893-08-28 19:55 G 6430372.19 6430372.33 6430372.49 0.0145 0.0117 Jupiter 12895-10-01 09:50 G 6431135.87 6431135.91 6431135.97 0.0484 0.0472 Jupiter 12896-10-30 12:43 G 6431530.89 6431531.03 6431531.18 0.0487 0.0386 Saturn 12899-04-11 02:23 G 6432423.37 6432423.60 6432423.84 0.0276 0.0079 Jupiter 12902-04-26 22:04 G 6433534.21 6433534.42 6433534.65 0.0543 0.0179 Jupiter 12907-10-06 12:57 G 6435522.89 6435523.04 6435523.20 0.0484 0.0358 Saturn 12913-10-08 03:36 G 6437716.43 6437716.65 6437716.88 0.0283 0.0104 Jupiter 12914-05-02 08:23 G 6437922.68 6437922.85 6437923.03 0.0542 0.0357 Pluto 12917-12-06 08:23 G 6439236.59 6439236.85 6439237.11 0.0080 0.0001 Jupiter 12919-10-10 17:31 G 6439910.03 6439910.23 6439910.44 0.0484 0.0239 Jupiter 12926-05-07 16:48 G 6442311.16 6442311.20 6442311.26 0.0540 0.0525 Saturn 12929-04-18 06:00 G 6443387.59 6443387.75 6443387.94 0.0276 0.0189 Uranus 12930-02-06 23:16 G 6443682.42 6443682.47 6443682.55 0.0133 0.0129 Uranus 12931-02-11 08:38 G 6444051.68 6444051.86 6444052.07 0.0133 0.0087 Jupiter 12931-10-14 21:50 G 6444297.18 6444297.41 6444297.64 0.0484 0.0119 Uranus 12932-02-15 17:31 G 6444421.00 6444421.23 6444421.48 0.0133 0.0045 Uranus 12933-02-19 02:38 G 6444790.35 6444790.61 6444790.86 0.0133 0.0004

Uranus 12934-02-23 11:16 G 6445159.72 6445159.97 6445160.21 0.0133 0.0039 Uranus 12935-02-27 19:40 G 6445529.13 6445529.32 6445529.54 0.0133 0.0080 Neptune 12935-05-09 07:26 G 6445599.78 6445599.81 6445599.88 0.0089 0.0088 Uranus 12936-03-03 04:04 G 6445898.59 6445898.67 6445898.79 0.0133 0.0122 Neptune 12936-05-10 19:40 G 6445967.22 6445967.32 6445967.46 0.0089 0.0079 Neptune 12937-05-13 07:40 G 6446334.68 6446334.82 6446335.00 0.0089 0.0070 Neptune 12938-05-15 19:55 G 6446702.16 6446702.33 6446702.54 0.0089 0.0061 Neptune 12939-05-18 07:55 G 6447069.64 6447069.83 6447070.06 0.0089 0.0051 Neptune 12940-05-19 20:09 G 6447437.12 6447437.34 6447437.57 0.0089 0.0042 Neptune 12941-05-22 07:55 G 6447804.61 6447804.83 6447805.08 0.0089 0.0033 Neptune 12942-05-24 19:40 G 6448172.08 6448172.32 6448172.58 0.0089 0.0023 Neptune 12943-05-27 07:26 G 6448539.56 6448539.81 6448540.07 0.0089 0.0014 Saturn 12943-10-15 20:23 G 6448681.17 6448681.35 6448681.53 0.0282 0.0191 Jupiter 12943-10-19 04:19 G 6448684.44 6448684.68 6448684.91 0.0485 0.0009 Neptune 12944-05-28 18:57 G 6448907.04 6448907.29 6448907.55 0.0089 0.0004 Neptune 12945-05-31 06:43 G 6449274.52 6449274.78 6449275.03 0.0089 0.0005 Neptune 12946-06-02 18:00 G 6449642.00 6449642.25 6449642.50 0.0089 0.0015 Neptune 12947-06-05 05:16 G 6450009.48 6450009.72 6450009.98 0.0089 0.0024 Mars 12947-08-01 16:33 G 6450067.04 6450067.19 6450067.34 0.1635 0.0952 Neptune 12948-06-06 16:33 G 6450376.96 6450377.19 6450377.44 0.0089 0.0033 Jupiter 12949-04-09 22:04 G 6450684.25 6450684.42 6450684.58 0.0544 0.0383 Neptune 12949-06-09 04:04 G 6450744.45 6450744.67 6450744.90 0.0089 0.0042 Neptune 12950-06-11 15:36 G 6451111.95 6451112.15 6451112.36 0.0089 0.0052 Neptune 12951-06-14 02:09 G 6451479.43 6451479.59 6451479.81 0.0089 0.0061 Neptune 12952-06-15 13:26 G 6451846.94 6451847.06 6451847.25 0.0089 0.0071 Neptune 12953-06-18 01:11 G 6452214.44 6452214.55 6452214.68 0.0089 0.0078 Neptune 12954-06-20 12:00 G 6452581.97 6452582.00 6452582.07 0.0089 0.0087 Jupiter 12955-10-23 10:04 G 6453071.69 6453071.92 6453072.15 0.0485 0.0126 Saturn 12958-04-13 06:57 G 6453974.55 6453974.79 6453975.04 0.0276 0.0022 Jupiter 12961-04-15 06:43 G 6455072.57 6455072.78 6455073.00 0.0544 0.0206

Jupiter 12967-10-27 14:09 G 6457458.89 6457459.09 6457459.29 0.0486 0.0244 12972-10-09 06:57 G 6459267.54 6459267.79 6459268.03 0.0283 0.0048 Saturn Jupiter 12973-04-20 18:28 G 6459461.04 6459461.27 6459461.50 0.0544 0.0025 12973-08-11 07:40 G 6459573.64 **Uranus** 6459573.82 6459574.02 0.0145 0.0093 **Uranus** 12974-08-16 06:57 G 6459943.55 6459943.79 6459944.03 0.0145 0.0040 **Uranus** 12975-08-21 06:14 G 6460313.51 6460313.76 6460314.02 0.0145 0.0014 Uranus 12976-08-25 05:45 G 6460683.53 6460683.74 6460683.97 0.0145 0.0067 Uranus 12977-08-30 05:31 G 6461053.60 6461053.73 6461053.88 0.0145 0.0120 Jupiter 12979-10-31 20:38 G 6461846.21 6461846.36 6461846.51 0.0487 0.0368 Jupiter 12985-04-26 05:02 G 6463849.49 6463849.71 6463849.94 0.0543 0.0157 Saturn 12987-04-07 17:02 G 6464561.13 6464561.21 6464561.32 0.0276 0.0255 12988-04-19 11:16 G 6464938.88 6464938.97 6464939.10 0.0276 0.0247 Saturn Jupiter 12990-10-05 22:33 G 6465838.29 6465838.44 6465838.59 0.0484 0.0370 Jupiter 12997-05-01 12:14 G 6468237.84 6468238.01 6468238.20 0.0542 0.0331

## 14TH MILLENNIUM CE

## This is a list of transits of Earth in the 14th millennium CE.

FROM MAX- C START MAX END SUNRAD DEPTH S

TRANSIT

TIME

 Jupiter
 13002-10-11 03:50 G
 6470225.46
 6470225.66
 6470225.86
 0.0484
 0.0251

 Saturn
 13002-10-17 22:48 G
 6470232.33
 6470232.45
 6470232.57
 0.0282
 0.0245

 Jupiter
 13009-05-07 12:28 G
 6472625.94
 6472626.02
 6472626.13
 0.0540
 0.0491

 Uranus
 13014-02-08 07:26 G
 6474363.74
 6474363.81
 6474363.89
 0.0133
 0.0127

 Jupiter
 13014-10-15 08:52 G
 6474612.65
 6474612.87
 6474613.10
 0.0484
 0.0131

Uranus 13015-02-12 16:19 G 6474733.00 6474733.18 6474733.39 0.0133 0.0086 Uranus 13016-02-17 01:26 G 6475102.33 6475102.56 6475102.81 0.0133 0.0044 Uranus 13017-02-20 10:33 G 6475471.68 6475471.94 6475472.20 0.0133 0.0001 Saturn 13017-04-15 12:28 G 6475525.78 6475526.02 6475526.27 0.0276 0.0037 Neptune 13017-11-06 04:33 G 6475730.68 6475730.69 6475730.76 0.0088 0.0087 Uranus 13018-02-24 19:26 G 6475841.06 6475841.31 6475841.55 0.0133 0.0041 Neptune 13018-11-08 16:04 G 6476098.07 6476098.17 6476098.30 0.0088 0.0078 Uranus 13019-03-01 04:04 G 6476210.48 6476210.67 6476210.88 0.0133 0.0083 Neptune 13019-11-11 03:07 G 6476465.50 6476465.63 6476465.81 0.0088 0.0070 Uranus 13020-03-04 12:43 G 6476579.94 6476580.03 6476580.12 0.0133 0.0124 Neptune 13020-11-12 14:38 G 6476832.94 6476833.11 6476833.31 0.0088 0.0061 Neptune 13021-11-15 02:09 G 6477200.39 6477200.59 6477200.80 0.0088 0.0052 Neptune 13022-11-17 13:26 G 6477567.85 6477568.06 6477568.30 0.0088 0.0044 Neptune 13023-11-20 00:43 G 6477935.31 6477935.53 6477935.79 0.0088 0.0035 Neptune 13024-11-21 12:28 G 6478302.78 6478303.02 6478303.28 0.0088 0.0026 Neptune 13025-11-24 00:00 G 6478670.26 6478670.50 6478670.77 0.0088 0.0017 Jupiter 13026-10-19 12:00 G 6478999.76 6479000.00 6479000.23 0.0485 0.0014 Neptune 13026-11-26 12:00 G 6479037.75 6479038.00 6479038.27 0.0088 0.0008 Neptune 13027-11-29 00:00 G 6479405.24 6479405.50 6479405.76 0.0088 0.0002 Neptune 13028-11-30 11:31 G 6479772.74 6479772.98 6479773.25 0.0088 0.0011 Neptune 13029-12-02 23:31 G 6480140.24 6480140.48 6480140.75 0.0088 0.0020 Neptune 13030-12-05 11:45 G 6480507.75 6480507.99 6480508.24 0.0088 0.0029 Saturn 13031-10-12 12:14 G 6480818.76 6480819.01 6480819.25 0.0283 0.0013 Neptune 13031-12-07 23:31 G 6480875.26 6480875.48 6480875.73 0.0088 0.0038 Jupiter 13032-04-10 00:00 G 6480999.36 6480999.50 6480999.66 0.0545 0.0409 Neptune 13032-12-09 11:31 G 6481242.77 6481242.98 6481243.21 0.0088 0.0047 Neptune 13033-12-11 23:45 G 6481610.29 6481610.49 6481610.70 0.0088 0.0056 Neptune 13034-12-14 11:31 G 6481977.82 6481977.98 6481978.17 0.0088 0.0065 Neptune 13035-12-16 23:31 G 6482345.36 6482345.48 6482345.64 0.0088 0.0074 Neptune 13036-12-18 11:31 G 6482712.91 6482712.98 6482713.10 0.0088 0.0082

Jupiter 13038-10-23 17:16 G 6483386.99 6483387.22 6483387.45 0.0485 0.0107 Jupiter 13044-04-15 12:14 G 6485387.81 6485388.01 6485388.23 0.0545 0.0229 Saturn 13046-04-10 00:00 G 6486112.33 6486112.50 6486112.68 0.0276 0.0194 6487774.44 6487774.65 0.0486 0.0228 Jupiter 13050-10-27 22:33 G 6487774.23 Jupiter 13056-04-20 21:36 G 6489776.17 6489776.40 6489776.63 0.0544 0.0049 Uranus 13056-08-07 17:45 G 6489885.22 6489885.24 6489885.29 0.0145 0.0143 Uranus 13057-08-12 16:33 G 6490255.01 6490255.19 6490255.40 0.0145 0.0091 Uranus 13058-08-17 15:50 G 6490624.92 6490625.16 6490625.41 0.0145 0.0038 Uranus 13059-08-22 15:21 G 6490994.89 6490995.14 6490995.39 0.0145 0.0016 Uranus 13060-08-26 15:07 G 6491364.91 6491365.13 6491365.35 0.0145 0.0069 Saturn 13060-10-05 18:14 G 6491405.13 6491405.26 6491405.40 0.0283 0.0235 Uranus 13061-08-31 14:09 G 6491734.98 6491735.09 6491735.24 0.0145 0.0123 Jupiter 13062-11-01 06:00 G 6492161.60 6492161.75 6492161.92 0.0487 0.0352 Jupiter 13068-04-26 00:00 G 6494164.27 6494164.50 6494164.72 0.0543 0.0120 Mars 13073-07-29 17:16 G 6496085.06 6496085.22 6496085.38 0.1645 0.0857 Jupiter 13073-10-06 08:09 G 6496153.71 6496153.84 6496153.99 0.0484 0.0383 Pluto 13074-06-09 11:16 G 6496399.93 6496399.97 6496400.09 0.0064 0.0061 Jupiter 13074-11-05 12:57 G 6496548.99 6496549.04 6496549.10 0.0488 0.0473 Pluto 13075-06-10 23:31 G 6496766.24 6496766.48 6496766.71 0.0064 0.0026 Saturn 13076-04-16 18:57 G 6497077.07 6497077.29 6497077.53 0.0277 0.0098 Jupiter 13080-05-01 06:14 G 6498552.56 6498552.76 6498552.95 0.0542 0.0292 Jupiter 13085-10-10 11:02 G 6500540.77 6500540.96 6500541.16 0.0484 0.0268 Saturn 13090-10-13 19:55 G 6502370.09 6502370.33 6502370.56 0.0283 0.0076 Jupiter 13092-05-06 14:52 G 6502941.01 6502941.12 6502941.25 0.0541 0.0463 Jupiter 13097-10-14 15:21 G 6504927.92 6504928.14 6504928.36 0.0484 0.0149 Uranus 13098-02-08 15:50 G 6505045.08 6505045.16 6505045.25 0.0133 0.0125 Uranus 13099-02-13 00:57 G 6505414.36 6505414.54 6505414.76 0.0133 0.0083 Uranus 13100-02-17 09:50 G 6505783.68 6505783.91 6505784.17 0.0133 0.0042 Neptune 13100-05-12 06:00 G 6505867.65 6505867.75 6505867.87 0.0089 0.0081 Uranus 13101-02-21 19:11 G 6506153.05 6506153.30 6506153.56 0.0133 0.0003

Neptune 13101-05-14 17:31 G 6506235.11 6506235.23 6506235.41 0.0089 0.0073 Uranus 13102-02-26 04:04 G 6506522.43 6506522.67 6506522.92 0.0133 0.0043 Neptune 13102-05-17 05:45 G 6506602.59 6506602.74 6506602.95 0.0089 0.0064 Uranus 13103-03-02 12:43 G 6506891.84 6506892.03 6506892.24 0.0133 0.0085 Neptune 13103-05-19 17:45 G 6506970.06 6506970.24 6506970.47 0.0089 0.0055 Uranus 13104-03-05 21:36 G 6507261.32 6507261.40 6507261.47 0.0133 0.0127 Neptune 13104-05-21 06:28 G 6507337.55 6507337.77 6507337.99 0.0089 0.0045 Saturn 13105-04-12 07:55 G 6507663.63 6507663.83 6507664.06 0.0276 0.0131 Neptune 13105-05-23 18:28 G 6507705.04 6507705.27 6507705.50 0.0089 0.0036 Neptune 13106-05-26 06:14 G 6508072.52 6508072.76 6508073.01 0.0089 0.0027 Neptune 13107-05-28 18:00 G 6508440.01 6508440.25 6508440.51 0.0089 0.0017 Neptune 13108-05-30 05:45 G 6508807.49 6508807.74 6508808.00 0.0089 0.0009 Neptune 13109-06-01 17:31 G 6509174.97 6509175.23 6509175.49 0.0089 0.0001 Jupiter 13109-10-19 19:26 G 6509315.07 6509315.31 6509315.54 0.0485 0.0030 Neptune 13110-06-04 05:02 G 6509542.46 6509542.71 6509542.97 0.0089 0.0010 Neptune 13111-06-06 16:19 G 6509909.94 6509910.18 6509910.44 0.0089 0.0020 Neptune 13112-06-08 03:50 G 6510277.42 6510277.66 6510277.91 0.0089 0.0029 Neptune 13113-06-10 15:21 G 6510644.91 6510645.14 6510645.38 0.0089 0.0038 Neptune 13114-06-13 02:38 G 6511012.39 6511012.61 6511012.83 0.0089 0.0047 Jupiter 13115-04-11 02:52 G 6511314.48 6511314.62 6511314.76 0.0545 0.0432 Neptune 13115-06-15 13:55 G 6511379.89 6511380.08 6511380.29 0.0089 0.0055 Neptune 13116-06-17 00:57 G 6511747.38 6511747.54 6511747.73 0.0089 0.0065 6512115.00 6512115.18 0.0089 0.0074 Neptune 13117-06-19 12:00 G 6512114.89 Neptune 13118-06-21 23:45 G 6512482.40 6512482.49 6512482.60 0.0089 0.0082 Saturn 13119-10-09 01:55 G 6512956.39 6512956.58 6512956.77 0.0283 0.0171 Jupiter 13121-10-24 01:26 G 6513702.33 6513702.56 6513702.79 0.0485 0.0091 Jupiter 13127-04-16 06:43 G 6515702.58 6515702.78 6515702.99 0.0544 0.0264 Jupiter 13133-10-28 06:57 G 6518089.58 6518089.79 6518090.00 0.0486 0.0212 Saturn 13135-04-20 02:52 G 6518628.43 6518628.62 6518628.83 0.0277 0.0161 Jupiter 13139-04-21 14:09 G 6520090.86 6520091.09 6520091.32 0.0544 0.0089

Uranus 13140-08-09 03:07 G 6520566.59 6520566.63 6520566.70 0.0145 0.0141
Uranus 13141-08-14 01:55 G 6520936.39 6520936.58 6520936.79 0.0145 0.0088
Uranus 13142-08-19 01:11 G 6521306.32 6521306.55 6521306.81 0.0145 0.0035
Uranus 13143-08-24 00:43 G 6521676.29 6521676.53 6521676.79 0.0145 0.0019
Uranus 13144-08-28 00:00 G 6522046.30 6522046.50 6522046.73 0.0145 0.0073
Uranus 13145-09-01 23:31 G 6522416.38 6522416.48 6522416.62 0.0145 0.0126
Jupiter 13145-11-01 10:33 G 6522476.77 6522476.94 6522477.12 0.0487 0.0328
Mars 13146-01-30 15:36 G 6522566.96 6522567.15 6522567.33 0.1890 0.0821
Saturn 13149-10-16 05:45 G 6523921.53 6523921.74 6523921.95 0.0282 0.0144
Jupiter 13151-04-26 23:16 G 6524479.24 6524479.47 6524479.70 0.0544 0.0088
Mars 13152-08-01 19:26 G 6524942.12 6524942.31 6524942.49 0.1642 0.0387
Jupiter 13156-10-06 14:38 G 6526468.98 6526469.11 6526469.24 0.0484 0.0400
Jupiter 13157-11-05 17:02 G 6526864.12 6526864.21 6526864.30 0.0488 0.0449
Jupiter 13163-05-02 09:21 G 6528867.70 6528867.89 6528868.10 0.0543 0.0265
Pluto 13163-12-10 11:16 G 6529089.71 6529089.97 6529090.23 0.0080 0.0008
Saturn 13164-04-13 17:16 G 6529214.99 6529215.22 6529215.46 0.0276 0.0065
Jupiter 13168-10-10 17:16 G 6530856.04 6530856.22 6530856.42 0.0484 0.0285
Jupiter 13175-05-07 16:48 G 6533256.07 6533256.20 6533256.34 0.0541 0.0434
Saturn 13178-10-10 12:00 G 6534507.77 6534508.00 6534508.23 0.0283 0.0103
Jupiter 13180-10-14 22:33 G 6535243.22 6535243.44 6535243.66 0.0484 0.0165
Neptune 13181-11-06 16:19 G 6535631.18 6535631.18 6535631.19 0.0088 0.0088
Uranus 13182-02-09 23:31 G 6535726.39 6535726.48 6535726.59 0.0133 0.0123
Neptune 13182-11-09 03:07 G 6535998.55 6535998.63 6535998.76 0.0088 0.0080
Uranus 13183-02-14 08:52 G 6536095.67 6536095.87 6536096.08 0.0133 0.0081
Neptune 13183-11-11 14:23 G 6536365.98 6536366.10 6536366.28 0.0088 0.0072
Uranus 13184-02-18 18:00 G 6536465.01 6536465.25 6536465.50 0.0133 0.0039
Neptune 13184-11-13 01:55 G 6536733.42 6536733.58 6536733.77 0.0088 0.0063
Uranus 13185-02-22 03:21 G 6536834.38 6536834.64 6536834.90 0.0133 0.0004
Neptune 13185-11-15 13:11 G 6537100.87 6537101.05 6537101.28 0.0088 0.0055
Uranus 13186-02-26 12:00 G 6537203.77 6537204.00 6537204.25 0.0133 0.0046

Neptune 13186-11-18 00:57 G 6537468.33 6537468.54 6537468.77 0.0088 0.0046 Uranus 13187-03-02 20:38 G 6537573.19 6537573.36 6537573.57 0.0133 0.0088 Neptune 13187-11-20 12:28 G 6537835.79 6537836.02 6537836.26 0.0088 0.0037 Uranus 13188-03-06 05:16 G 6537942.67 6537942.72 6537942.79 0.0133 0.0130 Neptune 13188-11-21 23:31 G 6538203.25 6538203.48 6538203.74 0.0088 0.0029 Neptune 13189-11-24 11:16 G 6538570.73 6538570.97 6538571.24 0.0088 0.0020 Neptune 13190-11-26 23:02 G 6538938.21 6538938.46 6538938.72 0.0088 0.0011 Neptune 13191-11-29 10:48 G 6539305.69 6539305.95 6539306.21 0.0088 0.0003 Jupiter 13192-10-19 02:38 G 6539630.38 6539630.61 6539630.85 0.0485 0.0049 Neptune 13192-11-30 22:33 G 6539673.18 6539673.44 6539673.70 0.0088 0.0007 Saturn 13193-04-08 16:04 G 6539802.16 6539802.17 6539802.19 0.0277 0.0276 Neptune 13193-12-03 10:33 G 6540040.68 6540040.94 6540041.19 0.0088 0.0015 Saturn 13194-04-21 11:45 G 6540179.86 6540179.99 6540180.14 0.0277 0.0225 Neptune 13194-12-05 22:19 G 6540408.19 6540408.43 6540408.69 0.0088 0.0024 Neptune 13195-12-08 10:04 G 6540775.69 6540775.92 6540776.17 0.0088 0.0033 Neptune 13196-12-09 22:04 G 6541143.21 6541143.42 6541143.67 0.0088 0.0042 Neptune 13197-12-12 10:19 G 6541510.73 6541510.93 6541511.15 0.0088 0.0051 Jupiter 13198-04-09 18:43 G 6541629.17 6541629.28 6541629.40 0.0544 0.0470 Neptune 13198-12-14 22:04 G 6541878.25 6541878.42 6541878.63 0.0088 0.0060 Neptune 13199-12-17 10:33 G 6542245.78 6542245.94 6542246.11 0.0088 0.0068 Neptune 13200-12-18 22:04 G 6542613.32 6542613.42 6542613.58 0.0088 0.0077 Neptune 13201-12-21 10:33 G 6542980.89 6542980.94 6542981.03 0.0088 0.0085 Jupiter 13204-10-23 05:45 G 6544017.51 6544017.74 6544017.97 0.0485 0.0067 Saturn 13208-10-17 16:48 G 6545473.06 6545473.20 6545473.37 0.0282 0.0215 Jupiter 13210-04-15 03:36 G 6546017.46 6546017.65 6546017.85 0.0545 0.0299 Jupiter 13216-10-27 10:48 G 6548404.74 6548404.95 6548405.17 0.0485 0.0187 Jupiter 13222-04-20 15:07 G 6550405.91 6550406.13 6550406.36 0.0544 0.0119 Saturn 13223-04-16 03:50 G 6550766.41 6550766.66 6550766.90 0.0276 0.0004 Uranus 13224-08-09 12:14 G 6551247.95 6551248.01 6551248.09 0.0145 0.0138 Uranus 13225-08-14 10:48 G 6551617.77 6551617.95 6551618.17 0.0145 0.0086

Uranus 13226-08-19 10:19 G 6551987.69 6551987.93 6551988.18 0.0145 0.0032
Uranus 13227-08-24 09:50 G 6552357.66 6552357.91 6552358.16 0.0145 0.0022
Uranus 13228-08-28 09:07 G 6552727.68 6552727.88 6552728.11 0.0145 0.0076
Jupiter 13228-10-31 15:50 G 6552791.99 6552792.16 6552792.35 0.0486 0.0307
Uranus 13229-09-02 08:09 G 6553097.76 6553097.84 6553097.98 0.0145 0.0130
Mars 13231-08-04 21:21 G 6553799.37 6553799.39 6553799.42 0.1638 0.1617
Jupiter 13234-04-26 00:43 G 6554794.30 6554794.53 6554794.76 0.0543 0.0060
Saturn 13237-10-11 23:16 G 6556059.23 6556059.47 6556059.72 0.0283 0.0032
Jupiter 13239-10-06 20:23 G 6556784.24 6556784.35 6556784.47 0.0484 0.0416
Jupiter 13240-11-04 23:16 G 6557179.37 6557179.47 6557179.59 0.0488 0.0429
Jupiter 13246-05-01 04:04 G 6559182.46 6559182.67 6559182.88 0.0542 0.0226
Jupiter 13251-10-10 23:45 G 6561171.31 6561171.49 6561171.68 0.0484 0.0303
Saturn 13252-04-10 00:43 G 6561353.38 6561353.53 6561353.70 0.0277 0.0211
Jupiter 13258-05-06 08:52 G 6563570.72 6563570.87 6563571.03 0.0541 0.0393
Jupiter 13263-10-15 02:38 G 6565558.40 6565558.61 6565558.83 0.0484 0.0189
Neptune 13264-05-11 16:33 G 6565768.12 6565768.19 6565768.31 0.0089 0.0083
Meptune 13204-03-11 10.33 G 0303700.12 0303700.13 0303700.31 0.0003 0.0003
Neptune 13265-05-14 04:33 G 6566135.58 6566135.69 6566135.86 0.0089 0.0075
Neptune 13265-05-14 04:33 G 6566135.58 6566135.69 6566135.86 0.0089 0.0075
Neptune       13265-05-14 04:33 G       6566135.58       6566135.69       6566135.86       0.0089 0.0075         Uranus       13266-02-10 07:40 G       6566407.73       6566407.82       6566407.95 0.0133 0.0121
Neptune       13265-05-14 04:33 G       6566135.58       6566135.69       6566135.86 0.0089 0.0075         Uranus       13266-02-10 07:40 G       6566407.73       6566407.82       6566407.95 0.0133 0.0121         Neptune       13266-05-16 16:33 G       6566503.04       6566503.19       6566503.39 0.0089 0.0066
Neptune       13265-05-14 04:33 G       6566135.58       6566135.69       6566135.86 0.0089 0.0075         Uranus       13266-02-10 07:40 G       6566407.73       6566407.82       6566407.95 0.0133 0.0121         Neptune       13266-05-16 16:33 G       6566503.04       6566503.19       6566503.39 0.0089 0.0066         Saturn       13266-10-06 20:52 G       6566646.27       6566646.37       6566646.50 0.0283 0.0248
Neptune       13265-05-14 04:33 G       6566135.58       6566135.69       6566135.86 0.0089 0.0075         Uranus       13266-02-10 07:40 G       6566407.73       6566407.82       6566407.95 0.0133 0.0121         Neptune       13266-05-16 16:33 G       6566503.04       6566503.19       6566503.39 0.0089 0.0066         Saturn       13266-10-06 20:52 G       6566646.27       6566646.37       6566646.50 0.0283 0.0248         Uranus       13267-02-14 17:16 G       6566777.03       6566777.22       6566777.44 0.0133 0.0078
Neptune       13265-05-14 04:33 G       6566135.58       6566135.69       6566135.86 0.0089 0.0075         Uranus       13266-02-10 07:40 G       6566407.73       6566407.82       6566407.95 0.0133 0.0121         Neptune       13266-05-16 16:33 G       6566503.04       6566503.19       6566503.39 0.0089 0.0066         Saturn       13266-10-06 20:52 G       6566646.27       6566646.37       6566646.50 0.0283 0.0248         Uranus       13267-02-14 17:16 G       6566777.03       6566777.22       6566777.44 0.0133 0.0078         Neptune       13267-05-19 05:02 G       6566870.52       6566870.71       6566870.92 0.0089 0.0057
Neptune 13265-05-14 04:33 G 6566135.58 6566135.69 6566135.86 0.0089 0.0075  Uranus 13266-02-10 07:40 G 6566407.73 6566407.82 6566407.95 0.0133 0.0121  Neptune 13266-05-16 16:33 G 6566503.04 6566503.19 6566503.39 0.0089 0.0066  Saturn 13266-10-06 20:52 G 6566646.27 6566646.37 6566646.50 0.0283 0.0248  Uranus 13267-02-14 17:16 G 6566777.03 6566777.22 6566777.44 0.0133 0.0078  Neptune 13267-05-19 05:02 G 6566870.52 6566870.71 6566870.92 0.0089 0.0057  Uranus 13268-02-19 02:38 G 6567146.37 6567146.61 6567146.86 0.0133 0.0036
Neptune 13265-05-14 04:33 G 6566135.58 6566135.69 6566135.86 0.0089 0.0075  Uranus 13266-02-10 07:40 G 6566407.73 6566407.82 6566407.95 0.0133 0.0121  Neptune 13266-05-16 16:33 G 6566503.04 6566503.19 6566503.39 0.0089 0.0066  Saturn 13266-10-06 20:52 G 6566646.27 6566646.37 6566646.50 0.0283 0.0248  Uranus 13267-02-14 17:16 G 6566777.03 6566777.22 6566777.44 0.0133 0.0078  Neptune 13267-05-19 05:02 G 6566870.52 6566870.71 6566870.92 0.0089 0.0057  Uranus 13268-02-19 02:38 G 6567146.37 6567146.61 6567146.86 0.0133 0.0036  Neptune 13268-05-20 17:02 G 6567238.00 6567238.21 6567238.43 0.0089 0.0048
Neptune 13265-05-14 04:33 G 6566135.58 6566135.69 6566135.86 0.0089 0.0075  Uranus 13266-02-10 07:40 G 6566407.73 6566407.82 6566407.95 0.0133 0.0121  Neptune 13266-05-16 16:33 G 6566503.04 6566503.19 6566503.39 0.0089 0.0066  Saturn 13266-10-06 20:52 G 6566646.27 6566646.37 6566646.50 0.0283 0.0248  Uranus 13267-02-14 17:16 G 6566777.03 6566777.22 6566777.44 0.0133 0.0078  Neptune 13267-05-19 05:02 G 6566870.52 6566870.71 6566870.92 0.0089 0.0057  Uranus 13268-02-19 02:38 G 6567146.37 6567146.61 6567146.86 0.0133 0.0036  Neptune 13268-05-20 17:02 G 6567238.00 6567238.21 6567238.43 0.0089 0.0048  Uranus 13269-02-22 12:00 G 6567515.74 6567516.00 6567516.25 0.0133 0.0007
Neptune 13265-05-14 04:33 G 6566135.58 6566135.69 6566135.86 0.0089 0.0075  Uranus 13266-02-10 07:40 G 6566407.73 6566407.82 6566407.95 0.0133 0.0121  Neptune 13266-05-16 16:33 G 6566503.04 6566503.19 6566503.39 0.0089 0.0066  Saturn 13266-10-06 20:52 G 6566646.27 6566646.37 6566646.50 0.0283 0.0248  Uranus 13267-02-14 17:16 G 6566777.03 6566777.22 6566777.44 0.0133 0.0078  Neptune 13267-05-19 05:02 G 6566870.52 6566870.71 6566870.92 0.0089 0.0057  Uranus 13268-02-19 02:38 G 6567146.37 6567146.61 6567146.86 0.0133 0.0036  Neptune 13268-05-20 17:02 G 6567238.00 6567238.21 6567238.43 0.0089 0.0048  Uranus 13269-02-22 12:00 G 6567515.74 6567516.00 6567516.25 0.0133 0.0007  Neptune 13269-05-23 05:02 G 6567605.49 6567605.71 6567605.95 0.0089 0.0039
Neptune 13265-05-14 04:33 G 6566135.58 6566135.69 6566135.86 0.0089 0.0075  Uranus 13266-02-10 07:40 G 6566407.73 6566407.82 6566407.95 0.0133 0.0121  Neptune 13266-05-16 16:33 G 6566503.04 6566503.19 6566503.39 0.0089 0.0066  Saturn 13266-10-06 20:52 G 6566646.27 6566646.37 6566646.50 0.0283 0.0248  Uranus 13267-02-14 17:16 G 6566777.03 6566777.22 6566777.44 0.0133 0.0078  Neptune 13267-05-19 05:02 G 6566870.52 6566870.71 6566870.92 0.0089 0.0057  Uranus 13268-02-19 02:38 G 6567146.37 6567146.61 6567146.86 0.0133 0.0036  Neptune 13268-05-20 17:02 G 6567238.00 6567238.21 6567238.43 0.0089 0.0048  Uranus 13269-02-22 12:00 G 6567515.74 6567516.00 6567516.25 0.0133 0.0007  Neptune 13269-05-23 05:02 G 6567605.49 6567605.71 6567605.95 0.0089 0.0039  Uranus 13270-02-26 20:38 G 6567885.13 6567885.36 6567885.60 0.0133 0.0049

Uranus 13272-03-06 13:26 G 6568624.06 6568624.06 6568624.09 0.0133 0.0133 Neptune 13272-05-29 16:33 G 6568707.95 6568708.19 6568708.46 0.0089 0.0013 Neptune 13273-06-01 04:33 G 6569075.44 6569075.69 6569075.95 0.0089 0.0003 Neptune 13274-06-03 16:04 G 6569442.92 6569443.17 6569443.43 0.0089 0.0006 Neptune 13275-06-06 03:21 G 6569810.40 6569810.64 6569810.90 0.0089 0.0016 Jupiter 13275-10-19 06:57 G 6569945.56 6569945.79 6569946.03 0.0484 0.0072 Neptune 13276-06-07 14:52 G 6570177.89 6570178.12 6570178.38 0.0089 0.0024 Neptune 13277-06-10 02:24 G 6570545.36 6570545.60 6570545.84 0.0089 0.0033 Neptune 13278-06-12 13:40 G 6570912.85 6570913.07 6570913.30 0.0089 0.0042 13278-07-29 17:02 G 6570960.14 6570960.21 6570960.28 0.1653 0.1524 Mars Neptune 13279-06-15 00:43 G 6571280.34 6571280.53 6571280.76 0.0089 0.0051 Neptune 13280-06-16 12:00 G 6571647.83 6571648.00 6571648.21 0.0089 0.0059 Jupiter 13281-04-08 17:45 G 6571944.15 6571944.24 6571944.33 0.0545 0.0501 Neptune 13281-06-18 23:31 G 6572015.32 6572015.48 6572015.65 0.0089 0.0067 Saturn 13282-04-17 13:55 G 6572317.85 6572318.08 6572318.32 0.0276 0.0071 Neptune 13282-06-21 10:19 G 6572382.82 6572382.93 6572383.09 0.0089 0.0076 Neptune 13283-06-23 21:50 G 6572750.35 6572750.41 6572750.51 0.0089 0.0084 Jupiter 13287-10-23 11:02 G 6574332.72 6574332.96 6574333.19 0.0485 0.0048 Jupiter 13293-04-14 04:48 G 6576332.52 6576332.70 6576332.89 0.0545 0.0325 Saturn 13296-10-13 11:16 G 6577610.73 6577610.97 6577611.21 0.0282 0.0040 Jupiter 13299-10-27 16:33 G 6578719.98 6578720.19 6578720.42 0.0486 0.0168 Jupiter 13305-04-20 11:02 G 6580720.74 6580720.96 6580721.19 0.0544 0.0156 Uranus 13308-08-10 21:07 G 6581929.32 6581929.38 6581929.49 0.0145 0.0136 Uranus 13309-08-15 20:24 G 6582299.15 6582299.35 6582299.56 0.0145 0.0082 Uranus 13310-08-20 19:40 G 6582669.08 6582669.32 6582669.57 0.0145 0.0029 Saturn 13311-04-13 09:50 G 6582904.71 6582904.91 6582905.13 0.0277 0.0145 Uranus 13311-08-25 18:57 G 6583039.04 6583039.29 6583039.54 0.0145 0.0025 Jupiter 13311-11-01 22:04 G 6583107.24 6583107.42 6583107.62 0.0487 0.0287 Uranus 13312-08-29 18:00 G 6583409.06 6583409.25 6583409.47 0.0145 0.0080 Uranus 13313-09-03 17:16 G 6583779.14 6583779.22 6583779.34 0.0145 0.0133

Jupiter 13317-04-25 17:16 G 6585108.99 6585109.22 6585109.45 0.0543 0.0019 13320-06-12 13:55 G 6586252.99 6586253.08 6586253.23 0.0064 0.0056 Pluto Pluto 13321-06-14 01:40 G 6586619.36 6586619.57 6586619.82 0.0064 0.0031 Jupiter 13322-10-07 00:43 G 6587099.45 6587099.53 6587099.64 0.0484 0.0439 Jupiter 13323-11-06 02:09 G 6587494.46 6587494.59 6587494.72 0.0487 0.0400 Saturn 13325-10-09 08:52 G 6588197.69 6588197.87 6588198.08 0.0283 0.0176 Jupiter 13329-05-01 00:00 G 6589497.28 6589497.50 6589497.72 0.0543 0.0187 Jupiter 13334-10-11 05:02 G 6591486.54 6591486.71 6591486.89 0.0484 0.0322 Saturn 13341-04-20 00:14 G 6593869.30 6593869.51 6593869.72 0.0276 0.0137 Jupiter 13341-05-06 09:36 G 6593885.73 6593885.90 6593886.07 0.0542 0.0360 Jupiter 13346-10-15 08:09 G 6595873.63 6595873.84 6595874.06 0.0484 0.0207 Neptune 13346-11-09 14:38 G 6595899.03 6595899.11 6595899.22 0.0088 0.0081 Neptune 13347-11-12 01:55 G 6596266.44 6596266.58 6596266.72 0.0088 0.0073 Neptune 13348-11-13 13:12 G 6596633.89 6596634.05 6596634.23 0.0088 0.0065 Neptune 13349-11-16 00:28 G 6597001.34 6597001.52 6597001.73 0.0088 0.0057 Uranus 13350-02-11 15:36 G 6597089.06 6597089.15 6597089.29 0.0133 0.0119 Neptune 13350-11-18 12:14 G 6597368.79 6597369.01 6597369.22 0.0088 0.0048 Uranus 13351-02-16 01:26 G 6597458.35 6597458.56 6597458.77 0.0133 0.0076 Neptune 13351-11-20 23:16 G 6597736.25 6597736.47 6597736.71 0.0088 0.0040 Uranus 13352-02-20 10:33 G 6597827.70 6597827.94 6597828.19 0.0133 0.0033 Neptune 13352-11-22 10:33 G 6598103.72 6598103.94 6598104.20 0.0088 0.0032 Uranus 13353-02-23 19:40 G 6598197.07 6598197.32 6598197.58 0.0133 0.0010 Jupiter 13353-05-11 17:31 G 6598274.19 6598274.23 6598274.28 0.0541 0.0527 Neptune 13353-11-24 22:19 G 6598471.19 6598471.43 6598471.69 0.0088 0.0024 Uranus 13354-02-28 04:04 G 6598566.44 6598566.67 6598566.92 0.0133 0.0052 Neptune 13354-11-27 10:04 G 6598838.66 6598838.92 6598839.18 0.0088 0.0015 Uranus 13355-03-04 12:43 G 6598935.86 6598936.03 6598936.22 0.0133 0.0094 Saturn 13355-10-16 23:02 G 6599162.24 6599162.46 6599162.69 0.0282 0.0112 Neptune 13355-11-29 21:36 G 6599206.14 6599206.40 6599206.66 0.0088 0.0006 Neptune 13356-12-01 09:21 G 6599573.63 6599573.89 6599574.15 0.0088 0.0003

13357-08-01 20:38 G 6599817.17 6599817.36 6599817.54 0.1649 0.0232 Mars Neptune 13357-12-03 21:07 G 6599941.13 6599941.38 6599941.64 0.0088 0.0011 Jupiter 13358-10-19 12:57 G 6600260.81 6600261.04 6600261.27 0.0484 0.0089 Neptune 13358-12-06 08:38 G 6600308.62 6600308.86 6600309.13 0.0088 0.0021 Neptune 13359-12-08 21:07 G 6600676.13 6600676.38 6600676.62 0.0088 0.0029 Neptune 13360-12-10 08:52 G 6601043.64 6601043.87 6601044.11 0.0088 0.0037 Neptune 13361-12-12 20:38 G 6601411.16 6601411.36 6601411.61 0.0088 0.0046 Neptune 13362-12-15 09:07 G 6601778.69 6601778.88 6601779.10 0.0088 0.0054 Neptune 13363-12-17 21:07 G 6602146.21 6602146.38 6602146.57 0.0088 0.0063 Jupiter 13364-04-08 15:36 G 6602259.11 6602259.15 6602259.20 0.0544 0.0531 Neptune 13364-12-19 09:07 G 6602513.75 6602513.88 6602514.06 0.0088 0.0071 Neptune 13365-12-21 21:07 G 6602881.30 6602881.38 6602881.52 0.0088 0.0080 Neptune 13366-12-24 09:21 G 6603248.88 6603248.89 6603248.95 0.0088 0.0088 Saturn 13370-04-14 18:28 G 6604456.03 6604456.27 6604456.50 0.0277 0.0080 Jupiter 13370-10-23 17:02 G 6604647.98 6604648.21 6604648.45 0.0485 0.0027 Jupiter 13376-04-13 22:48 G 6606647.28 6606647.45 6606647.63 0.0544 0.0362 Jupiter 13382-10-27 20:52 G 6609035.14 6609035.37 6609035.59 0.0485 0.0142 Saturn 13384-10-10 19:55 G 6609749.11 6609749.33 6609749.57 0.0283 0.0106 Jupiter 13388-04-19 05:02 G 6611035.49 6611035.71 6611035.93 0.0545 0.0195 Uranus 13392-08-11 06:28 G 6612610.69 6612610.77 6612610.88 0.0145 0.0133 Uranus 13393-08-16 05:31 G 6612980.53 6612980.73 6612980.95 0.0145 0.0080 Uranus 13394-08-21 04:48 G 6613350.45 6613350.70 6613350.95 0.0145 0.0026 Jupiter 13394-11-01 02:24 G 6613422.41 6613422.60 6613422.80 0.0486 0.0262 Uranus 13395-08-26 03:36 G 6613720.42 6613720.65 6613720.91 0.0145 0.0029 Uranus 13396-08-30 02:52 G 6614090.43 6614090.62 6614090.84 0.0145 0.0083 Uranus 13397-09-04 01:55 G 6614460.52 6614460.58 6614460.69 0.0145 0.0137 Saturn 13400-04-22 09:50 G 6615420.75 6615420.91 6615421.08 0.0276 0.0203 Jupiter 13400-04-25 16:04 G 6615423.94 6615424.17 6615424.40 0.0544 0.0016 Jupiter 13405-10-07 07:12 G 6617414.73 6617414.80 6617414.88 0.0484 0.0453 Jupiter 13406-11-06 07:26 G 6617809.67 6617809.81 6617809.96 0.0487 0.0380

13409-12-13 14:09 G 6618942.85 6618943.09 6618943.36 0.0080 0.0020 Pluto Jupiter 13412-05-01 02:38 G 6619812.39 6619812.61 6619812.83 0.0543 0.0161 Saturn 13414-10-19 09:21 G 6620713.71 6620713.89 6620714.09 0.0282 0.0180 Jupiter 13417-10-11 11:16 G 6621801.81 6621801.97 6621802.14 0.0484 0.0338 Jupiter 13424-05-06 08:09 G 6624200.66 6624200.84 6624201.03 0.0542 0.0326 Neptune 13428-05-13 03:07 G 6625668.58 6625668.63 6625668.75 0.0089 0.0085 Saturn 13429-04-17 01:55 G 6626007.34 6626007.58 6626007.83 0.0277 0.0017 Neptune 13429-05-15 15:36 G 6626036.03 6626036.15 6626036.30 0.0089 0.0076 Jupiter 13429-10-15 14:38 G 6626188.90 6626189.11 6626189.31 0.0484 0.0226 13430-01-31 20:09 G 6626297.19 6626297.34 6626297.48 0.1882 0.1324 Mars Neptune 13430-05-18 03:36 G 6626403.50 6626403.65 6626403.84 0.0089 0.0068 Neptune 13431-05-20 15:50 G 6626770.97 6626771.16 6626771.36 0.0089 0.0059 Neptune 13432-05-22 03:36 G 6627138.46 6627138.65 6627138.88 0.0089 0.0051 Neptune 13433-05-24 15:36 G 6627505.94 6627506.15 6627506.39 0.0089 0.0042 Uranus 13434-02-13 00:00 G 6627770.40 6627770.50 6627770.65 0.0133 0.0117 Neptune 13434-05-27 03:50 G 6627873.42 6627873.66 6627873.90 0.0089 0.0033 Uranus 13435-02-17 09:50 G 6628139.71 6628139.91 6628140.14 0.0133 0.0074 Neptune 13435-05-29 15:21 G 6628240.91 6628241.14 6628241.41 0.0089 0.0025 Uranus 13436-02-21 19:12 G 6628509.05 6628509.30 6628509.55 0.0133 0.0031 Jupiter 13436-05-11 12:57 G 6628588.95 6628589.04 6628589.14 0.0541 0.0490 Neptune 13436-05-31 03:36 G 6628608.41 6628608.65 6628608.91 0.0089 0.0016 13436-08-04 23:31 G 6628674.33 6628674.48 6628674.62 0.1646 0.1031 Mars Uranus 13437-02-25 04:04 G 6628878.42 6628878.67 6628878.93 0.0133 0.0012 Neptune 13437-06-02 15:36 G 6628975.89 6628976.15 6628976.41 0.0089 0.0006 Uranus 13438-03-01 12:28 G 6629247.80 6629248.02 6629248.27 0.0133 0.0055 Neptune 13438-06-05 03:21 G 6629343.38 6629343.64 6629343.90 0.0089 0.0002 Uranus 13439-03-05 20:52 G 6629617.22 6629617.37 6629617.56 0.0133 0.0098 Neptune 13439-06-07 15:07 G 6629710.88 6629711.13 6629711.39 0.0089 0.0011 Neptune 13440-06-09 02:38 G 6630078.36 6630078.61 6630078.86 0.0089 0.0020 Neptune 13441-06-11 14:09 G 6630445.85 6630446.09 6630446.34 0.0089 0.0028 Jupiter 13441-10-19 18:14 G 6630576.04 6630576.26 6630576.49 0.0484 0.0112 Neptune 13442-06-14 01:12 G 6630813.33 6630813.55 6630813.80 0.0089 0.0037 Neptune 13443-06-16 12:43 G 6631180.82 6631181.03 6631181.26 0.0089 0.0046 Saturn 13443-10-14 05:02 G 6631300.47 6631300.96 0.0283 0.0039 6631300.71 Neptune 13444-06-17 23:45 G 6631548.31 6631548.49 6631548.71 0.0089 0.0054 Neptune 13445-06-20 11:02 G 6631915.79 6631915.96 6631916.16 0.0089 0.0062 Neptune 13446-06-22 22:19 G 6632283.29 6632283.43 6632283.60 0.0089 0.0071 Neptune 13447-06-25 09:07 G 6632650.79 6632650.88 6632651.03 0.0089 0.0079 Neptune 13448-06-26 20:52 G 6633018.32 6633018.37 6633018.43 0.0089 0.0086 Jupiter 13453-10-23 23:31 G 6634963.24 6634963.48 6634963.71 0.0484 0.0006 Saturn 13458-04-11 23:02 G 6636594.33 6636594.46 6636594.60 0.0275 0.0228 Jupiter 13459-04-14 19:55 G 6636962.18 6636962.33 6636962.49 0.0545 0.0396 Saturn 13459-04-24 17:31 G 6636972.18 6636972.23 6636972.31 0.0276 0.0266 Jupiter 13465-10-28 03:21 G 6639350.41 6639350.64 6639350.87 0.0485 0.0124 Jupiter 13471-04-20 08:24 G 6641350.64 6641350.85 6641351.06 0.0545 0.0218 Saturn 13473-10-20 18:00 G 6642265.14 6642265.25 6642265.38 0.0282 0.0245 Uranus 13476-08-12 15:50 G 6643292.06 6643292.16 6643292.26 0.0145 0.0131 Uranus 13477-08-17 14:09 G 6643661.90 6643662.09 6643662.32 0.0145 0.0078 Jupiter 13477-11-01 09:21 G 6643737.69 6643737.89 6643738.09 0.0486 0.0244 Uranus 13478-08-22 13:40 G 6644031.82 6644032.07 6644032.32 0.0145 0.0023 Uranus 13479-08-27 12:43 G 6644401.79 6644402.03 6644402.28 0.0145 0.0031 Uranus 13480-08-31 11:45 G 6644771.80 6644771.99 6644772.20 0.0145 0.0086 Uranus 13481-09-05 11:16 G 6645141.91 6645141.97 6645142.04 0.0145 0.0139 Jupiter 13483-04-25 17:16 G 6645738.98 6645739.22 6645739.45 0.0544 0.0046 Saturn 13488-04-18 08:09 G 6647558.60 6647558.84 6647559.09 0.0276 0.0044 Jupiter 13488-10-06 13:55 G 6647730.04 6647730.08 6647730.14 0.0484 0.0470 Jupiter 13489-11-05 14:52 G 6648124.97 6648125.12 6648125.28 0.0487 0.0360 Jupiter 13495-04-30 23:45 G 6650127.27 6650127.49 6650127.72 0.0543 0.0126 Jupiter 13500-10-11 18:14 G 6652117.11 6652117.26 6652117.42 0.0484 0.0358 Jupiter 13501-11-10 20:38 G 6652512.31 6652512.36 6652512.42 0.0487 0.0473

Saturn 13502-10-16 11:16 G 6652851.73 6652851.97 6652852.22 0.0283 0.0023 Jupiter 13507-05-07 04:04 G 6654515.48 6654515.67 6654515.87 0.0543 0.0289 Neptune 13510-11-11 02:09 G 6655799.51 6655799.59 6655799.68 0.0088 0.0082 Neptune 13511-11-13 12:57 G 6656166.93 6656167.20 0.0088 0.0075 6656167.04 Jupiter 13512-10-15 23:02 G 6656504.26 6656504.46 6656504.66 0.0484 0.0241 Neptune 13512-11-15 00:14 G 6656534.37 6656534.51 6656534.70 0.0088 0.0067 Neptune 13513-11-17 11:45 G 6656901.82 6656901.99 6656902.20 0.0088 0.0059 Neptune 13514-11-19 23:02 G 6657269.27 6657269.46 6657269.70 0.0088 0.0051 Neptune 13515-11-22 10:33 G 6657636.73 6657636.94 6657637.19 0.0088 0.0043 Neptune 13516-11-23 22:19 G 6658004.20 6658004.43 6658004.68 0.0088 0.0034 Saturn 13517-04-14 06:00 G 6658145.56 6658145.75 6658145.95 0.0275 0.0166 Neptune 13517-11-26 09:50 G 6658371.67 6658371.91 6658372.16 0.0088 0.0026 Uranus 13518-02-14 08:09 G 6658451.73 6658451.84 6658451.99 0.0133 0.0115 Neptune 13518-11-28 21:07 G 6658739.14 6658739.38 6658739.65 0.0088 0.0018 Uranus 13519-02-18 17:45 G 6658821.03 6658821.24 6658821.46 0.0133 0.0072 Jupiter 13519-05-12 13:12 G 6658903.93 6658904.05 6658904.18 0.0542 0.0459 Neptune 13519-12-01 08:52 G 6659106.61 6659106.87 6659107.13 0.0088 0.0009 Uranus 13520-02-23 02:52 G 6659190.38 6659190.62 6659190.88 0.0133 0.0029 Neptune 13520-12-02 20:38 G 6659474.10 6659474.36 6659474.62 0.0088 0.0001 Uranus 13521-02-26 11:45 G 6659559.74 6659559.99 6659560.25 0.0133 0.0015 Neptune 13521-12-05 08:09 G 6659841.58 6659841.84 6659842.10 0.0088 0.0007 Uranus 13522-03-02 20:09 G 6659929.12 6659929.34 6659929.58 0.0133 0.0057 6660209.32 6660209.58 0.0088 0.0016 Neptune 13522-12-07 19:40 G 6660209.07 Uranus 13523-03-07 04:48 G 6660298.54 6660298.70 6660298.88 0.0133 0.0100 Neptune 13523-12-10 07:26 G 6660576.57 6660576.81 6660577.07 0.0088 0.0024 Jupiter 13524-10-20 02:24 G 6660891.38 6660891.60 6660891.83 0.0484 0.0127 Neptune 13524-12-11 19:12 G 6660944.08 6660944.30 6660944.56 0.0088 0.0033 Neptune 13525-12-14 07:12 G 6661311.59 6661311.80 6661312.05 0.0088 0.0041 Neptune 13526-12-16 19:12 G 6661679.10 6661679.30 6661679.53 0.0088 0.0050 Neptune 13527-12-19 07:40 G 6662046.63 6662046.82 6662047.02 0.0088 0.0058

Neptune 13528-12-20 19:55 G 6662414.16 6662414.33 6662414.50 0.0088 0.0066 Neptune 13529-12-23 07:26 G 6662781.70 6662781.81 6662781.98 0.0088 0.0074 Neptune 13530-12-25 19:26 G 6663149.25 6663149.31 6663149.44 0.0088 0.0083 Saturn 13531-10-10 15:07 G 6663437.99 6663438.13 6663438.28 0.0283 0.0226 Jupiter 13536-10-24 07:12 G 6665278.57 6665278.80 6665279.04 0.0484 0.0009 Jupiter 13542-04-14 23:31 G 6667277.34 6667277.48 6667277.63 0.0544 0.0420 Saturn 13547-04-21 12:57 G 6669109.82 6669110.04 6669110.27 0.0276 0.0101 Jupiter 13548-10-28 11:45 G 6669665.76 6669665.99 6669666.22 0.0485 0.0106 Jupiter 13554-04-20 07:55 G 6671665.62 6671665.83 6671666.04 0.0544 0.0248 Uranus 13560-08-14 00:28 G 6673973.42 6673973.52 6673973.64 0.0145 0.0129 Jupiter 13560-11-01 17:02 G 6674053.00 6674053.21 6674053.42 0.0485 0.0223 Uranus 13561-08-18 23:02 G 6674343.26 6674343.46 6674343.69 0.0145 0.0076 Saturn 13561-10-17 15:21 G 6674402.91 6674403.14 6674403.38 0.0283 0.0080 13562-08-02 19:40 G 6674692.17 6674692.32 6674692.48 0.1658 0.0914 Mars Uranus 13562-08-23 22:19 G 6674713.19 6674713.43 6674713.69 0.0145 0.0021 Uranus 13563-08-28 21:07 G 6675083.15 6675083.38 6675083.64 0.0145 0.0034 Uranus 13564-09-01 20:38 G 6675453.17 6675453.36 6675453.57 0.0145 0.0088 Uranus 13565-09-06 19:55 G 6675823.29 6675823.33 6675823.39 0.0145 0.0142 Jupiter 13566-04-25 12:00 G 6676053.77 6676054.00 6676054.23 0.0544 0.0083 13566-06-16 18:57 G 6676106.13 6676106.29 6676106.51 0.0064 0.0043 Pluto Pluto 13567-06-18 06:28 G 6676472.61 6676472.77 6676472.99 0.0064 0.0045 Jupiter 13571-10-08 00:43 G 6678045.51 6678045.53 6678045.56 0.0484 0.0480 Jupiter 13572-11-05 23:16 G 6678440.31 6678440.47 6678440.64 0.0486 0.0341 Saturn 13576-04-15 11:16 G 6679696.75 6679696.97 6679697.21 0.0275 0.0109 Jupiter 13578-04-30 22:33 G 6680442.21 6680442.44 6680442.67 0.0544 0.0094 Jupiter 13583-10-12 03:50 G 6682432.51 6682432.66 6682432.81 0.0483 0.0369 Jupiter 13584-11-10 04:33 G 6682827.61 6682827.69 6682827.77 0.0487 0.0456 Jupiter 13590-05-06 09:50 G 6684830.71 6684830.91 6684831.12 0.0543 0.0268 Saturn 13590-10-11 18:57 G 6684989.10 6684989.29 6684989.49 0.0283 0.0169 Neptune 13592-05-13 13:40 G 6685569.02 6685569.07 6685569.17 0.0089 0.0086

Neptune 13593-05-16 01:55 G 6685936.48 6685936.58 6685936.74 0.0089 0.0078 Neptune 13594-05-18 14:09 G 6686303.95 6686304.27 0.0089 0.0070 6686304.09 Neptune 13595-05-21 02:38 G 6686671.43 6686671.61 6686671.81 0.0089 0.0061 Jupiter 13595-10-16 08:09 G 6686819.64 6686820.04 0.0484 0.0254 6686819.84 Neptune 13596-05-22 14:24 G 6687038.91 6687039.10 6687039.32 0.0089 0.0053 Neptune 13597-05-25 02:09 G 6687406.39 6687406.59 6687406.84 0.0089 0.0045 Neptune 13598-05-27 14:38 G 6687773.88 6687774.11 6687774.34 0.0089 0.0036 Neptune 13599-05-30 02:09 G 6688141.36 6688141.59 6688141.85 0.0089 0.0028 Neptune 13600-05-31 14:09 G 6688508.85 6688509.09 6688509.35 0.0089 0.0019 Neptune 13601-06-03 01:55 G 6688876.33 6688876.84 0.0089 0.0010 6688876.58 Uranus 13602-02-14 16:48 G 6689133.07 6689133.20 6689133.35 0.0133 0.0113 Jupiter 13602-05-11 18:14 G 6689219.12 6689219.26 6689219.39 0.0542 0.0433 Neptune 13602-06-05 13:55 G 6689243.83 6689244.08 6689244.34 0.0089 0.0003 Uranus 13603-02-19 02:09 G 6689502.38 6689502.59 6689502.82 0.0133 0.0070 Neptune 13603-06-08 01:40 G 6689611.32 6689611.57 6689611.83 0.0089 0.0007 Uranus 13604-02-23 11:16 G 6689871.72 6689871.97 6689872.23 0.0133 0.0027 Neptune 13604-06-09 13:40 G 6689978.82 6689979.07 6689979.32 0.0089 0.0016 Uranus 13605-02-26 20:09 G 6690241.08 6690241.34 6690241.59 0.0133 0.0016 Neptune 13605-06-12 00:57 G 6690346.30 6690346.54 6690346.79 0.0089 0.0024 Uranus 13606-03-03 04:33 G 6690610.47 6690610.92 0.0133 0.0059 6690610.69 Saturn 13606-04-22 16:48 G 6690661.00 6690661.20 6690661.40 0.0276 0.0157 Neptune 13606-06-14 12:28 G 6690713.79 6690714.02 6690714.27 0.0089 0.0033 6690980.03 6690980.22 0.0133 0.0102 Uranus 13607-03-07 12:43 G 6690979.89 Neptune 13607-06-16 23:45 G 6691081.28 6691081.49 6691081.73 0.0089 0.0041 Jupiter 13607-10-20 11:31 G 6691206.76 6691206.98 6691207.21 0.0484 0.0142 Neptune 13608-06-18 11:02 G 6691448.76 6691448.96 6691449.19 0.0089 0.0049 Neptune 13609-06-20 22:19 G 6691816.25 6691816.43 6691816.64 0.0089 0.0058 Neptune 13610-06-23 09:36 G 6692183.74 6692183.90 6692184.09 0.0089 0.0066 Neptune 13611-06-25 20:52 G 6692551.24 6692551.37 6692551.53 0.0089 0.0074 Neptune 13612-06-27 07:55 G 6692918.75 6692918.83 6692918.95 0.0089 0.0081

Neptune 13613-06-29 19:26 G 6693286.31 6693286.31 6693286.32 0.0089 0.0089 Jupiter 13619-10-24 16:48 G 6695593.96 6695594.20 6695594.43 0.0484 0.0027 Saturn 13620-10-18 16:48 G 6695953.99 6695954.20 6695954.42 0.0283 0.0132 Jupiter 13625-04-13 18:28 G 6697592.14 6697592.27 6697592.40 0.0545 0.0452 Jupiter 13631-10-28 22:19 G 6699981.20 6699981.43 6699981.66 0.0484 0.0092 Saturn 13635-04-17 15:36 G 6701247.92 6701248.15 6701248.40 0.0275 0.0053 Jupiter 13637-04-19 05:02 G 6701980.52 6701980.71 6701980.92 0.0545 0.0279 13641-08-04 23:16 G 6703549.29 6703549.47 6703549.65 0.1654 0.0390 Mars Jupiter 13643-11-02 02:24 G 6704368.39 6704368.60 6704368.81 0.0485 0.0208 Uranus 13644-08-14 08:52 G 6704654.78 6704654.87 6704655.01 0.0145 0.0128 Uranus 13645-08-19 07:55 G 6705024.62 6705024.83 6705025.05 0.0145 0.0073 Uranus 13646-08-24 06:57 G 6705394.54 6705394.79 6705395.04 0.0145 0.0019 Uranus 13647-08-29 06:00 G 6705764.51 6705764.75 6705765.00 0.0145 0.0036 Uranus 13648-09-02 05:02 G 6706134.53 6706134.71 6706134.92 0.0145 0.0091 Jupiter 13649-04-24 18:28 G 6706369.04 6706369.27 6706369.50 0.0545 0.0102 Uranus 13649-09-07 04:33 G 6706504.69 6706504.69 6706504.71 0.0145 0.0145 Saturn 13649-10-12 21:07 G 6706540.16 6706540.38 6706540.61 0.0283 0.0115 Jupiter 13655-11-06 08:38 G 6708755.68 6708755.86 6708756.03 0.0486 0.0325 Pluto 13655-12-16 21:36 G 6708796.22 6708796.40 6708796.64 0.0080 0.0047 Jupiter 13661-04-30 05:02 G 6710757.48 6710757.71 6710757.94 0.0544 0.0072 Saturn 13665-04-23 19:12 G 6712212.16 6712212.30 6712212.48 0.0276 0.0210 Jupiter 13666-10-11 13:40 G 6712747.93 6712748.07 6712748.22 0.0484 0.0381 Jupiter 13667-11-10 14:38 G 6713143.02 6713143.11 6713143.21 0.0487 0.0440 Jupiter 13673-05-05 12:43 G 6715145.82 6715146.03 6715146.24 0.0543 0.0241 Neptune 13674-11-10 12:57 G 6715699.99 6715700.04 6715700.15 0.0088 0.0084 Neptune 13675-11-13 00:14 G 6716067.40 6716067.51 6716067.66 0.0088 0.0076 Neptune 13676-11-14 11:45 G 6716434.84 6716434.99 6716435.16 0.0088 0.0068 Neptune 13677-11-16 22:33 G 6716802.28 6716802.44 6716802.65 0.0088 0.0061 Jupiter 13678-10-15 18:28 G 6717135.08 6717135.27 6717135.47 0.0484 0.0267 Neptune 13678-11-19 09:50 G 6717169.73 6717169.91 6717170.14 0.0088 0.0053 Saturn 13679-10-20 16:48 G 6717505.02 6717505.20 6717505.40 0.0283 0.0182 Neptune 13679-11-21 21:21 G 6717537.19 6717537.39 6717537.64 0.0088 0.0045 Neptune 13680-11-23 09:07 G 6717904.66 6717904.88 6717905.13 0.0088 0.0037 Neptune 13681-11-25 20:24 G 6718272.13 6718272.35 6718272.62 0.0088 0.0029 Neptune 13682-11-28 08:09 G 6718639.60 6718639.84 6718640.10 0.0088 0.0021 Neptune 13683-11-30 19:55 G 6719007.08 6719007.33 6719007.59 0.0088 0.0012 Neptune 13684-12-02 07:40 G 6719374.56 6719374.82 6719375.08 0.0088 0.0004 Jupiter 13685-05-10 15:07 G 6719533.98 6719534.13 6719534.29 0.0542 0.0400 Neptune 13685-12-04 19:12 G 6719742.04 6719742.30 6719742.56 0.0088 0.0004 Uranus 13686-02-15 00:28 G 6719814.40 6719814.52 6719814.69 0.0133 0.0111 Neptune 13686-12-07 06:43 G 6720109.53 6720109.78 6720110.04 0.0088 0.0012 Uranus 13687-02-19 10:04 G 6720183.71 6720183.92 6720184.15 0.0133 0.0068 Neptune 13687-12-09 18:28 G 6720477.03 6720477.27 6720477.53 0.0088 0.0021 Uranus 13688-02-23 18:57 G 6720553.05 6720553.29 6720553.55 0.0133 0.0025 Neptune 13688-12-11 06:28 G 6720844.53 6720844.77 6720845.02 0.0088 0.0029 Uranus 13689-02-27 03:50 G 6720922.41 6720922.66 6720922.92 0.0133 0.0019 Neptune 13689-12-13 17:45 G 6721212.02 6721212.24 6721212.50 0.0088 0.0037 Uranus 13690-03-03 12:00 G 6721291.79 6721292.00 6721292.25 0.0133 0.0063 Jupiter 13690-10-19 23:45 G 6721522.27 6721522.49 6721522.72 0.0484 0.0152 Neptune 13690-12-16 05:45 G 6721579.54 6721579.74 6721579.99 0.0088 0.0045 Uranus 13691-03-07 20:52 G 6721661.22 6721661.37 6721661.54 0.0133 0.0105 Neptune 13691-12-18 17:45 G 6721947.06 6721947.24 6721947.47 0.0088 0.0054 Neptune 13692-12-20 06:00 G 6722314.59 6722314.75 6722314.96 0.0088 0.0061 Neptune 13693-12-22 18:00 G 6722682.12 6722682.25 6722682.44 0.0088 0.0070 Saturn 13694-04-18 18:57 G 6722799.04 6722799.29 6722799.53 0.0275 0.0002 Neptune 13694-12-25 06:43 G 6723049.66 6723049.78 6723049.92 0.0088 0.0077 Neptune 13695-12-27 18:43 G 6723417.23 6723417.28 6723417.38 0.0088 0.0085 Jupiter 13702-10-25 03:07 G 6725909.40 6725909.63 6725909.87 0.0484 0.0038 Jupiter 13708-04-14 00:28 G 6727907.40 6727907.52 6727907.63 0.0545 0.0470 Saturn 13708-10-14 21:50 G 6728091.18 6728091.41 6728091.65 0.0283 0.0064

13714-02-02 02:38 G 6730027.54 6730027.61 6730027.68 0.1873 0.1741 Mars Jupiter 13714-10-29 08:24 G 6730296.61 6730296.85 6730297.08 0.0484 0.0080 Jupiter 13720-04-19 12:57 G 6732295.85 6732296.04 6732296.24 0.0545 0.0297 Saturn 13723-04-14 03:50 G 6733385.54 6733385.66 6733385.81 0.0275 0.0229 Saturn 13724-04-25 21:50 G 6733763.35 6733763.41 6733763.50 0.0276 0.0262 Jupiter 13726-11-02 12:57 G 6734683.83 6734684.04 6734684.26 0.0485 0.0194 Uranus 13728-08-15 18:00 G 6735336.14 6735336.25 6735336.39 0.0145 0.0125 Uranus 13729-08-20 16:48 G 6735705.99 6735706.20 6735706.43 0.0145 0.0071 Uranus 13730-08-25 16:04 G 6736075.92 6736076.17 6736076.42 0.0145 0.0016 Uranus 13731-08-30 15:07 G 6736445.89 6736446.13 6736446.37 0.0145 0.0039 Jupiter 13732-04-24 22:19 G 6736684.20 6736684.43 6736684.66 0.0544 0.0124 Uranus 13732-09-03 14:09 G 6736815.92 6736816.09 6736816.30 0.0145 0.0095 Saturn 13738-10-22 16:19 G 6739056.04 6739056.18 6739056.32 0.0283 0.0229 Jupiter 13738-11-06 19:40 G 6739071.14 6739071.32 6739071.50 0.0486 0.0311 Jupiter 13744-04-30 01:26 G 6741072.33 6741072.56 6741072.80 0.0544 0.0040 Jupiter 13749-10-12 02:38 G 6743063.48 6743063.61 6743063.75 0.0484 0.0388 Jupiter 13750-11-11 02:09 G 6743458.49 6743458.59 6743458.71 0.0486 0.0427 Saturn 13753-04-20 21:36 G 6744350.16 6744350.40 6744350.64 0.0275 0.0054 Jupiter 13756-05-05 10:48 G 6745460.74 6745460.95 6745461.17 0.0544 0.0210 Neptune 13756-05-14 00:00 G 6745469.46 6745469.50 6745469.59 0.0089 0.0087 Neptune 13757-05-16 12:28 G 6745836.91 6745837.02 6745837.16 0.0089 0.0079 Neptune 13758-05-19 00:57 G 6746204.40 6746204.54 6746204.71 0.0089 0.0071 Neptune 13759-05-21 13:12 G 6746571.88 6746572.05 6746572.25 0.0089 0.0063 Neptune 13760-05-23 01:12 G 6746939.36 6746939.55 6746939.77 0.0089 0.0055 Neptune 13761-05-25 13:12 G 6747306.85 6747307.05 6747307.29 0.0089 0.0047 Jupiter 13761-10-16 05:45 G 6747450.55 6747450.74 6747450.93 0.0483 0.0277 Neptune 13762-05-28 01:12 G 6747674.34 6747674.55 6747674.80 0.0089 0.0039 Neptune 13763-05-30 13:12 G 6748041.82 6748042.05 6748042.30 0.0089 0.0030 Neptune 13764-06-01 01:12 G 6748409.30 6748409.55 6748409.80 0.0089 0.0022 Neptune 13765-06-03 12:57 G 6748776.79 6748777.04 6748777.30 0.0089 0.0014

Neptune 13766-06-06 00:43 G 6749144.28 6749144.53 6749144.79 0.0089 0.0005 Neptune 13767-06-08 12:43 G 6749511.77 6749512.03 6749512.29 0.0089 0.0003 Mars 13767-08-02 17:31 G 6749567.21 6749567.23 6749567.25 0.1667 0.1649 Saturn 13767-10-16 22:48 G 6749642.20 6749642.45 6749642.69 0.0283 0.0014 Jupiter 13768-05-10 22:04 G 6749849.26 6749849.42 6749849.59 0.0543 0.0381 Neptune 13768-06-10 00:00 G 6749879.26 6749879.50 6749879.77 0.0089 0.0012 Neptune 13769-06-12 11:45 G 6750246.75 6750246.99 6750247.25 0.0089 0.0021 Uranus 13770-02-16 09:36 G 6750495.75 6750495.90 6750496.05 0.0133 0.0108 Neptune 13770-06-14 23:31 G 6750614.25 6750614.48 6750614.73 0.0089 0.0029 Uranus 13771-02-20 18:43 G 6750865.06 6750865.28 6750865.51 0.0133 0.0065 Neptune 13771-06-17 11:02 G 6750981.74 6750981.96 6750982.20 0.0089 0.0036 Uranus 13772-02-25 03:36 G 6751234.40 6751234.65 6751234.91 0.0133 0.0022 Neptune 13772-06-18 22:33 G 6751349.23 6751349.44 6751349.67 0.0089 0.0045 Uranus 13773-02-28 12:14 G 6751603.76 6751604.01 6751604.27 0.0133 0.0022 Neptune 13773-06-21 09:50 G 6751716.71 6751716.91 6751717.13 0.0089 0.0053 Jupiter 13773-10-20 10:04 G 6751837.71 6751837.92 6751838.15 0.0483 0.0164 Uranus 13774-03-04 20:38 G 6751973.15 6751973.36 6751973.60 0.0133 0.0065 Neptune 13774-06-23 21:07 G 6752084.21 6752084.38 6752084.58 0.0089 0.0061 Uranus 13775-03-09 05:31 G 6752342.59 6752342.73 6752342.89 0.0133 0.0107 Neptune 13775-06-26 08:09 G 6752451.69 6752451.84 6752452.02 0.0089 0.0068 Neptune 13776-06-27 19:12 G 6752819.19 6752819.30 6752819.45 0.0089 0.0076 Neptune 13777-06-30 06:28 G 6753186.70 6753186.77 6753186.87 0.0089 0.0083 Saturn 13782-04-15 06:43 G 6754936.59 6754936.78 6754936.97 0.0275 0.0175 Jupiter 13785-10-24 13:55 G 6756224.85 6756225.08 6756225.32 0.0484 0.0051 Jupiter 13791-04-14 05:31 G 6758222.63 6758222.73 6758222.83 0.0545 0.0488 Mars 13793-02-05 16:19 G 6758886.04 6758886.18 6758886.31 0.1880 0.1371 Saturn 13796-10-10 05:02 G 6760228.62 6760228.71 6760228.83 0.0283 0.0256 Saturn 13797-10-23 15:07 G 6760607.09 6760607.13 6760607.19 0.0283 0.0277 Jupiter 13797-10-28 19:55 G 6760612.10 6760612.33 6760612.56 0.0484 0.0067 Jupiter 13803-04-20 09:07 G 6762610.69 6762610.88 6762611.06 0.0545 0.0327

Jupiter 13809-11-03 01:26 G 6764999.34 6764999.56 6764999.78 0.0485 0.0183 Saturn 13812-04-23 00:43 G 6765901.31 6765901.53 6765901.76 0.0276 0.0108 Pluto 13812-06-19 23:02 G 6765959.27 6765959.46 6765959.71 0.0064 0.0033 Uranus 13812-08-17 02:52 G 6766017.50 6766017.62 6766017.77 0.0145 0.0122 Pluto 13813-06-21 10:19 G 6766325.83 6766325.93 6766326.11 0.0064 0.0055 Uranus 13813-08-22 01:40 G 6766387.36 6766387.57 6766387.81 0.0145 0.0068 Uranus 13814-08-27 00:57 G 6766757.29 6766757.54 6766757.79 0.0145 0.0013 Jupiter 13815-04-25 18:57 G 6766999.06 6766999.29 6766999.51 0.0545 0.0155 Uranus 13815-09-01 00:00 G 6767127.27 6767127.50 6767127.75 0.0145 0.0042 Uranus 13816-09-04 23:31 G 6767497.30 6767497.48 6767497.67 0.0145 0.0097 Jupiter 13821-11-07 05:31 G 6769386.55 6769386.73 6769386.92 0.0485 0.0296 Saturn 13826-10-18 23:45 G 6771193.25 6771193.49 6771193.73 0.0283 0.0038 Jupiter 13827-05-01 07:12 G 6771387.56 6771387.80 6771388.03 0.0545 0.0019 Jupiter 13832-10-12 12:57 G 6773378.92 6773379.04 6773379.18 0.0483 0.0399 Jupiter 13833-11-11 11:31 G 6773773.86 6773773.98 6773774.10 0.0486 0.0411 Neptune 13838-11-12 00:57 G 6775600.48 6775600.54 6775600.62 0.0088 0.0084 Jupiter 13839-05-06 18:43 G 6775776.07 6775776.28 6775776.50 0.0544 0.0191 Neptune 13839-11-14 11:45 G 6775967.89 6775967.99 6775968.14 0.0088 0.0077 Neptune 13840-11-15 22:48 G 6776335.32 6776335.45 6776335.63 0.0088 0.0070 Saturn 13841-04-17 09:50 G 6776487.70 6776487.91 6776488.14 0.0275 0.0122 Neptune 13841-11-18 09:50 G 6776702.75 6776702.91 6776703.11 0.0088 0.0062 Neptune 13842-11-20 20:52 G 6777070.20 6777070.37 6777070.60 0.0088 0.0055 Neptune 13843-11-23 08:24 G 6777437.65 6777437.85 6777438.09 0.0088 0.0047 Jupiter 13844-10-16 16:04 G 6777765.99 6777766.17 6777766.36 0.0484 0.0288 Neptune 13844-11-24 19:55 G 6777805.11 6777805.33 6777805.57 0.0088 0.0039 Neptune 13845-11-27 07:26 G 6778172.57 6778172.81 6778173.06 0.0088 0.0031 13846-08-05 21:50 G 6778424.22 6778424.41 6778424.59 0.1663 0.0306 Mars Neptune 13846-11-29 18:57 G 6778540.05 6778540.29 6778540.55 0.0088 0.0023 Neptune 13847-12-02 06:43 G 6778907.53 6778907.78 6778908.04 0.0088 0.0015 Neptune 13848-12-03 18:14 G 6779275.01 6779275.26 6779275.52 0.0088 0.0008

Neptune 13849-12-06 05:45 G 6779642.48 6779642.74 6779643.00 0.0088 0.0001 Neptune 13850-12-08 17:31 G 6780009.97 6780010.23 6780010.49 0.0088 0.0008 Jupiter 13851-05-12 02:52 G 6780164.45 6780164.62 6780164.80 0.0543 0.0358 Neptune 13851-12-11 05:16 G 6780377.46 6780377.72 6780377.97 0.0088 0.0017 Neptune 13852-12-12 16:48 G 6780744.95 6780745.20 6780745.45 0.0088 0.0024 Neptune 13853-12-15 04:33 G 6781112.45 6781112.69 6781112.94 0.0088 0.0032 Uranus 13854-02-17 18:00 G 6781177.09 6781177.25 6781177.41 0.0133 0.0105 Neptune 13854-12-17 16:04 G 6781479.95 6781480.17 6781480.42 0.0088 0.0041 Uranus 13855-02-22 02:38 G 6781546.40 6781546.61 6781546.85 0.0133 0.0062 Saturn 13855-10-13 05:31 G 6781779.58 6781779.73 6781779.91 0.0283 0.0206 Neptune 13855-12-20 04:04 G 6781847.47 6781847.67 6781847.90 0.0088 0.0049 Uranus 13856-02-26 11:45 G 6781915.74 6781915.99 6781916.25 0.0133 0.0019 Jupiter 13856-10-20 21:21 G 6782153.18 6782153.39 6782153.61 0.0484 0.0175 Neptune 13856-12-21 15:50 G 6782214.99 6782215.16 6782215.39 0.0088 0.0057 Uranus 13857-03-01 20:09 G 6782285.10 6782285.34 6782285.61 0.0133 0.0026 Neptune 13857-12-24 03:50 G 6782582.51 6782582.66 6782582.87 0.0088 0.0065 Uranus 13858-03-06 04:48 G 6782654.49 6782654.70 6782654.93 0.0133 0.0068 Neptune 13858-12-26 16:19 G 6782950.05 6782950.18 6782950.35 0.0088 0.0072 Uranus 13859-03-10 13:40 G 6783023.93 6783024.07 6783024.21 0.0133 0.0111 Neptune 13859-12-29 04:33 G 6783317.60 6783317.69 6783317.83 0.0088 0.0079 Neptune 13860-12-30 17:02 G 6783685.18 6783685.21 6783685.28 0.0088 0.0087 Jupiter 13863-05-17 04:04 G 6784552.61 6784552.67 6784552.75 0.0542 0.0512 Jupiter 13868-10-25 02:24 G 6786540.37 6786540.60 6786540.83 0.0484 0.0059 Saturn 13871-04-25 04:19 G 6787452.49 6787452.68 6787452.88 0.0276 0.0162 Jupiter 13874-04-14 00:28 G 6788537.46 6788537.52 6788537.60 0.0544 0.0518 Jupiter 13880-10-29 05:31 G 6790927.50 6790927.73 6790927.97 0.0484 0.0053 Saturn 13885-10-20 02:09 G 6792744.36 6792744.59 6792744.82 0.0283 0.0092 Jupiter 13886-04-19 12:43 G 6792925.86 6792926.03 6792926.22 0.0545 0.0350 Jupiter 13892-11-02 10:19 G 6795314.72 6795314.93 6795315.16 0.0484 0.0169 Uranus 13896-08-17 12:14 G 6796698.89 6796699.01 6796699.17 0.0145 0.0119

Uranus 13897-08-22 11:16 G 6797068.75 6797068.97 6797069.20 0.0145 0.0064 Jupiter 13898-04-25 01:55 G 6797314.36 6797314.58 6797314.80 0.0545 0.0175 Uranus 13898-08-27 10:19 G 6797438.68 6797438.93 6797439.19 0.0145 0.0010 Uranus 13899-09-01 09:21 G 6797808.66 6797808.89 6797809.14 0.0145 0.0046 Saturn 13900-04-19 14:52 G 6798038.88 6798039.12 6798039.36 0.0275 0.0066 Uranus 13900-09-06 08:52 G 6798178.70 6798178.87 6798179.06 0.0145 0.0101 Pluto 13901-12-21 04:19 G 6798649.54 6798649.68 6798649.83 0.0080 0.0066 Jupiter 13904-11-07 15:21 G 6799701.95 6799702.14 6799702.33 0.0485 0.0281 Jupiter 13910-05-01 11:45 G 6801702.76 6801702.99 6801703.22 0.0544 0.0006 Saturn 13914-10-15 07:40 G 6803330.61 6803330.82 6803331.03 0.0283 0.0152 Jupiter 13915-10-13 23:02 G 6803694.35 6803694.46 6803694.60 0.0484 0.0409 Jupiter 13916-11-11 22:19 G 6804089.30 6804089.43 6804089.57 0.0486 0.0398 Neptune 13920-05-15 09:36 G 6805369.87 6805369.90 6805369.97 0.0089 0.0088 Neptune 13921-05-17 22:33 G 6805737.33 6805737.44 6805737.55 0.0089 0.0080 Jupiter 13922-05-06 14:38 G 6806090.88 6806091.11 6806091.33 0.0544 0.0157 Neptune 13922-05-20 10:19 G 6806104.81 6806104.93 6806105.11 0.0089 0.0073 Neptune 13923-05-22 22:48 G 6806472.29 6806472.45 6806472.65 0.0089 0.0065 Neptune 13924-05-24 11:02 G 6806839.78 6806839.96 6806840.18 0.0089 0.0057 Neptune 13925-05-26 23:31 G 6807207.27 6807207.48 6807207.70 0.0089 0.0049 13925-08-09 01:40 G 6807281.42 6807281.57 6807281.71 0.1659 0.1017 Mars Neptune 13926-05-29 11:31 G 6807574.76 6807574.98 6807575.22 0.0089 0.0041 Neptune 13927-05-31 23:31 G 6807942.25 6807942.48 6807942.73 0.0089 0.0033 Jupiter 13927-10-18 03:36 G 6808081.47 6808081.65 6808081.84 0.0484 0.0298 Neptune 13928-06-02 11:31 G 6808309.74 6808309.98 6808310.23 0.0089 0.0024 Saturn 13929-04-14 14:09 G 6808626.05 6808626.09 6808626.13 0.0276 0.0271 Neptune 13929-06-04 23:16 G 6808677.22 6808677.47 6808677.73 0.0089 0.0017 Saturn 13930-04-27 08:52 G 6809003.73 6809003.87 6809004.03 0.0276 0.0218 Neptune 13930-06-07 11:16 G 6809044.72 6809044.97 6809045.23 0.0089 0.0008 Neptune 13931-06-09 23:02 G 6809412.20 6809412.46 6809412.71 0.0089 0.0001 Neptune 13932-06-11 10:33 G 6809779.69 6809779.94 6809780.20 0.0089 0.0008

Neptune 13933-06-13 22:19 G 6810147.19 6810147.43 6810147.69 0.0089 0.0016 Jupiter 13934-05-11 22:04 G 6810479.24 6810479.42 6810479.61 0.0543 0.0324 Neptune 13934-06-16 09:50 G 6810514.68 6810514.91 6810515.17 0.0089 0.0025 Neptune 13935-06-18 21:36 G 6810882.17 6810882.40 6810882.65 0.0089 0.0032 Neptune 13936-06-20 09:07 G 6811249.66 6811249.88 6811250.12 0.0089 0.0040 Neptune 13937-06-22 20:38 G 6811617.16 6811617.36 6811617.59 0.0089 0.0048 Uranus 13938-02-19 02:38 G 6811858.46 6811858.61 6811858.78 0.0133 0.0103 Neptune 13938-06-25 07:55 G 6811984.65 6811984.83 6811985.05 0.0089 0.0056 Uranus 13939-02-23 11:31 G 6812227.77 6812227.98 6812228.23 0.0133 0.0060 Neptune 13939-06-27 19:26 G 6812352.14 6812352.31 6812352.50 0.0089 0.0063 Jupiter 13939-10-22 06:28 G 6812468.56 6812468.77 6812468.99 0.0483 0.0189 Uranus 13940-02-27 20:38 G 6812597.11 6812597.36 6812597.62 0.0133 0.0016 Neptune 13940-06-29 06:14 G 6812719.63 6812719.76 6812719.94 0.0089 0.0072 Uranus 13941-03-03 05:16 G 6812966.47 6812966.72 6812966.98 0.0133 0.0028 Neptune 13941-07-01 17:45 G 6813087.14 6813087.24 6813087.38 0.0089 0.0078 Uranus 13942-03-07 13:55 G 6813335.87 6813336.08 6813336.31 0.0133 0.0071 Neptune 13942-07-04 04:19 G 6813454.65 6813454.68 6813454.78 0.0089 0.0086 Uranus 13943-03-11 22:19 G 6813705.32 6813705.43 6813705.58 0.0133 0.0114 Saturn 13944-10-22 06:43 G 6814295.58 6814295.78 6814295.99 0.0283 0.0150 Jupiter 13946-05-17 08:09 G 6814867.75 6814867.84 6814867.95 0.0542 0.0487 Jupiter 13951-10-26 10:48 G 6816855.72 6816855.95 6816856.18 0.0484 0.0075 Jupiter 13957-04-14 06:00 G 6818852.72 6818852.75 6818852.79 0.0545 0.0537 Saturn 13959-04-21 20:38 G 6819590.12 6819590.36 6819590.61 0.0275 0.0009 Jupiter 13963-10-30 14:24 G 6821242.87 6821243.10 6821243.34 0.0484 0.0039 Jupiter 13969-04-19 16:48 G 6823241.04 6823241.20 6823241.38 0.0545 0.0369 Saturn 13973-10-16 12:00 G 6824881.77 6824882.00 6824882.23 0.0283 0.0095 Jupiter 13975-11-03 20:09 G 6825630.12 6825630.34 6825630.56 0.0485 0.0155 Uranus 13980-08-18 21:21 G 6827380.26 6827380.39 6827380.55 0.0145 0.0117 Jupiter 13981-04-24 21:21 G 6827629.18 6827629.39 6827629.61 0.0544 0.0207 Uranus 13981-08-23 20:24 G 6827750.13 6827750.35 6827750.59 0.0145 0.0062

6828120.32 6828120.57 0.0145 0.0007 Uranus 13982-08-28 19:40 G 6828120.07 Uranus 13983-09-02 18:57 G 6828490.06 6828490.29 6828490.53 0.0145 0.0049 Uranus 13984-09-06 18:28 G 6828860.11 6828860.27 6828860.45 0.0145 0.0105 Jupiter 13987-11-08 01:40 G 6830017.38 6830017.77 0.0485 0.0268 6830017.57 Saturn 13988-04-15 19:40 G 6830177.18 6830177.32 6830177.49 0.0276 0.0213 Jupiter 13993-04-30 05:16 G 6832017.49 6832017.72 6832017.95 0.0544 0.0040 Jupiter 13998-10-13 07:12 G 6834009.70 6834009.80 6834009.92 0.0484 0.0424 Jupiter 13999-11-12 05:02 G 6834404.56 6834404.71 6834404.86 0.0486 0.0377

## 15TH MILLENNIUM CE

## This is a list of transits of Earth in the 15th millennium CE.

FROM MAX- C START MAX END SUNRAD DEPTH S

TRANSIT

TIME

Neptune 14002-11-12 11:31 G 6835500.94 6835500.98 6835501.07 0.0088 0.0085 Saturn 14003-10-24 13:26 G 6835846.90 6835847.06 6835847.22 0.0283 0.0210 Neptune 14003-11-14 22:33 G 6835868.35 6835868.44 6835868.58 0.0088 0.0078 Neptune 14004-11-16 09:21 G 6836235.77 6836235.89 6836236.07 0.0088 0.0071 Jupiter 14005-05-05 15:36 G 6836405.93 6836406.15 6836406.38 0.0544 0.0129 Neptune 14005-11-18 21:21 G 6836603.21 6836603.39 6836603.56 0.0088 0.0063 Neptune 14006-11-21 07:55 G 6836970.65 6836970.83 6836971.05 0.0088 0.0056 Neptune 14007-11-23 18:57 G 6837338.10 6837338.29 6837338.53 0.0088 0.0049 Neptune 14008-11-25 06:28 G 6837705.55 6837705.77 6837706.01 0.0088 0.0041 Neptune 14009-11-27 18:14 G 6838073.02 6838073.26 6838073.50 0.0088 0.0033 Jupiter 14010-10-17 11:16 G 6838396.80 6838396.97 6838397.15 0.0483 0.0314

Neptune 14010-11-30 05:16 G 6838440.49 6838440.72 6838440.98 0.0088 0.0026 Neptune 14011-12-02 17:02 G 6838807.96 6838808.21 6838808.47 0.0088 0.0018 Neptune 14012-12-04 04:33 G 6839175.44 6839175.69 6839175.95 0.0088 0.0010 Neptune 14013-12-06 16:19 G 6839542.92 6839543.18 6839543.44 0.0088 0.0003 Neptune 14014-12-09 04:04 G 6839910.41 6839910.67 6839910.93 0.0088 0.0005 Neptune 14015-12-11 15:21 G 6840277.89 6840278.14 6840278.41 0.0088 0.0014 Neptune 14016-12-13 03:07 G 6840645.39 6840645.63 6840645.89 0.0088 0.0021 Jupiter 14017-05-11 02:52 G 6840794.43 6840794.62 6840794.82 0.0543 0.0300 Neptune 14017-12-15 14:52 G 6841012.88 6841013.12 6841013.37 0.0088 0.0029 Saturn 14018-04-23 04:19 G 6841141.43 6841141.68 6841141.92 0.0276 0.0054 Neptune 14018-12-18 02:38 G 6841380.39 6841380.61 6841380.86 0.0088 0.0036 Neptune 14019-12-20 14:09 G 6841747.89 6841748.09 6841748.34 0.0088 0.0044 Neptune 14020-12-22 02:09 G 6842115.39 6842115.59 6842115.82 0.0088 0.0052 Neptune 14021-12-24 13:55 G 6842482.91 6842483.08 6842483.30 0.0088 0.0059 Uranus 14022-02-19 11:02 G 6842539.82 6842539.96 6842540.15 0.0133 0.0101 Jupiter 14022-10-21 14:09 G 6842783.88 6842784.09 6842784.31 0.0484 0.0203 Neptune 14022-12-27 02:09 G 6842850.44 6842850.59 6842850.78 0.0088 0.0067 Uranus 14023-02-23 20:38 G 6842909.13 6842909.36 6842909.59 0.0133 0.0057 Neptune 14023-12-29 14:38 G 6843217.98 6843218.11 6843218.26 0.0088 0.0074 Uranus 14024-02-28 05:16 G 6843278.47 6843278.72 6843278.98 0.0133 0.0013 Neptune 14024-12-31 02:24 G 6843585.52 6843585.60 6843585.72 0.0088 0.0081 Uranus 14025-03-03 14:09 G 6843647.84 6843648.09 6843648.34 0.0133 0.0031 Neptune 14026-01-02 15:07 G 6843953.13 6843953.13 6843953.15 0.0088 0.0088 Uranus 14026-03-07 22:33 G 6844017.25 6844017.44 6844017.67 0.0133 0.0074 Uranus 14027-03-12 06:57 G 6844386.69 6844386.79 6844386.93 0.0133 0.0118 Jupiter 14029-05-16 11:02 G 6845182.85 6845182.96 6845183.09 0.0542 0.0463 Saturn 14032-10-17 18:57 G 6846433.05 6846433.29 6846433.53 0.0283 0.0033 Jupiter 14034-10-25 19:12 G 6847171.07 6847171.30 6847171.53 0.0484 0.0089 Jupiter 14046-10-29 23:16 G 6851558.24 6851558.47 6851558.71 0.0484 0.0025 Saturn 14047-04-18 02:52 G 6851728.42 6851728.62 6851728.83 0.0276 0.0152

14051-08-05 18:28 G 6853299.12 6853299.27 Mars 6853299.41 0.1672 0.1064 Jupiter 14052-04-18 09:50 G 6853555.76 6853555.91 6853556.07 0.0544 0.0404 Pluto 14058-06-23 06:57 G 6855812.54 6855812.79 6855813.04 0.0064 0.0015 Jupiter 14058-11-03 02:24 G 6855945.37 6855945.60 6855945.82 0.0484 0.0133 14061-10-12 13:40 G 6857019.96 6857020.07 6857020.19 0.0283 0.0250 Saturn Saturn 14062-10-25 22:19 G 6857398.39 6857398.43 6857398.49 0.0283 0.0276 Jupiter 14064-04-23 19:26 G 6857944.11 6857944.31 6857944.53 0.0545 0.0239 Uranus 14064-08-19 06:57 G 6858061.64 6858061.79 6858061.95 0.0145 0.0114 Uranus 14065-08-24 05:45 G 6858431.52 6858431.74 6858431.98 0.0145 0.0059 Uranus 14066-08-29 05:16 G 6858801.47 6858801.72 6858801.97 0.0145 0.0004 Uranus 14067-09-03 04:33 G 6859171.47 6859171.69 6859171.93 0.0145 0.0052 Uranus 14068-09-07 04:04 G 6859541.52 6859541.86 0.0145 0.0108 6859541.67 Jupiter 14070-11-07 06:57 G 6860332.59 6860332.79 6860333.00 0.0485 0.0247 Jupiter 14076-04-29 07:40 G 6862332.59 6862332.82 6862333.06 0.0545 0.0068 Mars 14077-02-07 00:00 G 6862616.32 6862616.50 6862616.67 0.1871 0.0948 Saturn 14077-04-24 12:57 G 6862692.83 6862693.04 6862693.27 0.0276 0.0118 Jupiter 14081-10-12 14:24 G 6864325.00 6864325.10 6864325.19 0.0484 0.0437 Jupiter 14082-11-11 11:31 G 6864719.83 6864719.98 6864720.15 0.0486 0.0360 Neptune 14084-05-14 19:12 G 6865270.29 6865270.30 6865270.37 0.0089 0.0089 Neptune 14085-05-17 08:09 G 6865637.74 6865637.84 6865637.96 0.0089 0.0081 Neptune 14086-05-19 20:09 G 6866005.22 6866005.34 6866005.51 0.0089 0.0074 Neptune 14087-05-22 08:52 G 6866372.70 6866373.05 0.0089 0.0066 6866372.87 Jupiter 14088-05-04 18:00 G 6866721.02 6866721.25 6866721.48 0.0544 0.0104 Neptune 14088-05-23 20:38 G 6866740.19 6866740.36 6866740.58 0.0089 0.0059 Neptune 14089-05-26 09:21 G 6867107.69 6867107.89 6867108.12 0.0089 0.0051 Neptune 14090-05-28 21:36 G 6867475.19 6867475.40 6867475.64 0.0089 0.0043 Neptune 14091-05-31 09:50 G 6867842.68 6867843.15 0.0089 0.0035 6867842.91 Saturn 14091-10-20 03:50 G 6867984.42 6867984.66 6867984.91 0.0283 0.0033 Neptune 14092-06-01 21:36 G 6868210.17 6868210.40 6868210.66 0.0089 0.0027 Neptune 14093-06-04 09:36 G 6868577.66 6868577.90 6868578.16 0.0089 0.0020 Jupiter 14093-10-16 18:14 G 6868712.10 6868712.26 6868712.44 0.0484 0.0328 Neptune 14094-06-06 21:21 G 6868945.14 6868945.39 6868945.65 0.0089 0.0012 Jupiter 14094-11-15 18:28 G 6869107.23 6869107.27 6869107.33 0.0487 0.0474 Neptune 14095-06-09 09:21 G 6869312.63 6869312.89 6869313.14 0.0089 0.0004 Neptune 14096-06-10 21:07 G 6869680.12 6869680.38 6869680.63 0.0089 0.0005 Neptune 14097-06-13 08:24 G 6870047.60 6870047.85 6870048.11 0.0089 0.0013 Neptune 14098-06-15 20:09 G 6870415.10 6870415.34 6870415.60 0.0089 0.0020 Neptune 14099-06-18 07:26 G 6870782.58 6870782.81 6870783.07 0.0089 0.0028 Jupiter 14100-05-10 21:36 G 6871109.20 6871109.40 6871109.60 0.0543 0.0263 Neptune 14100-06-20 19:26 G 6871150.08 6871150.31 6871150.55 0.0089 0.0036 Neptune 14101-06-23 06:43 G 6871517.57 6871517.78 6871518.02 0.0089 0.0044 Neptune 14102-06-25 18:00 G 6871885.06 6871885.25 6871885.48 0.0089 0.0051 Neptune 14103-06-28 05:45 G 6872252.56 6872252.74 6872252.94 0.0089 0.0059 Neptune 14104-06-29 16:48 G 6872620.05 6872620.20 6872620.39 0.0089 0.0066 Neptune 14105-07-02 04:04 G 6872987.55 6872987.67 6872987.83 0.0089 0.0074 Jupiter 14105-10-21 21:50 G 6873099.20 6873099.41 6873099.62 0.0484 0.0219 Uranus 14106-02-20 20:38 G 6873221.20 6873221.36 6873221.55 0.0133 0.0098 Saturn 14106-04-20 11:16 G 6873279.74 6873279.97 6873280.21 0.0276 0.0089 Neptune 14106-07-04 15:21 G 6873355.05 6873355.14 6873355.26 0.0089 0.0080 Uranus 14107-02-25 05:45 G 6873590.51 6873590.74 6873590.98 0.0133 0.0054 Neptune 14107-07-07 02:38 G 6873722.57 6873722.61 6873722.66 0.0089 0.0087 Uranus 14108-02-29 14:52 G 6873959.87 6873960.12 6873960.38 0.0133 0.0011 Uranus 14109-03-04 23:31 G 6874329.24 6874329.48 6874329.74 0.0133 0.0034 Uranus 14110-03-09 08:09 G 6874698.65 6874698.84 6874699.06 0.0133 0.0077 Uranus 14111-03-13 16:33 G 6875068.11 6875068.19 6875068.32 0.0133 0.0120 Jupiter 14112-05-16 03:36 G 6875497.51 6875497.65 6875497.79 0.0542 0.0423 Jupiter 14117-10-26 00:28 G 6877486.29 6877486.52 6877486.75 0.0484 0.0111 Saturn 14120-10-15 00:28 G 6878571.34 6878571.52 6878571.72 0.0283 0.0181 Jupiter 14129-10-30 04:48 G 6881873.46 6881873.70 6881873.93 0.0484 0.0008 14130-08-09 00:00 G 6882156.31 6882156.50 6882156.68 0.1668 0.0327 Mars

Jupiter 14135-04-19 09:50 G 6883870.77 6883870.91 6883871.05 0.0545 0.0432 Saturn 14136-04-26 23:02 G 6884244.28 6884244.46 6884244.64 0.0276 0.0183 Jupiter 14141-11-03 08:09 G 6886260.61 6886260.84 6886261.07 0.0484 0.0115 14146-12-22 09:07 G 6888135.78 6888136.03 0.0080 0.0071 Pluto 6888135.88 Jupiter 14147-04-24 21:07 G 6888259.18 6888259.38 6888259.59 0.0545 0.0263 Uranus 14148-08-20 16:04 G 6888743.01 6888743.17 6888743.32 0.0145 0.0112 Uranus 14149-08-25 14:52 G 6889112.90 6889113.12 6889113.36 0.0145 0.0057 Uranus 14150-08-30 14:24 G 6889482.85 6889483.10 6889483.36 0.0145 0.0003 Saturn 14150-10-22 14:52 G 6889535.90 6889536.12 6889536.35 0.0283 0.0102 Uranus 14151-09-04 13:55 G 6889852.86 6889853.08 6889853.32 0.0145 0.0055 Uranus 14152-09-08 13:55 G 6890222.92 6890223.08 6890223.24 0.0145 0.0110 Jupiter 14153-11-07 13:26 G 6890647.86 6890648.06 6890648.27 0.0485 0.0230 Jupiter 14159-04-30 03:21 G 6892647.41 6892647.64 6892647.87 0.0544 0.0101 Jupiter 14164-10-12 20:09 G 6894640.27 6894640.34 6894640.42 0.0484 0.0455 Saturn 14165-04-21 20:09 G 6894831.09 6894831.34 6894831.58 0.0277 0.0025 Jupiter 14165-11-11 18:28 G 6895035.11 6895035.27 6895035.44 0.0486 0.0340 Neptune 14166-11-12 22:33 G 6895401.39 6895401.44 6895401.50 0.0088 0.0085 Neptune 14167-11-15 08:52 G 6895768.78 6895768.87 6895769.01 0.0088 0.0079 Neptune 14168-11-16 19:55 G 6896136.21 6896136.33 6896136.51 0.0088 0.0072 Neptune 14169-11-19 06:57 G 6896503.64 6896503.99 0.0088 0.0065 6896503.79 Neptune 14170-11-21 18:00 G 6896871.09 6896871.25 6896871.48 0.0088 0.0058 Jupiter 14171-05-05 10:04 G 6897035.69 6897035.92 6897036.15 0.0544 0.0065 Neptune 14171-11-24 05:45 G 6897238.53 6897238.74 6897238.95 0.0088 0.0050 Neptune 14172-11-25 16:33 G 6897605.98 6897606.19 6897606.43 0.0088 0.0043 Neptune 14173-11-28 03:50 G 6897973.44 6897973.66 6897973.91 0.0088 0.0036 Neptune 14174-11-30 15:21 G 6898340.90 6898341.14 6898341.39 0.0088 0.0028 Neptune 14175-12-03 02:24 G 6898708.36 6898708.60 6898708.87 0.0088 0.0021 Jupiter 14176-10-16 23:16 G 6899027.31 6899027.47 6899027.63 0.0484 0.0349 Neptune 14176-12-04 14:09 G 6899075.83 6899076.09 6899076.35 0.0088 0.0013 Jupiter 14177-11-15 21:50 G 6899422.33 6899422.41 6899422.51 0.0486 0.0448

Neptune 14177-12-07 01:55 G 6899443.32 6899443.58 6899443.84 0.0088 0.0006 Neptune 14178-12-09 13:26 G 6899810.80 6899811.06 6899811.32 0.0088 0.0002 Saturn 14179-10-17 12:43 G 6900122.81 6900123.03 6900123.27 0.0283 0.0110 Neptune 14179-12-12 01:12 G 6900178.30 6900178.81 0.0088 0.0009 6900178.55 Neptune 14180-12-13 12:43 G 6900545.78 6900546.03 6900546.29 0.0088 0.0017 Neptune 14181-12-16 00:43 G 6900913.28 6900913.53 6900913.78 0.0088 0.0024 Neptune 14182-12-18 12:14 G 6901280.78 6901281.01 6901281.27 0.0088 0.0032 Jupiter 14183-05-10 17:45 G 6901424.03 6901424.24 6901424.45 0.0544 0.0227 Neptune 14183-12-21 00:00 G 6901648.28 6901648.50 6901648.74 0.0088 0.0040 6902016.23 0.0088 0.0047 Neptune 14184-12-22 11:45 G 6902015.79 6902015.99 Neptune 14185-12-24 23:45 G 6902383.30 6902383.49 6902383.71 0.0088 0.0054 Neptune 14186-12-27 12:00 G 6902750.82 6902751.00 6902751.19 0.0088 0.0062 Neptune 14187-12-29 23:16 G 6903118.34 6903118.47 6903118.66 0.0088 0.0070 Jupiter 14188-10-21 03:07 G 6903414.43 6903414.63 6903414.84 0.0484 0.0238 Neptune 14188-12-31 11:31 G 6903485.88 6903485.98 6903486.14 0.0088 0.0077 Neptune 14190-01-02 23:45 G 6903853.43 6903853.49 6903853.61 0.0088 0.0083 Uranus 14190-02-21 05:45 G 6903902.58 6903902.74 6903902.94 0.0133 0.0096 Uranus 14191-02-25 15:07 G 6904271.90 6904272.13 6904272.37 0.0133 0.0052 Uranus 14192-03-01 00:00 G 6904641.25 6904641.50 6904641.76 0.0133 0.0008 Uranus 14193-03-05 08:52 G 6905010.63 6905010.87 6905011.12 0.0133 0.0036 Uranus 14194-03-09 17:31 G 6905380.04 6905380.23 6905380.45 0.0133 0.0080 Saturn 14194-04-16 14:09 G 6905417.97 6905418.09 6905418.22 0.0276 0.0236 Uranus 14195-03-14 01:40 G 6905749.50 6905749.57 6905749.69 0.0133 0.0124 Saturn 14195-04-29 09:07 G 6905795.79 6905795.88 6905796.00 0.0276 0.0250 Jupiter 14195-05-16 04:19 G 6905812.52 6905812.68 6905812.84 0.0543 0.0393 Jupiter 14200-10-26 06:00 G 6907801.53 6907801.75 6907801.98 0.0484 0.0128 14209-08-12 03:50 G 6911013.66 6911013.66 6911013.67 0.1664 0.1663 Mars Saturn 14209-10-25 02:38 G 6911087.43 6911087.61 6911087.81 0.0283 0.0173 Jupiter 14212-10-30 10:19 G 6912188.70 6912188.93 6912189.17 0.0484 0.0017 Jupiter 14218-04-19 06:57 G 6914185.67 6914185.79 6914185.92 0.0544 0.0462

Saturn 14224-04-24 05:02 G 6916382.47 6916382.71 6916382.96 0.0277 0.0041 Jupiter 14224-11-03 14:09 G 6916575.86 6916576.09 6916576.32 0.0485 0.0096 Jupiter 14230-04-24 14:24 G 6918573.90 6918574.10 6918574.29 0.0544 0.0300 Uranus 14232-08-22 01:12 G 6919424.40 6919424.55 6919424.73 0.0145 0.0110 Uranus 14233-08-27 00:43 G 6919794.30 6919794.53 6919794.77 0.0145 0.0054 Uranus 14234-09-01 00:14 G 6920164.26 6920164.51 6920164.77 0.0145 0.0003 Uranus 14235-09-05 23:45 G 6920534.27 6920534.49 6920534.73 0.0145 0.0059 Uranus 14236-09-09 23:16 G 6920904.34 6920904.47 6920904.64 0.0145 0.0114 Jupiter 14236-11-07 17:31 G 6920963.01 6920963.23 6920963.44 0.0485 0.0204 Saturn 14238-10-20 01:12 G 6921674.31 6921674.55 6921674.79 0.0283 0.0038 Jupiter 14242-04-29 21:07 G 6922962.16 6922962.38 6922962.61 0.0545 0.0139 Jupiter 14247-10-14 02:09 G 6924955.55 6924955.59 6924955.65 0.0484 0.0471 Neptune 14248-05-16 04:48 G 6925170.69 6925170.70 6925170.74 0.0089 0.0089 Jupiter 14248-11-11 22:19 G 6925350.26 6925350.43 6925350.61 0.0485 0.0316 Neptune 14249-05-18 17:02 G 6925538.12 6925538.21 6925538.33 0.0089 0.0082 Neptune 14250-05-21 05:16 G 6925905.60 6925905.72 6925905.88 0.0089 0.0075 Neptune 14251-05-23 17:16 G 6926273.08 6926273.22 6926273.42 0.0089 0.0068 Neptune 14252-05-25 06:14 G 6926640.57 6926640.76 6926640.95 0.0089 0.0060 Saturn 14253-04-19 00:28 G 6926969.33 6926969.52 6926969.72 0.0276 0.0170 Neptune 14253-05-27 18:00 G 6927008.07 6927008.25 6927008.48 0.0089 0.0053 Jupiter 14254-05-05 08:38 G 6927350.63 6927350.86 6927351.09 0.0545 0.0032 Neptune 14254-05-30 06:43 G 6927375.56 6927375.78 6927376.00 0.0089 0.0045 Neptune 14255-06-01 18:28 G 6927743.06 6927743.27 6927743.52 0.0089 0.0038 Neptune 14256-06-03 07:12 G 6928110.56 6928110.80 6928111.05 0.0089 0.0030 Neptune 14257-06-05 19:12 G 6928478.05 6928478.30 6928478.55 0.0089 0.0022 Neptune 14258-06-08 06:57 G 6928845.55 6928845.79 6928846.06 0.0089 0.0015 Neptune 14259-06-10 19:12 G 6929213.04 6929213.30 6929213.55 0.0089 0.0006 Jupiter 14259-10-18 05:02 G 6929342.56 6929342.71 6929342.86 0.0484 0.0364 Neptune 14260-06-12 06:57 G 6929580.53 6929580.79 6929581.04 0.0089 0.0002 Jupiter 14260-11-16 02:52 G 6929737.52 6929737.62 6929737.73 0.0486 0.0428

Neptune 14261-06-14 18:28 G 6929948.02 6929948.27 6929948.53 0.0089 0.0009 Neptune 14262-06-17 06:00 G 6930315.50 6930315.75 6930316.01 0.0089 0.0016 Neptune 14263-06-19 17:31 G 6930683.00 6930683.23 6930683.49 0.0089 0.0025 Neptune 14264-06-21 05:16 G 6931050.49 6931050.72 6931050.97 0.0089 0.0032 Neptune 14265-06-23 16:33 G 6931417.98 6931418.19 6931418.44 0.0089 0.0039 Jupiter 14266-05-10 19:26 G 6931739.10 6931739.31 6931739.53 0.0544 0.0202 Neptune 14266-06-26 04:19 G 6931785.47 6931785.68 6931785.90 0.0089 0.0046 Neptune 14267-06-28 15:21 G 6932152.96 6932153.14 6932153.37 0.0089 0.0055 Saturn 14267-10-14 06:43 G 6932260.75 6932260.78 6932260.81 0.0283 0.0279 Neptune 14268-06-30 03:07 G 6932520.46 6932520.63 6932520.83 0.0089 0.0061 Saturn 14268-10-26 14:52 G 6932639.01 6932639.12 6932639.25 0.0283 0.0243 Neptune 14269-07-02 14:24 G 6932887.95 6932888.10 6932888.28 0.0089 0.0068 Neptune 14270-07-05 01:40 G 6933255.45 6933255.57 6933255.72 0.0089 0.0075 Neptune 14271-07-07 12:43 G 6933622.95 6933623.03 6933623.15 0.0089 0.0082 Jupiter 14271-10-22 08:52 G 6933729.67 6933729.87 6933730.07 0.0484 0.0254 Neptune 14272-07-09 00:00 G 6933990.50 6933990.50 6933990.54 0.0089 0.0089 Uranus 14274-02-22 16:04 G 6934584.00 6934584.17 6934584.37 0.0133 0.0093 Uranus 14275-02-27 01:12 G 6934953.32 6934953.55 6934953.80 0.0133 0.0048 Uranus 14276-03-02 10:19 G 6935322.68 6935322.93 6935323.19 0.0133 0.0005 Uranus 14277-03-06 18:57 G 6935692.06 6935692.29 6935692.55 0.0133 0.0040 Uranus 14278-03-11 03:50 G 6936061.47 6936061.66 6936061.86 0.0133 0.0083 Jupiter 14278-05-16 00:57 G 6936127.38 6936127.54 6936127.72 0.0543 0.0359 Uranus 14279-03-15 12:14 G 6936430.94 6936431.01 6936431.09 0.0133 0.0126 Saturn 14283-04-26 13:40 G 6937933.85 6937934.07 6937934.30 0.0277 0.0105 Jupiter 14283-10-26 11:45 G 6938116.77 6938116.99 6938117.21 0.0484 0.0147 Jupiter 14290-05-21 06:28 G 6940515.70 6940515.77 6940515.84 0.0542 0.0513 Jupiter 14295-10-30 14:52 G 6942503.89 6942504.12 6942504.36 0.0484 0.0039 Saturn 14297-10-21 12:14 G 6943225.77 6943226.01 6943226.25 0.0283 0.0031 Jupiter 14301-04-18 23:16 G 6944500.39 6944500.47 6944500.57 0.0544 0.0498 Pluto 14304-06-27 12:43 G 6945665.78 6945666.03 6945666.29 0.0064 0.0001

Jupiter 14307-11-04 19:40 G 6946891.09 6946891.32 6946891.55 0.0484 0.0075 Saturn 14312-04-21 10:48 G 6948520.73 6948520.95 6948521.18 0.0276 0.0104 Jupiter 14313-04-24 10:48 G 6948888.77 6948888.95 6948889.14 0.0545 0.0332 Uranus 14316-08-23 11:02 G 6950105.81 6950105.96 6950106.15 0.0145 0.0107 Uranus 14317-08-28 10:33 G 6950475.72 6950475.94 6950476.19 0.0145 0.0051 Uranus 14318-09-02 10:19 G 6950845.68 6950845.93 6950846.18 0.0145 0.0005 Uranus 14319-09-07 10:04 G 6951215.69 6951215.92 6951216.14 0.0145 0.0062 Jupiter 14319-11-08 23:02 G 6951278.24 6951278.46 6951278.67 0.0484 0.0185 Uranus 14320-09-11 09:36 G 6951585.76 6951585.90 6951586.05 0.0145 0.0118 Jupiter 14325-04-29 23:16 G 6953277.25 6953277.47 6953277.69 0.0545 0.0163 Saturn 14326-10-16 17:31 G 6953812.08 6953812.23 6953812.41 0.0283 0.0211 Neptune 14330-11-14 07:40 G 6955301.79 6955301.82 6955301.90 0.0088 0.0086 Jupiter 14331-11-13 04:19 G 6955665.50 6955665.68 6955665.87 0.0485 0.0298 Neptune 14331-11-16 18:57 G 6955669.20 6955669.29 6955669.42 0.0088 0.0079 Neptune 14332-11-18 05:31 G 6956036.62 6956036.73 6956036.91 0.0088 0.0073 Neptune 14333-11-20 17:02 G 6956404.06 6956404.21 6956404.40 0.0088 0.0066 Neptune 14334-11-23 04:04 G 6956771.50 6956771.67 6956771.89 0.0088 0.0059 14335-08-09 19:55 G 6957031.15 6957031.33 6957031.51 0.1677 0.0449 Mars Neptune 14335-11-25 15:07 G 6957138.95 6957139.13 6957139.36 0.0088 0.0052 Neptune 14336-11-27 02:24 G 6957506.40 6957506.60 6957506.84 0.0088 0.0045 Jupiter 14337-05-05 07:40 G 6957665.59 6957665.82 6957666.05 0.0544 0.0002 Neptune 14337-11-29 13:40 G 6957873.85 6957874.07 6957874.32 0.0088 0.0038 Neptune 14338-12-02 00:43 G 6958241.31 6958241.53 6958241.79 0.0088 0.0031 Neptune 14339-12-04 12:14 G 6958608.77 6958609.01 6958609.27 0.0088 0.0023 Neptune 14340-12-05 23:45 G 6958976.24 6958976.49 6958976.75 0.0088 0.0016 Neptune 14341-12-08 11:02 G 6959343.71 6959343.96 6959344.23 0.0088 0.0009 Saturn 14342-04-28 21:21 G 6959485.20 6959485.39 6959485.60 0.0276 0.0167 Jupiter 14342-10-18 10:48 G 6959657.81 6959657.95 6959658.09 0.0484 0.0382 Neptune 14342-12-10 22:48 G 6959711.19 6959711.45 6959711.71 0.0088 0.0002 Jupiter 14343-11-17 09:21 G 6960052.76 6960052.89 6960053.01 0.0486 0.0407

Neptune 14343-12-13 10:19 G 6960078.67 6960078.93 6960079.19 0.0088 0.0006 Neptune 14344-12-14 22:04 G 6960446.16 6960446.42 6960446.68 0.0088 0.0013 Neptune 14345-12-17 09:36 G 6960813.66 6960813.90 6960814.16 0.0088 0.0021 Neptune 14346-12-19 21:07 G 6961181.15 6961181.38 6961181.64 0.0088 0.0028 Neptune 14347-12-22 09:07 G 6961548.65 6961548.88 6961549.13 0.0088 0.0035 Neptune 14348-12-23 20:52 G 6961916.15 6961916.37 6961916.61 0.0088 0.0042 Jupiter 14349-05-10 14:38 G 6962053.89 6962054.11 6962054.33 0.0544 0.0165 Neptune 14349-12-26 08:52 G 6962283.66 6962283.87 6962284.09 0.0088 0.0050 Neptune 14350-12-28 20:38 G 6962651.17 6962651.36 6962651.57 0.0088 0.0057 Neptune 14351-12-31 08:09 G 6963018.69 6963018.84 6963019.04 0.0088 0.0064 Neptune 14353-01-01 20:38 G 6963386.21 6963386.36 6963386.52 0.0088 0.0071 Neptune 14354-01-04 08:38 G 6963753.75 6963753.86 6963753.99 0.0088 0.0078 Jupiter 14354-10-22 14:09 G 6964044.90 6964045.09 6964045.29 0.0484 0.0275 Neptune 14355-01-06 20:24 G 6964121.30 6964121.35 6964121.45 0.0088 0.0085 Saturn 14356-10-23 22:04 G 6964777.19 6964777.42 6964777.65 0.0283 0.0097 Uranus 14357-02-19 16:48 G 6964896.19 6964896.20 6964896.24 0.0133 0.0133 Uranus 14358-02-24 02:24 G 6965265.41 6965265.60 6965265.79 0.0133 0.0089 Uranus 14359-02-28 11:16 G 6965634.74 6965634.97 6965635.22 0.0133 0.0045 Uranus 14360-03-03 20:24 G 6966004.10 6966004.35 6966004.61 0.0133 0.0002 14361-02-09 11:31 G 6966346.79 6966346.98 6966347.17 0.1863 0.0664 Mars Uranus 14361-03-08 05:02 G 6966373.47 6966373.71 6966373.96 0.0133 0.0043 Jupiter 14361-05-15 19:40 G 6966442.14 6966442.32 6966442.51 0.0544 0.0322 Uranus 14362-03-12 13:26 G 6966742.88 6966743.06 6966743.27 0.0133 0.0087 Uranus 14363-03-16 21:50 G 6967112.37 6967112.41 6967112.46 0.0133 0.0130 Jupiter 14366-10-26 18:43 G 6968432.07 6968432.28 6968432.51 0.0484 0.0164 Saturn 14371-04-23 19:26 G 6970072.07 6970072.31 6970072.56 0.0275 0.0041 Jupiter 14373-05-21 05:31 G 6970830.63 6970830.73 6970830.84 0.0543 0.0483 Jupiter 14378-10-30 21:50 G 6972819.18 6972819.41 6972819.64 0.0484 0.0053 Jupiter 14384-04-18 01:40 G 6974815.51 6974815.57 6974815.64 0.0544 0.0518 Saturn 14385-10-18 02:52 G 6975363.42 6975363.62 6975363.84 0.0283 0.0145

Jupiter 14390-11-04 02:09 G 6977206.36 6977206.59 6977206.83 0.0484 0.0059 14392-12-25 18:00 G 6977989.04 6977989.25 6977989.48 0.0080 0.0042 Pluto Jupiter 14396-04-23 12:14 G 6979203.84 6979204.01 6979204.19 0.0544 0.0357 Saturn 14400-04-17 08:52 G 6980658.80 6980658.87 6980658.96 0.0276 0.0259 Uranus 14400-08-23 21:36 G 6980787.23 6980787.40 6980787.58 0.0145 0.0103 Saturn 14401-04-30 04:33 G 6981036.56 6981036.69 6981036.84 0.0276 0.0226 Uranus 14401-08-28 21:07 G 6981157.14 6981157.38 6981157.62 0.0145 0.0047 Uranus 14402-09-02 20:38 G 6981527.11 6981527.36 6981527.61 0.0145 0.0009 Jupiter 14402-11-08 06:00 G 6981593.53 6981593.75 6981593.97 0.0485 0.0167 Uranus 14403-09-07 19:55 G 6981897.12 6981897.57 0.0145 0.0067 6981897.33 Uranus 14404-09-11 19:40 G 6982267.20 6982267.32 6982267.47 0.0145 0.0122 Jupiter 14408-04-28 20:24 G 6983592.14 6983592.35 6983592.57 0.0544 0.0195 Neptune 14412-05-16 13:26 G 6985071.06 6985071.06 6985071.10 0.0089 0.0089 Neptune 14413-05-19 01:40 G 6985438.50 6985438.57 6985438.70 0.0089 0.0083 Neptune 14414-05-21 13:55 G 6985805.97 6985806.08 6985806.24 0.0089 0.0076 Mars 14414-08-12 02:09 G 6985888.44 6985888.59 6985888.74 0.1673 0.0968 Jupiter 14414-11-12 10:33 G 6985980.75 6985980.94 6985981.13 0.0485 0.0276 Neptune 14415-05-24 02:24 G 6986173.46 6986173.60 6986173.79 0.0089 0.0069 Saturn 14415-10-26 05:02 G 6986328.52 6986328.71 6986328.92 0.0283 0.0159 Neptune 14416-05-25 14:38 G 6986540.95 6986541.11 6986541.32 0.0089 0.0062 Neptune 14417-05-28 02:52 G 6986908.44 6986908.62 6986908.84 0.0089 0.0055 Neptune 14418-05-30 15:21 G 6987275.93 6987276.14 6987276.36 0.0089 0.0047 Neptune 14419-06-02 03:21 G 6987643.43 6987643.64 6987643.89 0.0089 0.0040 Jupiter 14420-05-04 01:12 G 6987980.32 6987980.55 6987980.79 0.0545 0.0037 Neptune 14420-06-03 15:21 G 6988010.92 6988011.14 6988011.40 0.0089 0.0033 Neptune 14421-06-06 03:50 G 6988378.42 6988378.66 6988378.91 0.0089 0.0025 Neptune 14422-06-08 15:50 G 6988745.92 6988746.16 6988746.42 0.0089 0.0017 Neptune 14423-06-11 04:04 G 6989113.41 6989113.67 6989113.92 0.0089 0.0010 Neptune 14424-06-12 16:04 G 6989480.91 6989481.17 6989481.42 0.0089 0.0002 Neptune 14425-06-15 03:36 G 6989848.39 6989848.65 6989848.91 0.0089 0.0005 Jupiter 14425-10-17 19:40 G 6989973.18 6989973.32 6989973.45 0.0484 0.0394 Neptune 14426-06-17 15:21 G 6990215.89 6990216.14 6990216.39 0.0089 0.0013 Jupiter 14426-11-16 16:04 G 6990368.03 6990368.17 6990368.31 0.0485 0.0387 Neptune 14427-06-20 02:38 G 6990583.37 6990583.61 6990583.87 0.0089 0.0021 Neptune 14428-06-21 14:24 G 6990950.86 6990951.10 6990951.35 0.0089 0.0028 Neptune 14429-06-24 01:40 G 6991318.35 6991318.57 6991318.82 0.0089 0.0035 Saturn 14430-04-25 02:52 G 6991623.38 6991623.62 6991623.87 0.0275 0.0021 Neptune 14430-06-26 13:12 G 6991685.84 6991686.05 6991686.29 0.0089 0.0042 Neptune 14431-06-29 00:43 G 6992053.33 6992053.53 6992053.76 0.0089 0.0049 Jupiter 14432-05-09 12:14 G 6992368.78 6992369.01 6992369.23 0.0545 0.0133 Neptune 14432-06-30 12:14 G 6992420.82 6992421.01 6992421.22 0.0089 0.0056 Neptune 14433-07-02 23:31 G 6992788.32 6992788.48 6992788.67 0.0089 0.0063 Neptune 14434-07-05 10:48 G 6993155.81 6993155.95 6993156.13 0.0089 0.0070 Neptune 14435-07-07 22:04 G 6993523.32 6993523.42 6993523.58 0.0089 0.0077 Neptune 14436-07-09 09:07 G 6993890.83 6993890.88 6993891.00 0.0089 0.0084 Jupiter 14437-10-21 22:33 G 6994360.25 6994360.44 6994360.63 0.0484 0.0287 Uranus 14441-02-20 03:21 G 6995577.61 6995577.64 6995577.73 0.0133 0.0130 Uranus 14442-02-24 12:57 G 6995946.86 6995947.04 6995947.25 0.0133 0.0086 Uranus 14443-02-28 22:04 G 6996316.18 6996316.42 6996316.67 0.0133 0.0041 Uranus 14444-03-04 07:12 G 6996685.55 6996685.80 6996686.06 0.0133 0.0003 Jupiter 14444-05-14 23:45 G 6996757.30 6996757.49 6996757.69 0.0544 0.0299 Saturn 14444-10-19 10:04 G 6996914.69 6996914.92 6996915.16 0.0283 0.0083 Uranus 14445-03-08 15:36 G 6997054.92 6997055.15 6997055.40 0.0133 0.0048 Uranus 14446-03-12 23:45 G 6997424.32 6997424.49 6997424.69 0.0133 0.0091 Jupiter 14449-10-26 02:38 G 6998747.39 6998747.61 6998747.83 0.0484 0.0177 Jupiter 14456-05-20 08:24 G 7001145.72 7001145.85 7001145.97 0.0543 0.0455 Saturn 14459-04-19 14:52 G 7002209.96 7002210.12 7002210.29 0.0276 0.0201 Jupiter 14461-10-30 05:31 G 7003134.50 7003134.73 7003134.96 0.0484 0.0069 Jupiter 14467-04-18 01:26 G 7005130.55 7005130.56 7005130.58 0.0544 0.0542 Jupiter 14473-11-03 10:04 G 7007521.69 7007521.92 7007522.15 0.0484 0.0040

Saturn 14474-10-27 10:04 G 7007879.76 7007879.92 7007880.07 0.0283 0.0216 Jupiter 14479-04-23 05:45 G 7009518.58 7009518.74 7009518.90 0.0545 0.0390 Uranus 14484-08-24 08:09 G 7011468.67 7011468.84 7011469.04 0.0145 0.0100 Uranus 14485-08-29 07:55 G 7011838.59 7011838.83 7011839.07 0.0145 0.0043 Jupiter 14485-11-07 15:07 G 7011908.91 7011909.13 7011909.35 0.0484 0.0152 Uranus 14486-09-03 07:12 G 7012208.56 7012208.80 7012209.06 0.0145 0.0014 Uranus 14487-09-08 06:28 G 7012578.57 7012578.77 7012579.01 0.0145 0.0071 Uranus 14488-09-12 06:14 G 7012948.65 7012948.76 7012948.90 0.0145 0.0127 Saturn 14489-04-26 09:21 G 7013174.65 7013174.89 7013175.13 0.0275 0.0079 Jupiter 14491-04-28 16:48 G 7013906.99 7013907.20 7013907.41 0.0545 0.0225 Neptune 14494-11-13 17:02 G 7015202.18 7015202.21 7015202.27 0.0088 0.0086 Neptune 14495-11-16 03:21 G 7015569.56 7015569.64 7015569.78 0.0088 0.0080 Neptune 14496-11-17 14:24 G 7015936.99 7015937.10 7015937.27 0.0088 0.0074 Jupiter 14497-11-11 18:57 G 7016296.10 7016296.29 7016296.49 0.0484 0.0261 Neptune 14497-11-20 01:40 G 7016304.43 7016304.57 7016304.76 0.0088 0.0067 Neptune 14498-11-22 12:57 G 7016671.86 7016672.04 7016672.24 0.0088 0.0060 Neptune 14499-11-25 00:14 G 7017039.31 7017039.51 7017039.72 0.0088 0.0053 Neptune 14500-11-27 11:02 G 7017406.76 7017406.96 7017407.20 0.0088 0.0047 Neptune 14501-11-29 22:19 G 7017774.22 7017774.43 7017774.68 0.0088 0.0040 Neptune 14502-12-02 09:21 G 7018141.67 7018141.89 7018142.15 0.0088 0.0033 Jupiter 14503-05-05 06:00 G 7018295.52 7018295.75 7018295.98 0.0545 0.0056 Saturn 14503-10-22 14:38 G 7018465.87 7018466.11 7018466.35 0.0283 0.0026 Neptune 14503-12-04 20:52 G 7018509.13 7018509.37 7018509.63 0.0088 0.0026 Neptune 14504-12-06 08:09 G 7018876.60 7018876.84 7018877.10 0.0088 0.0019 Neptune 14505-12-08 19:40 G 7019244.07 7019244.32 7019244.58 0.0088 0.0012 Neptune 14506-12-11 06:57 G 7019611.54 7019611.79 7019612.05 0.0088 0.0005 Neptune 14507-12-13 18:28 G 7019979.02 7019979.27 7019979.54 0.0088 0.0003 Jupiter 14508-10-18 04:19 G 7020288.56 7020288.68 7020288.81 0.0484 0.0405 Neptune 14508-12-15 06:14 G 7020346.50 7020346.76 7020347.02 0.0088 0.0010 Jupiter 14509-11-17 00:14 G 7020683.37 7020683.51 7020683.67 0.0485 0.0373

Neptune 14509-12-17 17:45 G 7020713.99 7020714.24 7020714.50 0.0088 0.0017 Neptune 14510-12-20 05:31 G 7021081.49 7021081.73 7021081.99 0.0088 0.0024 Neptune 14511-12-22 17:16 G 7021448.99 7021449.22 7021449.47 0.0088 0.0031 Neptune 14512-12-24 05:16 G 7021816.50 7021816.72 7021816.97 0.0088 0.0038 Neptune 14513-12-26 17:02 G 7022184.00 7022184.21 7022184.45 0.0088 0.0045 Neptune 14514-12-29 04:48 G 7022551.51 7022551.70 7022551.93 0.0088 0.0052 Jupiter 14515-05-10 16:48 G 7022683.98 7022684.20 7022684.43 0.0544 0.0110 Neptune 14515-12-31 16:33 G 7022919.02 7022919.19 7022919.41 0.0088 0.0060 Neptune 14517-01-02 05:02 G 7023286.54 7023286.71 7023286.89 0.0088 0.0066 Neptune 14518-01-04 16:48 G 7023654.07 7023654.20 7023654.36 0.0088 0.0073 Saturn 14518-04-21 19:40 G 7023761.12 7023761.32 7023761.54 0.0276 0.0145 Neptune 14519-01-07 04:19 G 7024021.60 7024021.68 7024021.83 0.0088 0.0080 Neptune 14520-01-09 17:02 G 7024389.16 7024389.21 7024389.28 0.0088 0.0086 Jupiter 14520-10-22 06:57 G 7024675.61 7024675.79 7024675.98 0.0484 0.0301 Jupiter 14521-11-21 05:45 G 7025070.71 7025070.74 7025070.78 0.0486 0.0479 Uranus 14525-02-21 14:52 G 7026259.04 7026259.12 7026259.21 0.0133 0.0126 Uranus 14526-02-26 00:00 G 7026628.31 7026628.50 7026628.71 0.0133 0.0082 Uranus 14527-03-02 09:07 G 7026997.63 7026997.88 7026998.13 0.0133 0.0037 Jupiter 14527-05-16 00:43 G 7027072.33 7027072.53 7027072.74 0.0544 0.0271 Uranus 14528-03-05 18:00 G 7027366.99 7027367.25 7027367.50 0.0133 0.0007 Uranus 14529-03-10 02:09 G 7027736.36 7027736.59 7027736.83 0.0133 0.0051 Uranus 14530-03-14 10:19 G 7028105.76 7028105.93 7028106.12 0.0133 0.0095 Saturn 14532-10-16 02:52 G 7029052.53 7029052.62 7029052.74 0.0283 0.0254 Jupiter 14532-10-26 11:31 G 7029062.77 7029062.98 7029063.20 0.0484 0.0191 Saturn 14533-10-29 12:28 G 7029430.95 7029431.02 7029431.10 0.0283 0.0268 Jupiter 14539-05-21 04:04 G 7031460.52 7031460.67 7031460.81 0.0543 0.0422 14540-08-08 14:24 G 7031905.98 7031906.10 7031906.22 0.1688 0.1282 Mars Jupiter 14544-10-30 16:48 G 7033449.97 7033450.20 7033450.43 0.0484 0.0081 Saturn 14548-04-28 13:55 G 7034725.88 7034726.08 7034726.31 0.0275 0.0135 Pluto 14549-06-29 09:07 G 7035152.87 7035152.88 7035152.96 0.0064 0.0063

14550-06-30 21:07 G 7035519.16 7035519.38 7035519.64 0.0064 0.0023 Pluto Jupiter 14556-11-03 19:55 G 7037837.09 7037837.33 7037837.56 0.0484 0.0028 Jupiter 14562-04-23 10:33 G 7039833.79 7039833.94 7039834.10 0.0545 0.0408 Saturn 14562-10-23 17:16 G 7040016.98 7040017.22 7040017.47 0.0283 0.0028 Uranus 14568-08-25 18:28 G 7042150.10 7042150.27 7042150.48 0.0145 0.0097 Jupiter 14568-11-08 00:28 G 7042224.30 7042224.52 7042224.75 0.0484 0.0139 Uranus 14569-08-30 18:14 G 7042520.03 7042520.26 7042520.51 0.0145 0.0040 Uranus 14570-09-04 17:45 G 7042889.99 7042890.24 7042890.49 0.0145 0.0017 Uranus 14571-09-09 17:31 G 7043260.01 7043260.23 7043260.45 0.0145 0.0074 Uranus 14572-09-13 17:02 G 7043630.11 7043630.21 7043630.32 0.0145 0.0131 Jupiter 14574-04-28 23:16 G 7044222.26 7044222.47 7044222.68 0.0545 0.0244 Neptune 14576-05-16 21:21 G 7044971.39 7044971.39 7044971.41 0.0089 0.0089 Saturn 14577-04-22 23:45 G 7045312.26 7045312.49 7045312.72 0.0275 0.0091 Neptune 14577-05-19 09:50 G 7045338.82 7045338.91 7045339.01 0.0089 0.0083 Neptune 14578-05-21 22:04 G 7045706.31 7045706.42 7045706.58 0.0089 0.0077 Neptune 14579-05-24 10:33 G 7046073.80 7046073.94 7046074.12 0.0089 0.0070 Neptune 14580-05-25 22:48 G 7046441.29 7046441.45 7046441.65 0.0089 0.0063 Jupiter 14580-11-12 04:48 G 7046611.50 7046611.70 7046611.90 0.0485 0.0247 Neptune 14581-05-28 11:16 G 7046808.78 7046808.97 7046809.18 0.0089 0.0056 Neptune 14582-05-30 23:31 G 7047176.28 7047176.48 7047176.71 0.0089 0.0049 Neptune 14583-06-02 11:45 G 7047543.77 7047543.99 7047544.23 0.0089 0.0042 Neptune 14584-06-03 23:45 G 7047911.27 7047911.49 7047911.74 0.0089 0.0034 Neptune 14585-06-06 11:45 G 7048278.76 7048278.99 7048279.25 0.0089 0.0028 Jupiter 14586-05-04 08:38 G 7048610.63 7048610.86 7048611.09 0.0545 0.0080 Neptune 14586-06-09 00:14 G 7048646.26 7048646.51 7048646.76 0.0089 0.0020 7049014.02 7049014.28 0.0089 0.0013 Neptune 14587-06-11 12:28 G 7049013.77 Neptune 14588-06-13 00:14 G 7049381.26 7049381.51 7049381.77 0.0089 0.0005 Neptune 14589-06-15 12:28 G 7049748.76 7049749.02 7049749.27 0.0089 0.0002 Neptune 14590-06-18 00:14 G 7050116.25 7050116.51 7050116.76 0.0089 0.0009 Neptune 14591-06-20 11:45 G 7050483.74 7050483.99 7050484.25 0.0089 0.0017

Saturn 14591-10-18 03:07 G 7050603.47 7050603.63 7050603.81 0.0283 0.0205 Jupiter 14591-10-18 14:09 G 7050603.98 7050604.09 7050604.22 0.0484 0.0417 Neptune 14592-06-21 23:31 G 7050851.23 7050851.48 7050851.73 0.0089 0.0024 Jupiter 14592-11-16 10:33 G 7050998.79 7050998.94 7050999.10 0.0485 0.0357 Neptune 14593-06-24 11:02 G 7051218.72 7051218.96 7051219.20 0.0089 0.0031 Neptune 14594-06-26 22:04 G 7051586.21 7051586.42 7051586.67 0.0089 0.0038 Neptune 14595-06-29 09:50 G 7051953.69 7051953.91 7051954.14 0.0089 0.0045 Neptune 14596-06-30 21:21 G 7052321.18 7052321.39 7052321.60 0.0089 0.0052 Neptune 14597-07-03 08:24 G 7052688.67 7052688.85 7052689.05 0.0089 0.0058 Jupiter 14598-05-09 12:28 G 7052998.79 7052999.02 7052999.25 0.0545 0.0078 Neptune 14598-07-05 19:40 G 7053056.17 7053056.32 7053056.51 0.0089 0.0065 Neptune 14599-07-08 06:43 G 7053423.66 7053423.78 7053423.96 0.0089 0.0072 Neptune 14600-07-10 18:14 G 7053791.16 7053791.26 7053791.40 0.0089 0.0078 Neptune 14601-07-13 06:00 G 7054158.67 7054158.75 7054158.83 0.0089 0.0084 Jupiter 14603-10-23 19:26 G 7054991.13 7054991.31 7054991.49 0.0484 0.0308 Jupiter 14604-11-21 16:33 G 7055386.14 7055386.19 7055386.27 0.0486 0.0466 Saturn 14607-05-01 18:00 G 7056277.07 7056277.25 7056277.43 0.0275 0.0187 Uranus 14609-02-23 02:24 G 7056940.51 7056940.60 7056940.71 0.0133 0.0123 Uranus 14610-02-27 11:45 G 7057309.79 7057309.99 7057310.20 0.0133 0.0078 Jupiter 14610-05-15 22:19 G 7057387.23 7057387.43 7057387.64 0.0544 0.0242 Uranus 14611-03-03 20:24 G 7057679.11 7057679.35 7057679.61 0.0133 0.0034 Uranus 14612-03-07 05:16 G 7058048.47 7058048.72 7058048.98 0.0133 0.0011 Uranus 14613-03-11 13:26 G 7058417.83 7058418.06 7058418.30 0.0133 0.0055 Uranus 14614-03-15 21:21 G 7058787.24 7058787.39 7058787.58 0.0133 0.0099 Jupiter 14615-10-27 22:33 G 7059378.23 7059378.44 7059378.66 0.0483 0.0201 Mars 14619-08-12 21:21 G 7060763.20 7060763.39 7060763.57 0.1683 0.0179 Saturn 14621-10-25 18:43 G 7061568.05 7061568.28 7061568.52 0.0283 0.0079 Jupiter 14622-05-21 10:33 G 7061775.79 7061775.94 7061776.10 0.0544 0.0404 Jupiter 14627-11-01 02:52 G 7063765.39 7063765.62 7063765.85 0.0483 0.0092 Saturn 14636-04-25 02:52 G 7066863.38 7066863.62 7066863.87 0.0275 0.0038

14638-12-30 07:40 G 7067842.56 7067842.82 7067843.08 0.0080 0.0005 Pluto Jupiter 14639-11-05 06:14 G 7068152.53 7068152.76 7068152.99 0.0484 0.0016 Mars 14645-02-11 02:09 G 7070077.39 7070077.59 7070077.78 0.1854 0.0479 Jupiter 14645-04-23 15:07 G 7070148.99 7070149.13 7070149.28 0.0544 0.0426 Saturn 14650-10-20 02:38 G 7072154.41 7072154.61 7072154.82 0.0283 0.0157 Jupiter 14651-11-09 11:31 G 7072539.76 7072539.98 7072540.21 0.0484 0.0126 Uranus 14652-08-27 05:16 G 7072831.55 7072831.72 7072831.93 0.0145 0.0094 Uranus 14653-09-01 04:48 G 7073201.47 7073201.70 7073201.96 0.0145 0.0038 Uranus 14654-09-06 04:19 G 7073571.44 7073571.68 7073571.94 0.0145 0.0021 Uranus 14655-09-11 04:04 G 7073941.46 7073941.67 7073941.89 0.0145 0.0078 Uranus 14656-09-15 03:36 G 7074311.57 7074311.65 7074311.76 0.0145 0.0135 Jupiter 14657-04-28 18:57 G 7074537.09 7074537.29 7074537.50 0.0545 0.0273 Neptune 14658-11-15 01:40 G 7075102.53 7075102.57 7075102.63 0.0088 0.0086 Neptune 14659-11-17 12:28 G 7075469.93 7075470.02 7075470.14 0.0088 0.0080 Neptune 14660-11-18 23:02 G 7075837.35 7075837.46 7075837.62 0.0088 0.0074 Neptune 14661-11-21 09:50 G 7076204.77 7076204.91 7076205.10 0.0088 0.0068 Neptune 14662-11-23 21:21 G 7076572.21 7076572.39 7076572.58 0.0088 0.0061 Jupiter 14663-11-13 17:02 G 7076927.01 7076927.21 7076927.42 0.0484 0.0237 Neptune 14663-11-26 07:55 G 7076939.65 7076939.83 7076940.06 0.0088 0.0055 Neptune 14664-11-27 19:26 G 7077307.11 7077307.31 7077307.54 0.0088 0.0048 Saturn 14665-04-20 02:09 G 7077450.48 7077450.59 7077450.71 0.0276 0.0240 Neptune 14665-11-30 06:14 G 7077674.56 7077674.76 7077675.01 0.0088 0.0042 Saturn 14666-05-02 20:52 G 7077828.26 7077828.37 7077828.50 0.0275 0.0240 Neptune 14666-12-02 17:45 G 7078042.02 7078042.24 7078042.49 0.0088 0.0035 Neptune 14667-12-05 05:02 G 7078409.47 7078409.71 7078409.96 0.0088 0.0028 Neptune 14668-12-06 16:33 G 7078776.94 7078777.19 7078777.44 0.0088 0.0021 Jupiter 14669-05-04 05:16 G 7078925.49 7078925.72 7078925.95 0.0545 0.0109 Neptune 14669-12-09 03:36 G 7079144.40 7079144.65 7079144.91 0.0088 0.0014 Neptune 14670-12-11 14:52 G 7079511.87 7079512.12 7079512.38 0.0088 0.0008 Neptune 14671-12-14 02:24 G 7079879.34 7079879.60 7079879.86 0.0088 0.0001

Neptune 14672-12-15 13:40 G 7080246.81 7080247.07 7080247.33 0.0088 0.0006 Neptune 14673-12-18 01:12 G 7080614.30 7080614.55 7080614.81 0.0088 0.0013 Jupiter 14674-10-19 01:55 G 7080919.48 7080919.58 7080919.70 0.0484 0.0425 Neptune 14674-12-20 12:43 G 7080981.78 7080982.03 7080982.29 0.0088 0.0020 Jupiter 14675-11-17 20:52 G 7081314.21 7081314.37 7081314.54 0.0485 0.0343 Neptune 14675-12-23 00:28 G 7081349.28 7081349.52 7081349.78 0.0088 0.0027 Neptune 14676-12-24 12:00 G 7081716.78 7081717.00 7081717.26 0.0088 0.0034 Neptune 14677-12-26 23:45 G 7082084.28 7082084.49 7082084.74 0.0088 0.0041 Neptune 14678-12-29 12:00 G 7082451.79 7082452.00 7082452.22 0.0088 0.0048 Neptune 14679-12-31 23:45 G 7082819.30 7082819.49 7082819.71 0.0088 0.0054 Saturn 14680-10-26 19:12 G 7083119.09 7083119.30 7083119.52 0.0283 0.0128 Neptune 14681-01-02 11:31 G 7083186.82 7083186.98 7083187.19 0.0088 0.0061 Jupiter 14681-05-09 18:14 G 7083314.02 7083314.26 7083314.49 0.0545 0.0060 Neptune 14682-01-04 23:45 G 7083554.34 7083554.49 7083554.67 0.0088 0.0067 Neptune 14683-01-07 11:31 G 7083921.87 7083921.98 7083922.15 0.0088 0.0074 Neptune 14684-01-09 23:31 G 7084289.40 7084289.48 7084289.62 0.0088 0.0081 Neptune 14685-01-11 12:00 G 7084656.97 7084657.00 7084657.07 0.0088 0.0087 Jupiter 14686-10-23 06:14 G 7085306.59 7085306.76 7085306.94 0.0484 0.0318 Jupiter 14687-11-22 02:24 G 7085701.52 7085701.60 7085701.69 0.0485 0.0451 Uranus 14693-02-23 13:40 G 7087621.98 7087622.07 7087622.20 0.0133 0.0120 Jupiter 14693-05-15 06:28 G 7087702.56 7087702.77 7087702.99 0.0544 0.0223 Uranus 14694-02-27 22:48 G 7087991.25 7087991.45 7087991.68 0.0133 0.0075 Uranus 14695-03-04 07:40 G 7088360.58 7088360.82 7088361.08 0.0133 0.0031 Saturn 14695-04-27 06:14 G 7088414.51 7088414.76 7088415.00 0.0275 0.0016 Uranus 14696-03-07 16:19 G 7088729.93 7088730.18 7088730.44 0.0133 0.0015 Uranus 14697-03-12 00:14 G 7089099.29 7089099.51 7089099.75 0.0133 0.0059 Uranus 14698-03-16 08:24 G 7089468.70 7089468.85 7089469.03 0.0133 0.0103 Mars 14698-08-15 03:50 G 7089620.62 7089620.66 7089620.71 0.1678 0.1616 Jupiter 14698-10-27 09:07 G 7089693.67 7089693.88 7089694.09 0.0484 0.0212 Jupiter 14705-05-21 15:21 G 7092090.97 7092091.14 7092091.30 0.0544 0.0382

Saturn 14709-10-22 01:40 G 7093705.35 7093705.57 7093705.80 0.0283 0.0110 Jupiter 14710-11-01 14:09 G 7094080.86 7094081.09 7094081.32 0.0484 0.0102 Jupiter 14717-05-26 17:16 G 7096479.18 7096479.22 7096479.28 0.0543 0.0529 Jupiter 14722-11-05 19:12 G 7098468.06 7098468.30 7098468.53 0.0484 0.0010 Saturn 14724-04-22 05:02 G 7099001.54 7099001.71 7099001.90 0.0276 0.0188 Jupiter 14728-04-23 11:02 G 7100463.84 7100463.96 7100464.10 0.0544 0.0453 Jupiter 14734-11-09 22:19 G 7102855.20 7102855.43 7102855.66 0.0484 0.0113 Uranus 14736-08-28 15:21 G 7103512.96 7103513.14 7103513.35 0.0145 0.0091 Uranus 14737-09-02 14:52 G 7103882.89 7103883.12 7103883.38 0.0145 0.0035 Uranus 14738-09-07 14:24 G 7104252.86 7104253.10 7104253.36 0.0145 0.0024 Uranus 14739-09-12 14:24 G 7104622.90 7104623.10 7104623.31 0.0145 0.0081 Saturn 14739-10-29 20:09 G 7104670.15 7104670.34 7104670.53 0.0283 0.0179 Jupiter 14740-04-28 23:45 G 7104852.30 7104852.49 7104852.69 0.0545 0.0293 Uranus 14740-09-16 14:09 G 7104993.02 7104993.09 7104993.18 0.0145 0.0138 Neptune 14741-05-20 16:33 G 7105239.12 7105239.19 7105239.30 0.0089 0.0084 Neptune 14742-05-23 05:31 G 7105606.61 7105606.73 7105606.86 0.0089 0.0077 Neptune 14743-05-25 17:31 G 7105974.10 7105974.23 7105974.41 0.0089 0.0071 Neptune 14744-05-27 06:14 G 7106341.59 7106341.76 7106341.95 0.0089 0.0064 Neptune 14745-05-29 18:14 G 7106709.09 7106709.26 7106709.48 0.0089 0.0058 Neptune 14746-06-01 06:43 G 7107076.58 7107076.78 7107077.01 0.0089 0.0051 Jupiter 14746-11-14 03:07 G 7107242.42 7107242.63 7107242.84 0.0484 0.0223 Neptune 14747-06-03 18:57 G 7107444.08 7107444.29 7107444.53 0.0089 0.0044 Neptune 14748-06-05 06:57 G 7107811.57 7107811.79 7107812.04 0.0089 0.0037 Neptune 14749-06-07 19:12 G 7108179.07 7108179.30 7108179.55 0.0089 0.0030 Neptune 14750-06-10 07:26 G 7108546.57 7108546.81 7108547.07 0.0089 0.0023 Neptune 14751-06-12 19:26 G 7108914.06 7108914.31 7108914.57 0.0089 0.0015 Jupiter 14752-05-04 13:12 G 7109240.82 7109241.05 7109241.28 0.0545 0.0126 Neptune 14752-06-14 07:26 G 7109281.56 7109281.81 7109282.07 0.0089 0.0009 Neptune 14753-06-16 19:40 G 7109649.06 7109649.32 7109649.58 0.0089 0.0001 Saturn 14754-04-29 09:21 G 7109965.65 7109965.89 7109966.13 0.0275 0.0068

Neptune 14754-06-19 07:40 G 7110016.56 7110016.82 7110017.08 0.0089 0.0006 Neptune 14755-06-21 19:26 G 7110384.06 7110384.31 7110384.57 0.0089 0.0013 Neptune 14756-06-23 06:57 G 7110751.55 7110751.79 7110752.05 0.0089 0.0020 Neptune 14757-06-25 18:43 G 7111119.05 7111119.28 7111119.54 0.0089 0.0027 Jupiter 14757-10-19 12:28 G 7111234.92 7111235.02 7111235.12 0.0484 0.0434 Neptune 14758-06-28 06:28 G 7111486.54 7111486.77 7111487.01 0.0089 0.0034 Jupiter 14758-11-18 07:12 G 7111629.64 7111629.80 7111629.98 0.0485 0.0331 Neptune 14759-06-30 17:45 G 7111854.03 7111854.24 7111854.48 0.0089 0.0041 Neptune 14760-07-02 05:02 G 7112221.51 7112221.71 7112221.94 0.0089 0.0047 Neptune 14761-07-04 16:19 G 7112589.00 7112589.18 7112589.41 0.0089 0.0055 Neptune 14762-07-07 04:04 G 7112956.49 7112956.67 7112956.87 0.0089 0.0060 Neptune 14763-07-09 15:07 G 7113323.98 7113324.13 7113324.32 0.0089 0.0067 Jupiter 14764-05-09 23:31 G 7113629.25 7113629.48 7113629.71 0.0545 0.0039 Neptune 14764-07-11 02:24 G 7113691.48 7113691.60 7113691.76 0.0089 0.0073 Neptune 14765-07-13 13:55 G 7114058.98 7114059.08 7114059.20 0.0089 0.0079 Neptune 14766-07-16 01:26 G 7114426.50 7114426.56 7114426.64 0.0089 0.0085 Saturn 14768-10-23 01:40 G 7115256.34 7115256.57 7115256.81 0.0283 0.0061 Jupiter 14769-10-23 17:02 G 7115622.04 7115622.21 7115622.39 0.0484 0.0327 Jupiter 14770-11-22 13:55 G 7116016.99 7116017.08 7116017.18 0.0485 0.0439 Jupiter 14776-05-15 02:52 G 7118017.40 7118017.62 7118017.84 0.0544 0.0192 Uranus 14777-02-25 02:09 G 7118303.47 7118303.59 7118303.72 0.0133 0.0116 Uranus 14778-03-01 11:02 G 7118672.76 7118672.96 7118673.19 0.0133 0.0071 Uranus 14779-03-05 19:55 G 7119042.08 7119042.33 7119042.58 0.0133 0.0026 Uranus 14780-03-09 04:19 G 7119411.43 7119411.68 7119411.94 0.0133 0.0018 Uranus 14781-03-13 12:14 G 7119780.80 7119781.01 7119781.25 0.0133 0.0063 Jupiter 14781-10-27 21:36 G 7120009.20 7120009.40 7120009.62 0.0484 0.0220 Uranus 14782-03-17 20:24 G 7120150.22 7120150.35 7120150.52 0.0133 0.0107 Saturn 14783-04-24 08:24 G 7120552.63 7120552.85 7120553.06 0.0276 0.0134 Jupiter 14788-05-20 11:31 G 7122405.80 7122405.98 7122406.16 0.0544 0.0351 Jupiter 14793-11-01 00:57 G 7124396.31 7124396.54 7124396.76 0.0483 0.0115

14795-07-03 17:31 G 7125006.05 7125006.23 7125006.43 0.0064 0.0043 Pluto Pluto 14796-07-04 05:02 G 7125372.53 7125372.71 7125372.91 0.0064 0.0043 Saturn 14798-10-30 21:50 G 7126221.27 7126221.41 7126221.56 0.0283 0.0230 Jupiter 14800-05-25 22:48 G 7126794.37 7126794.45 7126794.53 0.0543 0.0508 Jupiter 14805-11-05 05:02 G 7128783.47 7128783.71 7128783.94 0.0483 0.0008 Jupiter 14811-04-23 18:14 G 7130779.14 7130779.26 7130779.37 0.0544 0.0470 Saturn 14813-04-30 13:12 G 7131516.84 7131517.05 7131517.28 0.0275 0.0123 Jupiter 14817-11-09 08:24 G 7133170.62 7133170.85 7133171.08 0.0484 0.0102 Uranus 14819-08-25 03:36 G 7133824.64 7133824.65 7133824.70 0.0145 0.0144 Uranus 14820-08-29 02:52 G 7134194.43 7134194.62 7134194.83 0.0145 0.0088 Uranus 14821-09-03 02:24 G 7134564.36 7134564.60 7134564.85 0.0145 0.0030 Uranus 14822-09-08 01:55 G 7134934.34 7134934.58 7134934.83 0.0145 0.0027 Neptune 14822-11-15 09:21 G 7135002.85 7135002.89 7135002.95 0.0088 0.0086 Jupiter 14823-04-29 05:02 G 7135167.53 7135167.71 7135167.91 0.0545 0.0310 Uranus 14823-09-13 01:26 G 7135304.37 7135304.56 7135304.78 0.0145 0.0086 Neptune 14823-11-17 19:40 G 7135370.25 7135370.32 7135370.45 0.0088 0.0081 Mars 14824-08-11 14:52 G 7135637.95 7135638.12 7135638.29 0.1693 0.0679 Uranus 14824-09-17 01:40 G 7135674.52 7135674.57 7135674.63 0.0145 0.0142 Neptune 14824-11-19 06:14 G 7135737.66 7135737.76 7135737.93 0.0088 0.0075 Neptune 14825-11-21 17:02 G 7136105.08 7136105.21 7136105.40 0.0088 0.0069 Neptune 14826-11-24 04:19 G 7136472.51 7136472.68 7136472.87 0.0088 0.0062 Saturn 14827-10-25 03:21 G 7136807.39 7136807.64 7136807.88 0.0283 0.0010 Neptune 14827-11-26 15:21 G 7136839.96 7136840.14 7136840.35 0.0088 0.0056 Neptune 14828-11-28 02:09 G 7137207.40 7137207.59 7137207.83 0.0088 0.0050 Jupiter 14829-11-13 13:55 G 7137557.87 7137558.08 7137558.29 0.0484 0.0212 Neptune 14829-11-30 13:40 G 7137574.85 7137575.07 7137575.30 0.0088 0.0043 Neptune 14830-12-03 00:43 G 7137942.31 7137942.53 7137942.78 0.0088 0.0037 Neptune 14831-12-05 12:14 G 7138309.77 7138310.01 7138310.26 0.0088 0.0030 Neptune 14832-12-06 23:16 G 7138677.23 7138677.47 7138677.73 0.0088 0.0024 Neptune 14833-12-09 10:33 G 7139044.70 7139044.94 7139045.21 0.0088 0.0017

Neptune 14834-12-11 22:04 G 7139412.17 7139412.42 7139412.68 0.0088 0.0010 Jupiter 14835-05-04 09:50 G 7139555.68 7139555.91 7139556.13 0.0544 0.0155 Neptune 14835-12-14 09:21 G 7139779.64 7139779.89 7139780.15 0.0088 0.0004 Neptune 14836-12-15 20:52 G 7140147.11 7140147.37 7140147.63 0.0088 0.0003 Neptune 14837-12-18 07:55 G 7140514.58 7140514.83 7140515.10 0.0088 0.0011 Neptune 14838-12-20 19:55 G 7140882.07 7140882.33 7140882.58 0.0088 0.0017 Neptune 14839-12-23 07:12 G 7141249.56 7141249.80 7141250.06 0.0088 0.0023 Jupiter 14840-10-18 23:31 G 7141550.40 7141550.48 7141550.58 0.0485 0.0443 Neptune 14840-12-24 18:43 G 7141617.05 7141617.28 7141617.54 0.0088 0.0030 Jupiter 14841-11-17 19:12 G 7141945.13 7141945.30 7141945.48 0.0485 0.0320 Neptune 14841-12-27 06:43 G 7141984.55 7141984.78 7141985.02 0.0088 0.0036 Saturn 14842-04-25 12:00 G 7142103.76 7142104.00 7142104.23 0.0276 0.0080 Neptune 14842-12-29 18:14 G 7142352.05 7142352.26 7142352.50 0.0088 0.0044 Neptune 14844-01-01 06:28 G 7142719.56 7142719.77 7142719.99 0.0088 0.0050 Neptune 14845-01-02 18:00 G 7143087.07 7143087.25 7143087.47 0.0088 0.0057 Neptune 14846-01-05 06:14 G 7143454.59 7143454.76 7143454.96 0.0088 0.0062 Neptune 14847-01-07 18:14 G 7143822.11 7143822.26 7143822.43 0.0088 0.0069 Jupiter 14847-05-09 18:14 G 7143944.03 7143944.26 7143944.50 0.0545 0.0013 Neptune 14848-01-10 06:28 G 7144189.64 7144189.77 7144189.91 0.0088 0.0075 Neptune 14849-01-11 17:45 G 7144557.17 7144557.24 7144557.37 0.0088 0.0082 Neptune 14850-01-14 06:43 G 7144924.73 7144924.78 7144924.82 0.0088 0.0087 Jupiter 14852-10-23 03:07 G 7145937.47 7145937.63 7145937.80 0.0484 0.0340 Jupiter 14853-11-21 22:33 G 7146332.33 7146332.44 7146332.56 0.0485 0.0422 Saturn 14856-10-18 17:45 G 7147394.10 7147394.24 7147394.38 0.0283 0.0230 Jupiter 14859-05-15 05:45 G 7148332.52 7148332.74 7148332.97 0.0545 0.0168 Uranus 14861-02-25 14:24 G 7148984.97 7148985.10 7148985.24 0.0133 0.0112 Uranus 14862-03-01 23:02 G 7149354.26 7149354.46 7149354.70 0.0133 0.0067 Uranus 14863-03-06 07:55 G 7149723.58 7149723.83 7149724.09 0.0133 0.0022 Uranus 14864-03-09 16:19 G 7150092.93 7150093.18 7150093.44 0.0133 0.0023 Jupiter 14864-10-27 07:12 G 7150324.59 7150324.80 7150325.00 0.0484 0.0232

Uranus 14865-03-14 00:28 G 7150462.30 7150462.52 7150462.74 0.0133 0.0067 Uranus 14866-03-18 08:09 G 7150831.73 7150831.84 7150832.01 0.0133 0.0112 Jupiter 14871-05-20 18:00 G 7152721.07 7152721.25 7152721.43 0.0544 0.0330 Saturn 14872-05-01 18:14 G 7153068.09 7153068.26 7153068.46 0.0275 0.0179 Jupiter 14876-10-31 10:04 G 7154711.70 7154711.92 7154712.15 0.0484 0.0126 Jupiter 14883-05-26 03:07 G 7157109.53 7157109.63 7157109.73 0.0543 0.0486 14885-01-01 18:43 G 7157696.07 7157696.28 7157696.51 0.0080 0.0043 Pluto Saturn 14886-10-26 06:28 G 7158358.53 7158358.77 7158359.02 0.0283 0.0046 Jupiter 14888-11-04 14:52 G 7159098.88 7159099.12 7159099.35 0.0484 0.0018 Jupiter 14894-04-22 15:07 G 7161094.04 7161094.13 7161094.23 0.0543 0.0496 Jupiter 14900-11-09 19:12 G 7163486.07 7163486.30 7163486.53 0.0484 0.0090 Saturn 14901-04-27 17:02 G 7163654.97 7163655.21 7163655.46 0.0276 0.0023 Mars 14903-08-15 21:07 G 7164495.22 7164495.38 7164495.55 0.1689 0.0795 Uranus 14903-08-26 14:24 G 7164506.05 7164506.10 7164506.17 0.0145 0.0140 Uranus 14904-08-30 13:12 G 7164875.86 7164876.05 7164876.27 0.0145 0.0084 Neptune 14905-05-20 22:19 G 7165139.37 7165139.43 7165139.54 0.0089 0.0084 Uranus 14905-09-04 13:12 G 7165245.80 7165246.05 7165246.30 0.0145 0.0026 Jupiter 14906-04-28 23:31 G 7165482.30 7165482.48 7165482.66 0.0544 0.0341 Neptune 14906-05-23 11:02 G 7165506.86 7165506.96 7165507.11 0.0089 0.0078 Uranus 14906-09-09 12:28 G 7165615.78 7165616.02 7165616.28 0.0145 0.0032 Neptune 14907-05-25 23:45 G 7165874.36 7165874.49 7165874.67 0.0089 0.0071 Uranus 14907-09-14 12:28 G 7165985.84 7165986.02 7165986.23 0.0146 0.0089 Neptune 14908-05-27 12:28 G 7166241.86 7166242.02 7166242.21 0.0089 0.0065 Neptune 14909-05-30 00:57 G 7166609.37 7166609.54 7166609.76 0.0089 0.0059 Neptune 14910-06-01 13:40 G 7166976.87 7166977.07 7166977.29 0.0089 0.0052 Neptune 14911-06-04 02:09 G 7167344.37 7167344.59 7167344.81 0.0089 0.0045 Neptune 14912-06-05 13:55 G 7167711.86 7167712.08 7167712.33 0.0089 0.0039 Jupiter 14912-11-13 22:04 G 7167873.21 7167873.42 7167873.64 0.0484 0.0194 Neptune 14913-06-08 02:24 G 7168079.37 7168079.60 7168079.85 0.0089 0.0032 Neptune 14914-06-10 14:09 G 7168446.86 7168447.09 7168447.35 0.0089 0.0025

Neptune 14915-06-13 02:24 G 7168814.36 7168814.60 7168814.86 0.0089 0.0018 Saturn 14915-10-21 23:31 G 7168945.30 7168945.48 7168945.69 0.0283 0.0171 Neptune 14916-06-14 14:24 G 7169181.85 7169182.10 7169182.36 0.0089 0.0011 Neptune 14917-06-17 02:24 G 7169549.35 7169549.60 7169549.86 0.0089 0.0005 Jupiter 14918-05-04 10:04 G 7169870.70 7169870.92 7169871.14 0.0545 0.0182 Neptune 14918-06-19 14:24 G 7169916.85 7169917.10 7169917.36 0.0089 0.0003 Neptune 14919-06-22 02:09 G 7170284.34 7170284.59 7170284.85 0.0089 0.0010 Neptune 14920-06-23 14:09 G 7170651.84 7170652.09 7170652.35 0.0089 0.0016 Neptune 14921-06-26 01:40 G 7171019.34 7171019.57 7171019.84 0.0089 0.0024 Neptune 14922-06-28 13:40 G 7171386.83 7171387.07 7171387.32 0.0089 0.0029 Neptune 14923-07-01 00:57 G 7171754.32 7171754.54 7171754.79 0.0089 0.0037 Jupiter 14923-10-20 08:38 G 7171865.78 7171865.86 7171865.94 0.0485 0.0455 Neptune 14924-07-02 12:57 G 7172121.81 7172122.04 7172122.26 0.0089 0.0043 Jupiter 14924-11-18 02:38 G 7172260.43 7172260.61 7172260.79 0.0484 0.0301 Neptune 14925-07-05 00:00 G 7172489.30 7172489.50 7172489.73 0.0089 0.0049 Neptune 14926-07-07 11:31 G 7172856.79 7172856.98 7172857.19 0.0089 0.0055 Neptune 14927-07-09 22:19 G 7173224.27 7173224.43 7173224.64 0.0089 0.0062 Neptune 14928-07-11 09:36 G 7173591.76 7173591.90 7173592.09 0.0089 0.0068 Mars 14929-02-12 18:00 G 7173808.06 7173808.25 7173808.45 0.1845 0.0350 Neptune 14929-07-13 21:07 G 7173959.26 7173959.38 7173959.54 0.0089 0.0074 Saturn 14930-04-22 05:02 G 7174241.60 7174241.71 7174241.84 0.0276 0.0241 Jupiter 14930-05-09 22:48 G 7174259.22 7174259.45 7174259.69 0.0545 0.0018 Neptune 14930-07-16 08:09 G 7174326.75 7174326.84 7174326.97 0.0089 0.0080 Saturn 14931-05-05 00:57 G 7174619.42 7174619.54 7174619.67 0.0275 0.0237 Neptune 14931-07-18 19:26 G 7174694.27 7174694.31 7174694.39 0.0089 0.0086 Jupiter 14935-10-24 11:16 G 7176252.82 7176252.97 7176253.13 0.0484 0.0351 Jupiter 14936-11-22 06:43 G 7176647.66 7176647.78 7176647.91 0.0485 0.0407 Jupiter 14942-05-15 09:36 G 7178647.68 7178647.90 7178648.13 0.0545 0.0146 Uranus 14945-02-27 02:52 G 7179666.49 7179666.62 7179666.79 0.0133 0.0107 Saturn 14945-10-28 12:43 G 7179909.81 7179910.03 7179910.26 0.0283 0.0105

Uranus 14946-03-03 12:00 G 7180035.78 7180036.00 7180036.24 0.0133 0.0062 Uranus 14947-03-07 20:38 G 7180405.11 7180405.36 7180405.62 0.0133 0.0017 Jupiter 14947-10-28 15:36 G 7180639.95 7180640.15 7180640.35 0.0484 0.0244 Uranus 14948-03-11 05:02 G 7180774.46 7180774.71 7180774.96 0.0133 0.0027 Uranus 14949-03-15 13:12 G 7181143.84 7181144.05 7181144.27 0.0133 0.0072 Uranus 14950-03-19 21:21 G 7181513.28 7181513.39 7181513.52 0.0133 0.0116 Jupiter 14954-05-20 13:26 G 7183035.87 7183036.06 7183036.25 0.0544 0.0297 Jupiter 14959-11-01 19:12 G 7185027.08 7185027.30 7185027.53 0.0484 0.0141 Saturn 14960-04-28 23:02 G 7185206.22 7185206.46 7185206.71 0.0276 0.0035 Jupiter 14966-05-25 20:24 G 7187424.23 7187424.35 7187424.48 0.0543 0.0451 Jupiter 14971-11-05 21:50 G 7189414.18 7189414.41 7189414.65 0.0484 0.0038 Saturn 14974-10-23 07:40 G 7190496.61 7190496.82 7190497.06 0.0283 0.0108 Jupiter 14977-04-22 12:43 G 7191408.98 7191409.03 7191409.10 0.0544 0.0524 Jupiter 14983-11-10 02:09 G 7193801.36 7193801.59 7193801.82 0.0484 0.0072 Neptune 14986-11-15 16:19 G 7194903.15 7194903.18 7194903.25 0.0088 0.0086 Uranus 14987-08-27 02:38 G 7195187.55 7195187.61 7195187.72 0.0145 0.0137 Neptune 14987-11-18 02:38 G 7195270.54 7195270.61 7195270.75 0.0088 0.0081 Uranus 14988-08-31 01:55 G 7195557.38 7195557.58 7195557.80 0.0145 0.0080 Neptune 14988-11-19 13:40 G 7195637.96 7195638.07 7195638.23 0.0088 0.0075 Saturn 14989-04-23 13:26 G 7195792.88 7195793.06 7195793.25 0.0276 0.0179 Jupiter 14989-04-28 01:26 G 7195797.39 7195797.56 7195797.73 0.0545 0.0365 Uranus 14989-09-05 01:40 G 7195927.32 7195927.57 7195927.82 0.0145 0.0022 Neptune 14989-11-22 00:28 G 7196005.37 7196005.52 7196005.69 0.0088 0.0069 Uranus 14990-09-10 01:12 G 7196297.31 7196297.55 7196297.80 0.0145 0.0036 Neptune 14990-11-24 11:16 G 7196372.81 7196372.97 7196373.17 0.0088 0.0063 Uranus 14991-09-15 01:12 G 7196667.37 7196667.55 7196667.75 0.0146 0.0095 Neptune 14991-11-26 22:04 G 7196740.24 7196740.42 7196740.63 0.0088 0.0057 Neptune 14992-11-28 08:52 G 7197107.67 7197107.87 7197108.09 0.0088 0.0051 Neptune 14993-11-30 19:40 G 7197475.12 7197475.32 7197475.56 0.0088 0.0045 Neptune 14994-12-03 06:43 G 7197842.57 7197842.78 7197843.03 0.0088 0.0039 

 Jupiter
 14995-11-14 05:02 G
 7198188.50
 7198188.71
 7198188.93
 0.0484
 0.0179

 Neptune
 14995-12-05 18:14 G
 7198210.02
 7198210.26
 7198210.50
 0.0088
 0.0032

 Neptune
 14996-12-07 05:16 G
 7198577.48
 7198577.72
 7198577.98
 0.0088
 0.0026

 Neptune
 14997-12-09 16:33 G
 7198944.95
 7198945.19
 7198945.45
 0.0088
 0.0020

 Neptune
 14998-12-12 04:04 G
 7199312.42
 7199312.67
 7199312.93
 0.0088
 0.0001

 Neptune
 14999-12-14 15:21 G
 7199679.89
 7199680.14
 7199680.41
 0.0088
 0.0007

 Neptune
 15000-12-17 02:38 G
 7200047.35
 7200047.61
 7200047.87
 0.0088
 0.0000

## 16TH MILLENNIUM CE

## This is a list of transits of Earth in the 16th millennium CE.

FROM	MAX-	С	START	MAX	END	SUNRAD	DEPTH	S
	TRANSIT							
	TIME							

Jupiter 15001-05-04 12:57 G 7200185.83 7200186.04 7200186.26 0.0545 0.0203

Neptune 15001-12-19 14:09 G 7200414.83 7200415.09 7200415.35 0.0088 0.0006

Neptune 15002-12-22 01:26 G 7200782.31 7200782.56 7200782.82 0.0088 0.0013

Neptune 15003-12-24 12:57 G 7201149.79 7201150.04 7201150.30 0.0088 0.0019

Saturn 15004-10-30 20:52 G 7201461.19 7201461.37 7201461.58 0.0283 0.0169

Neptune 15004-12-26 00:14 G 7201517.28 7201517.51 7201517.77 0.0088 0.0026

Neptune 15005-12-28 12:00 G 7201884.77 7201885.00 7201885.25 0.0088 0.0032

Jupiter 15006-10-20 15:36 G 7202181.09 7202181.15 7202181.21 0.0485 0.0467

Neptune 15006-12-30 23:31 G 7202252.27 7202252.48 7202252.73 0.0088 0.0039

Jupiter 15007-11-19 10:33 G 7202575.75 7202575.94 7202576.13 0.0484 0.0287

Neptune 15008-01-02 11:16 G 7202619.77 7202619.97 7202620.21 0.0088 0.0046

Neptune 15010-01-06 11:31 G 7203354.79 7203354.98 7203355.18 0.0088 0.0058 Neptune 15011-01-08 23:45 G 7203722.32 7203722.49 7203722.67 0.0088 0.0064 Neptune 15012-01-11 11:45 G 7204089.83 7204089.99 7204090.15 0.0088 0.0070 Neptune 15013-01-12 23:45 G 7204457.36 7204457.49 7204457.63 0.0088 0.0076 Jupiter 15013-05-09 18:43 G 7204574.05 7204574.28 7204574.52 0.0544 0.0050 Neptune 15014-01-15 11:45 G 7204824.90 7204824.99 7204825.10 0.0088 0.0082 Neptune 15015-01-17 23:31 G 7205192.47 7205192.48 7205192.55 0.0088 0.0088 Jupiter 15018-10-24 18:28 G 7206568.12 7206568.27 7206568.43 0.0485 0.0367 Saturn 15019-05-02 06:14 G 7206757.53 7206757.76 7206758.00 0.0277 0.0096 Jupiter 15019-11-23 14:52 G 7206962.99 7206963.12 7206963.27 0.0485 0.0391 Jupiter 15025-05-15 02:09 G 7208962.36 7208962.59 7208962.82 0.0544 0.0109 Uranus 15029-02-28 16:04 G 7210348.01 7210348.17 7210348.34 0.0133 0.0103 Mars 15029-08-12 05:31 G 7210512.69 7210512.73 7210512.78 0.1704 0.1646 Uranus 15030-03-05 00:57 G 7210717.31 7210717.54 7210717.78 0.0133 0.0058 Jupiter 15030-10-28 21:36 G 7210955.21 7210955.40 7210955.60 0.0484 0.0264 Uranus 15031-03-09 09:21 G 7211086.64 7211086.89 7211087.15 0.0133 0.0013 Uranus 15032-03-12 17:31 G 7211456.00 7211456.23 7211456.49 0.0133 0.0033 Uranus 15033-03-17 01:55 G 7211825.38 7211825.58 7211825.80 0.0133 0.0077 Saturn 15033-10-25 18:28 G 7212048.03 7212048.27 7212048.51 0.0283 0.0040 Uranus 15034-03-21 09:50 G 7212194.83 7212194.91 7212195.03 0.0133 0.0122 Jupiter 15037-05-20 11:02 G 7213350.76 7213350.96 7213351.16 0.0544 0.0265 Pluto 15041-07-07 03:36 G 7214859.42 7214859.65 7214859.91 0.0064 0.0017 Jupiter 15042-11-02 01:26 G 7215342.35 7215342.56 7215342.79 0.0484 0.0158 Saturn 15048-04-25 22:33 G 7217344.22 7217344.44 7217344.67 0.0276 0.0116 Jupiter 15049-05-25 22:04 G 7217739.28 7217739.42 7217739.57 0.0544 0.0424 Jupiter 15054-11-06 04:19 G 7219729.45 7219729.68 7219729.92 0.0484 0.0052 Jupiter 15060-04-22 14:52 G 7221724.12 7221724.12 7221724.14 0.0543 0.0543 Saturn 15062-10-19 23:45 G 7222634.46 7222634.49 7222634.55 0.0283 0.0277 Saturn 15063-11-02 07:26 G 7223012.69 7223012.81 7223012.95 0.0283 0.0235 Jupiter 15066-11-10 08:38 G 7224116.63 7224116.86 7224117.09 0.0484 0.0056

Neptune 15069-05-21 03:36 G 7225039.58 7225039.65 7225039.75 0.0089 0.0084 Neptune 15070-05-23 16:33 G 7225407.07 7225407.19 7225407.32 0.0089 0.0078 Neptune 15071-05-26 04:48 G 7225774.56 7225774.70 7225774.86 0.0089 0.0072 Uranus 15071-08-28 14:24 G 7225869.00 7225869.10 7225869.20 0.0145 0.0132 Jupiter 15072-04-27 22:19 G 7226112.28 7226112.43 7226112.60 0.0543 0.0395 Neptune 15072-05-27 17:31 G 7226142.07 7226142.23 7226142.42 0.0089 0.0066 Uranus 15072-09-01 13:26 G 7226238.85 7226239.06 7226239.28 0.0145 0.0075 Neptune 15073-05-30 06:00 G 7226509.58 7226509.75 7226509.96 0.0089 0.0060 Uranus 15073-09-06 13:12 G 7226608.80 7226609.05 7226609.30 0.0145 0.0018 Neptune 15074-06-01 18:28 G 7226877.09 7226877.27 7226877.50 0.0089 0.0054 Uranus 15074-09-11 12:57 G 7226978.80 7226979.04 7226979.28 0.0146 0.0041 Neptune 15075-06-04 07:12 G 7227244.59 7227244.80 7227245.03 0.0089 0.0047 Uranus 15075-09-16 12:57 G 7227348.87 7227349.04 7227349.23 0.0146 0.0099 Neptune 15076-06-05 19:26 G 7227612.10 7227612.31 7227612.56 0.0089 0.0041 Neptune 15077-06-08 07:55 G 7227979.60 7227979.83 7227980.08 0.0089 0.0034 Saturn 15078-05-03 14:52 G 7228308.92 7228309.12 7228309.32 0.0277 0.0159 Neptune 15078-06-10 19:55 G 7228347.10 7228347.33 7228347.59 0.0089 0.0028 Jupiter 15078-11-14 12:14 G 7228503.79 7228504.01 7228504.23 0.0484 0.0161 Neptune 15079-06-13 08:09 G 7228714.60 7228714.84 7228715.10 0.0089 0.0021 Neptune 15080-06-14 20:09 G 7229082.10 7229082.34 7229082.61 0.0089 0.0014 Neptune 15081-06-17 08:24 G 7229449.60 7229449.85 7229450.11 0.0089 0.0008 Neptune 15082-06-19 20:24 G 7229817.09 7229817.35 7229817.61 0.0089 0.0001 Neptune 15083-06-22 08:24 G 7230184.59 7230184.85 7230185.11 0.0089 0.0006 Jupiter 15084-05-03 06:00 G 7230500.54 7230500.75 7230500.96 0.0544 0.0238 Neptune 15084-06-23 20:24 G 7230552.09 7230552.35 7230552.60 0.0089 0.0013 Neptune 15085-06-26 08:09 G 7230919.60 7230919.84 7230920.10 0.0089 0.0019 Neptune 15086-06-28 20:09 G 7231287.10 7231287.34 7231287.59 0.0089 0.0026 Neptune 15087-07-01 07:40 G 7231654.59 7231654.82 7231655.07 0.0089 0.0032 Neptune 15088-07-02 19:26 G 7232022.09 7232022.31 7232022.55 0.0089 0.0039 Neptune 15089-07-05 06:43 G 7232389.58 7232389.78 7232390.02 0.0089 0.0045

Neptune 15090-07-07 18:14 G 7232757.07 7232757.26 7232757.49 0.0089 0.0051 Jupiter 15090-11-18 15:07 G 7232890.94 7232891.13 7232891.33 0.0484 0.0263 Neptune 15091-07-10 05:31 G 7233124.55 7233124.73 7233124.94 0.0089 0.0057 Neptune 15092-07-11 17:02 G 7233492.05 7233492.21 7233492.41 0.0089 0.0063 Saturn 15092-10-27 05:45 G 7233599.49 7233599.74 7233599.98 0.0283 0.0029 Neptune 15093-07-14 04:04 G 7233859.53 7233859.67 7233859.85 0.0089 0.0069 Neptune 15094-07-16 15:21 G 7234227.03 7234227.14 7234227.30 0.0089 0.0075 Neptune 15095-07-19 02:09 G 7234594.52 7234594.59 7234594.73 0.0089 0.0081 Jupiter 15096-05-08 13:40 G 7234888.84 7234889.07 7234889.30 0.0545 0.0084 Neptune 15096-07-20 13:40 G 7234962.03 7234962.07 7234962.15 0.0089 0.0086 Jupiter 15101-10-25 00:57 G 7236883.40 7236883.54 7236883.68 0.0485 0.0382 Jupiter 15102-11-23 19:40 G 7237278.17 7237278.32 7237278.47 0.0485 0.0369 Saturn 15107-04-29 09:07 G 7238895.64 7238895.88 7238896.12 0.0276 0.0050 Jupiter 15108-05-15 01:26 G 7239277.33 7239277.56 7239277.79 0.0545 0.0080 15108-08-15 13:40 G 7239369.88 7239370.07 7239370.26 0.1699 0.0101 Mars Uranus 15113-03-02 05:31 G 7241029.57 7241029.73 7241029.91 0.0133 0.0098 Jupiter 15113-10-29 03:36 G 7241270.46 7241270.65 7241270.84 0.0484 0.0278 Uranus 15114-03-06 14:24 G 7241398.87 7241399.10 7241399.34 0.0133 0.0053 Jupiter 15114-11-27 23:45 G 7241665.44 7241665.49 7241665.54 0.0485 0.0472 Uranus 15115-03-10 23:02 G 7241768.21 7241768.46 7241768.72 0.0133 0.0008 Uranus 15116-03-14 07:26 G 7242137.56 7242137.81 7242138.06 0.0133 0.0037 Uranus 15117-03-18 15:36 G 7242506.96 7242507.15 7242507.36 0.0133 0.0082 Uranus 15118-03-22 23:31 G 7242876.43 7242876.48 7242876.58 0.0133 0.0127 Jupiter 15120-05-20 12:28 G 7243665.82 7243666.02 7243666.23 0.0544 0.0241 Saturn 15121-10-22 12:00 G 7244185.83 7244186.00 7244186.16 0.0283 0.0207 Jupiter 15125-11-02 07:26 G 7245657.59 7245657.81 7245658.03 0.0484 0.0173 15130-01-05 05:02 G 7247182.65 7247182.71 7247182.84 0.0080 0.0075 Jupiter 15132-05-25 18:28 G 7248054.11 7248054.27 7248054.43 0.0543 0.0390 Saturn 15136-04-23 01:55 G 7249482.51 7249482.58 7249482.68 0.0277 0.0259 Saturn 15137-05-05 23:45 G 7249860.35 7249860.49 7249860.64 0.0277 0.0222

Jupiter 15137-11-06 10:04 G 7250044.69 7250044.92 7250045.15 0.0484 0.0071 Jupiter 15144-05-31 00:00 G 7252442.48 7252442.50 7252442.54 0.0543 0.0538 Jupiter 15149-11-10 13:12 G 7254431.81 7254432.05 7254432.28 0.0484 0.0034 Neptune 15150-11-16 22:19 G 7254803.41 7254803.43 7254803.51 0.0088 0.0086 Saturn 15151-10-30 17:31 G 7255151.01 7255151.23 7255151.46 0.0283 0.0098 Neptune 15151-11-19 09:36 G 7255170.81 7255170.90 7255171.01 0.0088 0.0080 Neptune 15152-11-20 19:55 G 7255538.22 7255538.33 7255538.48 0.0088 0.0075 Neptune 15153-11-23 06:57 G 7255905.64 7255905.79 7255905.96 0.0088 0.0069 Neptune 15154-11-25 17:16 G 7256273.07 7256273.22 7256273.42 0.0088 0.0064 Jupiter 15155-04-28 15:07 G 7256426.99 7256427.13 7256427.28 0.0544 0.0428 Uranus 15155-08-30 03:21 G 7256550.53 7256550.64 7256550.76 0.0145 0.0129 Neptune 15155-11-28 04:04 G 7256640.50 7256640.67 7256640.89 0.0088 0.0058 Uranus 15156-09-03 02:24 G 7256920.39 7256920.60 7256920.83 0.0145 0.0071 Neptune 15156-11-29 15:07 G 7257007.94 7257008.13 7257008.35 0.0088 0.0052 Uranus 15157-09-08 02:09 G 7257290.34 7257290.59 7257290.85 0.0145 0.0013 Neptune 15157-12-02 01:55 G 7257375.38 7257375.58 7257375.82 0.0088 0.0046 Uranus 15158-09-13 02:09 G 7257660.36 7257660.59 7257660.83 0.0146 0.0045 Neptune 15158-12-04 12:57 G 7257742.82 7257743.04 7257743.28 0.0088 0.0040 Uranus 15159-09-18 02:24 G 7258030.44 7258030.60 7258030.79 0.0146 0.0104 Neptune 15159-12-07 00:00 G 7258110.27 7258110.50 7258110.75 0.0088 0.0034 Neptune 15160-12-08 11:02 G 7258477.73 7258477.96 7258478.22 0.0088 0.0028 Jupiter 15161-11-14 17:16 G 7258819.00 7258819.22 7258819.44 0.0484 0.0140 Neptune 15161-12-10 22:04 G 7258845.19 7258845.42 7258845.69 0.0088 0.0022 Neptune 15162-12-13 09:36 G 7259212.66 7259212.90 7259213.17 0.0088 0.0016 Neptune 15163-12-15 20:52 G 7259580.12 7259580.37 7259580.63 0.0088 0.0009 Neptune 15164-12-17 08:24 G 7259947.59 7259947.85 7259948.11 0.0088 0.0003 Neptune 15165-12-19 19:40 G 7260315.06 7260315.32 7260315.58 0.0088 0.0003 Saturn 15166-04-30 19:55 G 7260447.08 7260447.33 7260447.57 0.0276 0.0016 Neptune 15166-12-22 06:57 G 7260682.54 7260682.79 7260683.05 0.0088 0.0010 Jupiter 15167-05-04 02:38 G 7260815.41 7260815.61 7260815.82 0.0545 0.0268

Neptune 15167-12-24 18:14 G 7261050.02 7261050.26 7261050.53 0.0088 0.0016 Neptune 15168-12-26 05:31 G 7261417.49 7261417.73 7261418.00 0.0088 0.0022 Neptune 15169-12-28 17:16 G 7261784.98 7261785.22 7261785.47 0.0088 0.0028 Neptune 15170-12-31 04:48 G 7262152.47 7262152.70 7262152.95 0.0088 0.0034 Neptune 15172-01-02 16:33 G 7262519.96 7262520.19 7262520.42 0.0088 0.0041 Neptune 15173-01-04 04:04 G 7262887.46 7262887.67 7262887.90 0.0088 0.0047 Jupiter 15173-11-18 20:24 G 7263206.15 7263206.35 7263206.55 0.0484 0.0246 Neptune 15174-01-06 15:36 G 7263254.97 7263255.15 7263255.38 0.0088 0.0053 Neptune 15175-01-09 03:50 G 7263622.48 7263622.66 7263622.86 0.0088 0.0059 Neptune 15176-01-11 16:04 G 7263990.00 7263990.17 7263990.35 0.0088 0.0065 Neptune 15177-01-13 03:50 G 7264357.52 7264357.66 7264357.83 0.0088 0.0070 Neptune 15178-01-1515:36 G 7264725.05 7264725.15 7264725.31 0.0088 0.0077 Neptune 15179-01-18 04:19 G 7265092.59 7265092.68 7265092.78 0.0088 0.0082 Jupiter 15179-05-09 15:07 G 7265203.90 7265204.13 7265204.35 0.0545 0.0107 Neptune 15180-01-20 15:50 G 7265460.15 7265460.16 7265460.22 0.0088 0.0088 Saturn 15180-10-23 23:45 G 7265737.28 7265737.49 7265737.71 0.0283 0.0138 Jupiter 15184-10-24 06:14 G 7267198.63 7267198.76 7267198.90 0.0485 0.0396 Jupiter 15185-11-23 01:26 G 7267593.40 7267593.56 7267593.72 0.0485 0.0351 Mars 15187-08-18 20:24 G 7268227.25 7268227.35 7268227.45 0.1694 0.1404 Jupiter 15191-05-14 23:02 G 7269592.23 7269592.46 7269592.69 0.0544 0.0048 Saturn 15195-04-25 11:31 G 7271033.81 7271033.98 7271034.16 0.0277 0.0195 Jupiter 15196-10-28 08:38 G 7271585.67 7271585.86 7271586.04 0.0485 0.0297 Uranus 15197-03-02 18:43 G 7271711.12 7271711.28 7271711.48 0.0133 0.0095 Jupiter 15197-11-27 05:45 G 7271980.66 7271980.74 7271980.82 0.0485 0.0453 Uranus 15198-03-07 03:50 G 7272080.43 7272080.66 7272080.91 0.0133 0.0049 Uranus 15199-03-11 12:28 G 7272449.76 7272450.02 7272450.28 0.0133 0.0004 Uranus 15200-03-14 20:52 G 7272819.13 7272819.37 7272819.62 0.0133 0.0042 Uranus 15201-03-19 05:02 G 7273188.53 7273188.71 7273188.92 0.0133 0.0087 Uranus 15202-03-23 13:40 G 7273558.03 7273558.07 7273558.10 0.0133 0.0131 Jupiter 15203-05-20 06:14 G 7273980.54 7273980.76 7273980.97 0.0544 0.0203

Jupiter 15208-11-01 11:45 G 7275972.78 7275972.99 7275973.21 0.0484 0.0194 Saturn 15210-11-01 05:02 G 7276702.52 7276702.71 7276702.91 0.0283 0.0166 15213-02-14 11:16 G 7277538.77 7277538.97 7277539.17 0.1836 0.0263 Mars Jupiter 15215-05-25 12:14 G 7278368.83 7278369.01 7278369.18 0.0544 0.0355 Jupiter 15220-11-05 16:19 G 7280359.95 7280360.18 7280360.41 0.0484 0.0088 Saturn 15225-05-02 06:14 G 7281998.53 7281998.76 7281999.00 0.0276 0.0081 Jupiter 15227-05-30 22:33 G 7282757.36 7282757.44 7282757.52 0.0544 0.0508 Neptune 15232-05-18 19:12 G 7284572.30 7284572.30 7284572.34 0.0090 0.0089 Jupiter 15232-11-09 18:57 G 7284747.05 7284747.29 7284747.52 0.0483 0.0018 Neptune 15233-05-21 07:55 G 7284939.76 7284939.83 7284939.94 0.0090 0.0084 Neptune 15234-05-23 20:52 G 7285307.25 7285307.37 7285307.50 0.0090 0.0078 Neptune 15235-05-26 09:07 G 7285674.75 7285674.88 7285675.05 0.0090 0.0073 Neptune 15236-05-27 21:36 G 7286042.26 7286042.40 7286042.60 0.0089 0.0067 Neptune 15237-05-30 10:19 G 7286409.77 7286409.93 7286410.14 0.0089 0.0061 Jupiter 15238-04-27 16:33 G 7286742.07 7286742.19 7286742.33 0.0544 0.0448 Neptune 15238-06-01 22:48 G 7286777.27 7286777.45 7286777.68 0.0089 0.0055 Neptune 15239-06-04 12:00 G 7287144.79 7287145.00 7287145.22 0.0089 0.0048 Uranus 15239-08-30 13:40 G 7287231.97 7287232.07 7287232.22 0.0145 0.0126 Saturn 15239-10-26 11:16 G 7287288.73 7287288.97 7287289.21 0.0283 0.0069 Neptune 15240-06-06 00:14 G 7287512.30 7287512.51 7287512.75 0.0089 0.0042 Uranus 15240-09-03 13:12 G 7287601.84 7287602.05 7287602.29 0.0145 0.0069 Neptune 15241-06-08 12:43 G 7287879.81 7287880.03 7287880.28 0.0089 0.0036 Uranus 15241-09-08 13:26 G 7287971.81 7287972.06 7287972.31 0.0145 0.0010 Neptune 15242-06-11 00:57 G 7288247.31 7288247.54 7288247.80 0.0089 0.0029 Uranus 15242-09-13 13:12 G 7288341.83 7288342.05 7288342.30 0.0146 0.0050 Neptune 15243-06-13 13:26 G 7288614.81 7288615.06 7288615.31 0.0089 0.0023 Uranus 15243-09-18 13:40 G 7288711.91 7288712.07 7288712.25 0.0146 0.0108 Neptune 15244-06-15 01:40 G 7288982.32 7288982.57 7288982.83 0.0089 0.0016 Jupiter 15244-11-13 23:02 G 7289134.24 7289134.46 7289134.69 0.0484 0.0124 Neptune 15245-06-17 13:26 G 7289349.81 7289350.06 7289350.32 0.0089 0.0010

Neptune 15246-06-20 01:40 G 7289717.31 7289717.57 7289717.83 0.0089 0.0004 Neptune 15247-06-22 13:26 G 7290084.81 7290085.06 7290085.32 0.0089 0.0003 Neptune 15248-06-24 01:26 G 7290452.31 7290452.56 7290452.82 0.0089 0.0009 Neptune 15249-06-26 13:12 G 7290819.80 7290820.05 7290820.31 0.0089 0.0016 Jupiter 15250-05-03 02:24 G 7291130.41 7291130.60 7291130.80 0.0544 0.0295 Neptune 15250-06-29 00:57 G 7291187.30 7291187.54 7291187.80 0.0089 0.0022 Neptune 15251-07-01 12:43 G 7291554.80 7291555.03 7291555.29 0.0089 0.0029 Neptune 15252-07-03 00:43 G 7291922.30 7291922.53 7291922.78 0.0089 0.0035 Neptune 15253-07-05 12:28 G 7292289.80 7292290.02 7292290.26 0.0089 0.0041 Saturn 15254-04-26 20:38 G 7292585.14 7292585.36 7292585.58 0.0277 0.0132 Neptune 15254-07-07 23:45 G 7292657.29 7292657.49 7292657.73 0.0089 0.0047 Neptune 15255-07-10 11:45 G 7293024.79 7293024.99 7293025.20 0.0089 0.0053 Neptune 15256-07-11 23:16 G 7293392.28 7293392.47 7293392.66 0.0089 0.0059 Jupiter 15256-11-18 02:09 G 7293521.39 7293521.59 7293521.80 0.0484 0.0227 Neptune 15257-07-14 10:19 G 7293759.77 7293759.93 7293760.12 0.0089 0.0064 Neptune 15258-07-16 21:21 G 7294127.26 7294127.39 7294127.57 0.0089 0.0070 Neptune 15259-07-19 09:07 G 7294494.75 7294494.88 7294495.02 0.0089 0.0075 Neptune 15260-07-20 19:55 G 7294862.25 7294862.33 7294862.46 0.0089 0.0081 Neptune 15261-07-23 07:12 G 7295229.75 7295229.80 7295229.87 0.0089 0.0086 Jupiter 15262-05-08 10:19 G 7295518.71 7295518.93 7295519.16 0.0544 0.0139 Jupiter 15267-10-24 11:16 G 7297513.85 7297513.97 7297514.09 0.0485 0.0414 Saturn 15268-10-20 07:12 G 7297875.77 7297875.80 7297875.85 0.0282 0.0279 Jupiter 15268-11-22 06:00 G 7297908.59 7297908.75 7297908.93 0.0484 0.0328 Saturn 15269-11-02 14:52 G 7298253.99 7298254.12 7298254.27 0.0283 0.0231 Jupiter 15274-05-13 15:50 G 7299906.92 7299907.16 7299907.39 0.0545 0.0016 Jupiter 15279-10-28 15:50 G 7301900.99 7301901.16 7301901.35 0.0484 0.0310 Jupiter 15280-11-26 11:02 G 7302295.86 7302295.96 7302296.07 0.0485 0.0433 Uranus 15281-03-03 09:07 G 7302392.69 7302392.88 7302393.07 0.0133 0.0090 Uranus 15282-03-07 17:45 G 7302762.01 7302762.24 7302762.49 0.0133 0.0044 Uranus 15283-03-12 02:38 G 7303131.35 7303131.61 7303131.87 0.0133 0.0001

Uranus 15284-03-15 10:48 G 7303500.72 7303500.95 7303501.21 0.0133 0.0047 Saturn 15284-05-03 15:36 G 7303549.95 7303550.15 7303550.37 0.0276 0.0145 Uranus 15285-03-19 19:12 G 7303870.13 7303870.30 7303870.50 0.0133 0.0092 Jupiter 15286-05-19 02:38 G 7304295.39 7304295.61 7304295.84 0.0545 0.0173 Pluto 15287-07-10 11:45 G 7304712.73 7304712.99 7304713.24 0.0064 0.0004 Jupiter 15291-11-01 18:43 G 7306288.08 7306288.28 7306288.50 0.0484 0.0208 Jupiter 15298-05-24 14:38 G 7308683.93 7308684.11 7308684.29 0.0544 0.0331 Saturn 15298-10-27 21:07 G 7308840.14 7308840.38 7308840.62 0.0283 0.0004 Jupiter 15303-11-06 22:33 G 7310675.22 7310675.44 7310675.67 0.0484 0.0102 Jupiter 15310-05-30 23:02 G 7313072.35 7313072.46 7313072.57 0.0543 0.0478 Saturn 15313-04-29 04:48 G 7314136.46 7314136.70 7314136.94 0.0276 0.0071 15313-08-15 01:40 G 7314244.43 7314244.57 7314244.71 0.1711 0.1128 Mars Neptune 15314-11-17 05:02 G 7314703.66 7314703.71 7314703.78 0.0088 0.0085 Jupiter 15315-11-11 01:12 G 7315062.32 7315062.55 7315062.78 0.0484 0.0002 Neptune 15315-11-19 15:07 G 7315071.05 7315071.13 7315071.25 0.0088 0.0080 Neptune 15316-11-21 01:55 G 7315438.47 7315438.58 7315438.73 0.0088 0.0075 Neptune 15317-11-23 12:28 G 7315805.89 7315806.02 7315806.20 0.0088 0.0070 Neptune 15318-11-25 23:16 G 7316173.31 7316173.47 7316173.66 0.0088 0.0064 Neptune 15319-11-28 09:50 G 7316540.74 7316540.91 7316541.12 0.0088 0.0059 Neptune 15320-11-29 20:38 G 7316908.17 7316908.36 7316908.58 0.0088 0.0053 Jupiter 15321-04-27 14:38 G 7317057.00 7317057.11 7317057.22 0.0543 0.0473 Neptune 15321-12-02 07:40 G 7317275.61 7317275.82 7317276.05 0.0088 0.0047 Neptune 15322-12-04 18:14 G 7317643.05 7317643.26 7317643.51 0.0088 0.0042 Uranus 15323-09-01 02:52 G 7317913.51 7317913.62 7317913.78 0.0145 0.0122 Neptune 15323-12-07 05:02 G 7318010.49 7318010.71 7318010.97 0.0088 0.0036 Uranus 15324-09-05 02:38 G 7318283.39 7318283.61 7318283.84 0.0145 0.0064 Neptune 15324-12-08 16:04 G 7318377.94 7318378.17 7318378.43 0.0088 0.0030 Uranus 15325-09-10 02:38 G 7318653.36 7318653.61 7318653.86 0.0145 0.0005 Neptune 15325-12-11 03:07 G 7318745.40 7318745.63 7318745.90 0.0088 0.0024 Uranus 15326-09-15 02:38 G 7319023.38 7319023.61 7319023.85 0.0146 0.0054

Neptune 15326-12-13 14:09 G 7319112.85 7319113.09 7319113.36 0.0088 0.0018 Uranus 15327-09-20 02:52 G 7319393.47 7319393.62 7319393.79 0.0146 0.0113 Saturn 15327-10-23 15:21 G 7319426.98 7319427.14 7319427.29 0.0283 0.0217 Jupiter 15327-11-15 05:02 G 7319449.49 7319449.71 7319449.94 0.0484 0.0105 Neptune 15327-12-16 01:40 G 7319480.32 7319480.57 7319480.83 0.0088 0.0012 Neptune 15328-12-17 12:57 G 7319847.79 7319848.04 7319848.30 0.0088 0.0006 Neptune 15329-12-20 00:28 G 7320215.26 7320215.52 7320215.78 0.0088 0.0001 Neptune 15330-12-22 11:45 G 7320582.74 7320582.99 7320583.25 0.0088 0.0007 Neptune 15331-12-24 23:02 G 7320950.21 7320950.46 7320950.72 0.0088 0.0013 Neptune 15332-12-26 10:19 G 7321317.69 7321317.93 7321318.20 0.0088 0.0019 Jupiter 15333-05-02 18:43 G 7321445.09 7321445.28 7321445.47 0.0544 0.0327 Neptune 15333-12-28 21:50 G 7321685.17 7321685.41 7321685.67 0.0088 0.0025 Neptune 15334-12-31 09:36 G 7322052.66 7322052.90 7322053.15 0.0088 0.0031 Neptune 15336-01-02 21:07 G 7322420.15 7322420.38 7322420.62 0.0088 0.0036 Neptune 15337-01-04 08:38 G 7322787.64 7322787.86 7322788.10 0.0088 0.0043 Neptune 15338-01-06 20:09 G 7323155.14 7323155.34 7323155.57 0.0088 0.0049 Neptune 15339-01-09 07:55 G 7323522.64 7323522.83 7323523.05 0.0088 0.0054 Jupiter 15339-11-19 09:50 G 7323836.70 7323836.91 7323837.12 0.0484 0.0210 Neptune 15340-01-11 19:26 G 7323890.15 7323890.31 7323890.53 0.0088 0.0061 Neptune 15341-01-13 07:55 G 7324257.67 7324257.83 7324258.01 0.0088 0.0065 Neptune 15342-01-15 19:40 G 7324625.20 7324625.32 7324625.50 0.0088 0.0072 Saturn 15342-04-24 03:07 G 7324723.60 7324723.63 7324723.69 0.0276 0.0270 Neptune 15343-01-18 07:55 G 7324992.72 7324992.83 7324992.97 0.0088 0.0077 Saturn 15343-05-07 00:00 G 7325101.34 7325101.50 7325101.67 0.0276 0.0205 Neptune 15344-01-20 20:24 G 7325360.26 7325360.35 7325360.45 0.0088 0.0082 Neptune 15345-01-22 07:55 G 7325727.82 7325727.83 7325727.90 0.0088 0.0088 Jupiter 15345-05-08 05:45 G 7325833.52 7325833.74 7325833.96 0.0545 0.0169 Jupiter 15350-10-24 19:26 G 7327829.20 7327829.31 7327829.43 0.0485 0.0425 Jupiter 15351-11-23 13:12 G 7328223.88 7328224.05 7328224.23 0.0484 0.0312 Jupiter 15357-05-13 18:28 G 7330222.04 7330222.27 7330222.51 0.0545 0.0013

Saturn 15357-10-30 05:02 G 7330391.47 7330391.71 7330391.95 0.0283 0.0058 Jupiter 15362-10-28 23:31 G 7332216.31 7332216.48 7332216.66 0.0484 0.0322 Jupiter 15363-11-27 18:00 G 7332611.14 7332611.25 7332611.38 0.0485 0.0417 Uranus 15364-02-29 13:40 G 7332705.03 7332705.07 7332705.13 0.0133 0.0131 Uranus 15365-03-04 22:48 G 7333074.27 7333074.45 7333074.67 0.0133 0.0085 Uranus 15366-03-09 07:55 G 7333443.59 7333443.83 7333444.08 0.0133 0.0040 Uranus 15367-03-13 16:48 G 7333812.94 7333813.20 7333813.46 0.0133 0.0006 Uranus 15368-03-17 01:12 G 7334182.32 7334182.55 7334182.79 0.0133 0.0052 Uranus 15369-03-21 09:21 G 7334551.73 7334551.89 7334552.08 0.0133 0.0097 Jupiter 15369-05-19 05:31 G 7334610.51 7334610.73 7334610.95 0.0544 0.0147 Saturn 15372-04-30 11:45 G 7335687.74 7335687.99 7335688.23 0.0276 0.0012 Jupiter 15374-11-02 01:40 G 7336603.36 7336603.57 7336603.78 0.0484 0.0222 Pluto 15376-01-08 17:16 G 7337035.99 7337036.22 7337036.46 0.0080 0.0034 Jupiter 15381-05-24 13:12 G 7338998.86 7338999.05 7338999.25 0.0544 0.0302 Saturn 15386-10-24 20:09 G 7340978.15 7340978.34 7340978.55 0.0283 0.0161 Jupiter 15386-11-06 06:00 G 7340990.52 7340990.75 7340990.97 0.0484 0.0118 Mars 15392-08-17 10:04 G 7343101.73 7343101.92 7343102.10 0.1706 0.0448 Jupiter 15393-05-29 17:02 G 7343387.09 7343387.21 7343387.35 0.0544 0.0447 Neptune 15396-05-18 22:33 G 7344472.42 7344472.44 7344472.49 0.0090 0.0089 Neptune 15397-05-21 11:02 G 7344839.89 7344839.96 7344840.07 0.0090 0.0084 Neptune 15398-05-24 00:14 G 7345207.39 7345207.51 7345207.64 0.0090 0.0078 Jupiter 15398-11-10 10:48 G 7345377.71 7345377.95 7345378.18 0.0484 0.0015 Neptune 15399-05-26 12:28 G 7345574.89 7345575.02 7345575.19 0.0090 0.0073 Neptune 15400-05-29 01:26 G 7345942.40 7345942.56 7345942.75 0.0090 0.0067 Saturn 15401-04-26 10:48 G 7346274.80 7346274.95 7346275.12 0.0276 0.0211 Neptune 15401-05-31 14:09 G 7346309.91 7346310.09 7346310.29 0.0090 0.0061 Saturn 15402-05-09 06:57 G 7346652.73 7346652.79 7346652.87 0.0276 0.0263 Neptune 15402-06-03 02:52 G 7346677.42 7346677.62 7346677.83 0.0089 0.0055 Neptune 15403-06-05 15:07 G 7347044.93 7347045.13 7347045.36 0.0089 0.0050 Jupiter 15404-04-27 09:07 G 7347371.80 7347371.88 7347371.97 0.0543 0.0501

Neptune 15404-06-07 03:36 G 7347412.45 7347412.65 7347412.90 0.0089 0.0044 Neptune 15405-06-09 16:04 G 7347779.96 7347780.17 7347780.43 0.0089 0.0038 Neptune 15406-06-12 05:02 G 7348147.47 7348147.71 7348147.96 0.0089 0.0031 Neptune 15407-06-14 17:45 G 7348514.99 7348515.24 7348515.49 0.0089 0.0025 Uranus 15407-09-02 14:24 G 7348594.97 7348595.10 7348595.26 0.0145 0.0118 Neptune 15408-06-16 05:45 G 7348882.50 7348882.74 7348883.00 0.0089 0.0019 Uranus 15408-09-06 13:55 G 7348964.86 7348965.08 7348965.32 0.0145 0.0060 Neptune 15409-06-18 18:14 G 7349250.01 7349250.26 7349250.52 0.0089 0.0012 Uranus 15409-09-11 14:09 G 7349334.83 7349335.09 7349335.34 0.0145 0.0002 Neptune 15410-06-21 06:14 G 7349617.51 7349617.76 7349618.02 0.0089 0.0006 Uranus 15410-09-16 14:09 G 7349704.86 7349705.09 7349705.32 0.0146 0.0058 Jupiter 15410-11-15 13:40 G 7349764.84 7349765.07 7349765.30 0.0483 0.0092 Neptune 15411-06-23 18:28 G 7349985.01 7349985.27 7349985.53 0.0089 0.0000 Uranus 15411-09-21 13:55 G 7350074.95 7350075.08 7350075.25 0.0146 0.0117 Neptune 15412-06-25 06:14 G 7350352.51 7350352.76 7350353.02 0.0089 0.0007 Neptune 15413-06-27 18:00 G 7350720.01 7350720.25 7350720.51 0.0089 0.0013 Neptune 15414-06-30 06:00 G 7351087.51 7351087.75 7351088.01 0.0089 0.0019 Neptune 15415-07-02 18:00 G 7351455.00 7351455.25 7351455.50 0.0089 0.0024 Jupiter 15416-05-02 22:04 G 7351760.25 7351760.42 7351760.60 0.0544 0.0346 Neptune 15416-07-04 05:45 G 7351822.50 7351822.74 7351822.99 0.0089 0.0031 Saturn 15416-11-01 10:19 G 7351942.72 7351942.93 7351943.16 0.0283 0.0116 Neptune 15417-07-06 17:31 G 7352190.00 7352190.23 7352190.47 0.0089 0.0036 Neptune 15418-07-09 05:16 G 7352557.50 7352557.72 7352557.95 0.0089 0.0043 Neptune 15419-07-11 16:48 G 7352925.00 7352925.20 7352925.43 0.0089 0.0048 Neptune 15420-07-13 04:19 G 7353292.50 7353292.68 7353292.90 0.0089 0.0054 Neptune 15421-07-15 16:04 G 7353659.98 7353660.17 7353660.36 0.0089 0.0060 Neptune 15422-07-18 03:07 G 7354027.47 7354027.63 7354027.82 0.0089 0.0065 Jupiter 15422-11-19 18:00 G 7354152.04 7354152.25 7354152.47 0.0484 0.0196 Neptune 15423-07-20 14:52 G 7354394.97 7354395.12 7354395.28 0.0089 0.0070 Neptune 15424-07-22 01:26 G 7354762.45 7354762.56 7354762.71 0.0089 0.0076

Neptune 15425-07-24 12:43 G 7355129.95 7355130.03 7355130.15 0.0089 0.0081 Neptune 15426-07-26 23:45 G 7355497.45 7355497.49 7355497.57 0.0089 0.0086 Jupiter 15428-05-08 10:19 G 7356148.72 7356148.93 7356149.15 0.0544 0.0190 Saturn 15431-05-03 17:02 G 7357238.97 7357239.21 7357239.45 0.0276 0.0044 Jupiter 15433-10-25 02:52 G 7358144.53 7358144.62 7358144.73 0.0485 0.0438 Jupiter 15434-11-23 21:36 G 7358539.22 7358539.40 7358539.58 0.0484 0.0297 Jupiter 15440-05-13 19:40 G 7360537.08 7360537.32 7360537.55 0.0545 0.0034 Saturn 15445-10-26 23:16 G 7362529.25 7362529.47 7362529.71 0.0283 0.0108 Jupiter 15445-10-29 07:40 G 7362531.65 7362531.82 7362531.99 0.0485 0.0335 Jupiter 15446-11-28 02:38 G 7362926.48 7362926.61 7362926.74 0.0485 0.0400 Uranus 15448-03-02 03:50 G 7363386.60 7363386.66 7363386.77 0.0133 0.0126 Uranus 15449-03-06 13:40 G 7363755.86 7363756.07 7363756.27 0.0133 0.0080 Uranus 15450-03-10 22:19 G 7364125.19 7364125.43 7364125.68 0.0133 0.0034 Uranus 15451-03-15 07:12 G 7364494.55 7364494.80 7364495.06 0.0133 0.0012 Uranus 15452-03-18 15:36 G 7364863.93 7364864.15 7364864.39 0.0133 0.0057 Jupiter 15452-05-18 23:45 G 7364925.26 7364925.49 7364925.71 0.0545 0.0116 Uranus 15453-03-22 23:31 G 7365233.34 7365233.48 7365233.66 0.0133 0.0103 Jupiter 15457-11-02 12:43 G 7366918.83 7366919.03 7366919.24 0.0484 0.0231 Saturn 15460-04-27 16:19 G 7367825.98 7367826.18 7367826.39 0.0276 0.0155 Jupiter 15464-05-24 10:04 G 7369313.72 7369313.92 7369314.12 0.0545 0.0273 Jupiter 15469-11-06 16:04 G 7371305.95 7371306.17 7371306.40 0.0484 0.0129 Saturn 15475-11-03 13:26 G 7373493.88 7373494.06 7373494.27 0.0283 0.0169 Jupiter 15476-05-29 22:33 G 7373702.30 7373702.44 7373702.59 0.0544 0.0427 Neptune 15478-11-17 11:02 G 7374603.89 7374603.96 7374604.03 0.0088 0.0084 Neptune 15479-11-19 20:52 G 7374971.30 7374971.37 7374971.51 0.0088 0.0080 Neptune 15480-11-21 08:09 G 7375338.71 7375338.84 7375338.98 0.0088 0.0074 Jupiter 15481-11-10 19:55 G 7375693.10 7375693.33 7375693.57 0.0483 0.0024 Neptune 15481-11-23 18:43 G 7375706.13 7375706.28 7375706.44 0.0088 0.0069 Neptune 15482-11-26 05:16 G 7376073.56 7376073.72 7376073.91 0.0088 0.0064 Neptune 15483-11-28 15:50 G 7376440.99 7376441.16 7376441.37 0.0088 0.0059

Neptune 15484-11-30 03:07 G 7376808.42 7376808.63 7376808.83 0.0088 0.0053 Neptune 15485-12-02 13:26 G 7377175.86 7377176.06 7377176.29 0.0088 0.0048 Neptune 15486-12-05 00:28 G 7377543.29 7377543.52 7377543.75 0.0088 0.0042 Jupiter 15487-04-27 15:36 G 7377687.08 7377687.15 7377687.22 0.0543 0.0516 Neptune 15487-12-07 10:48 G 7377910.73 7377910.95 7377911.20 0.0088 0.0037 Neptune 15488-12-08 22:04 G 7378278.18 7378278.42 7378278.67 0.0088 0.0031 Neptune 15489-12-11 08:38 G 7378645.62 7378645.86 7378646.12 0.0088 0.0026 Saturn 15490-05-04 21:36 G 7378790.17 7378790.40 7378790.63 0.0276 0.0098 Neptune 15490-12-13 19:40 G 7379013.08 7379013.32 7379013.58 0.0088 0.0020 Uranus 15491-09-03 04:19 G 7379276.54 7379276.68 7379276.86 0.0145 0.0113 Neptune 15491-12-16 06:43 G 7379380.53 7379380.78 7379381.04 0.0088 0.0014 Uranus 15492-09-07 04:19 G 7379646.45 7379646.68 7379646.91 0.0145 0.0055 Neptune 15492-12-17 18:00 G 7379747.99 7379748.25 7379748.51 0.0088 0.0008 Uranus 15493-09-12 04:04 G 7380016.42 7380016.67 7380016.92 0.0145 0.0004 Jupiter 15493-11-14 23:02 G 7380080.23 7380080.46 7380080.69 0.0484 0.0078 Neptune 15493-12-20 05:16 G 7380115.46 7380115.72 7380115.98 0.0088 0.0002 Uranus 15494-09-17 03:36 G 7380386.44 7380386.65 7380386.89 0.0146 0.0064 Neptune 15494-12-22 16:19 G 7380482.92 7380483.18 7380483.44 0.0088 0.0004 Uranus 15495-09-22 03:50 G 7380756.54 7380756.66 7380756.81 0.0146 0.0123 Neptune 15495-12-25 03:50 G 7380850.40 7380850.66 7380850.92 0.0088 0.0009 Neptune 15496-12-26 15:07 G 7381217.88 7381218.13 7381218.39 0.0088 0.0015 15497-02-16 05:45 G 7381269.55 7381269.74 7381269.94 0.1826 0.0216 Mars Neptune 15497-12-29 02:24 G 7381585.36 7381585.60 7381585.86 0.0088 0.0021 Neptune 15498-12-31 13:40 G 7381952.83 7381953.07 7381953.33 0.0088 0.0027 Jupiter 15499-05-03 01:12 G 7382075.38 7382075.55 7382075.73 0.0544 0.0364 Neptune 15500-01-03 01:26 G 7382320.32 7382320.56 7382320.80 0.0088 0.0033 Neptune 15501-01-05 12:43 G 7382687.81 7382688.03 7382688.27 0.0088 0.0038 Neptune 15502-01-08 00:00 G 7383055.30 7383055.50 7383055.75 0.0088 0.0045 Neptune 15503-01-10 12:00 G 7383422.79 7383423.00 7383423.22 0.0088 0.0050 Neptune 15504-01-12 23:16 G 7383790.29 7383790.47 7383790.70 0.0088 0.0056

Saturn 15504-10-29 00:28 G 7384080.28 7384080.52 7384080.75 0.0283 0.0058 Neptune 15505-01-14 11:45 G 7384157.80 7384157.99 7384158.18 0.0088 0.0061 Jupiter 15505-11-20 03:50 G 7384467.44 7384467.66 7384467.88 0.0484 0.0183 Neptune 15506-01-16 23:02 G 7384525.31 7384525.46 7384525.65 0.0088 0.0066 Neptune 15507-01-19 11:16 G 7384892.83 7384892.97 7384893.14 0.0088 0.0072 Neptune 15508-01-21 23:31 G 7385260.36 7385260.48 7385260.62 0.0088 0.0077 Neptune 15509-01-23 11:45 G 7385627.90 7385627.99 7385628.09 0.0088 0.0082 Neptune 15510-01-26 00:00 G 7385995.46 7385995.50 7385995.55 0.0088 0.0087 Jupiter 15511-05-09 05:16 G 7386463.51 7386463.72 7386463.93 0.0544 0.0218 Jupiter 15516-10-25 15:07 G 7388460.04 7388460.13 7388460.23 0.0486 0.0443 Jupiter 15517-11-24 09:07 G 7388854.70 7388854.88 7388855.07 0.0484 0.0287 Saturn 15519-04-30 20:24 G 7389377.12 7389377.35 7389377.58 0.0276 0.0102 Jupiter 15523-05-14 15:36 G 7390851.92 7390852.15 7390852.38 0.0545 0.0062 Jupiter 15528-10-29 18:57 G 7392847.13 7392847.29 7392847.45 0.0485 0.0343 Jupiter 15529-11-28 12:28 G 7393241.89 7393242.02 7393242.17 0.0484 0.0387 Uranus 15532-03-03 18:14 G 7394068.17 7394068.26 7394068.38 0.0134 0.0121 Pluto 15532-07-13 08:24 G 7394199.78 7394199.85 7394199.98 0.0064 0.0059 Uranus 15533-03-08 03:50 G 7394437.45 7394437.66 7394437.87 0.0133 0.0075 Pluto 15533-07-14 20:24 G 7394566.12 7394566.35 7394566.59 0.0064 0.0027 Uranus 15534-03-12 12:43 G 7394806.78 7394807.03 7394807.29 0.0133 0.0029 Saturn 15534-11-05 15:21 G 7395045.00 7395045.14 7395045.31 0.0283 0.0220 Uranus 15535-03-16 21:36 G 7395176.15 7395176.40 7395176.66 0.0133 0.0017 Jupiter 15535-05-20 04:48 G 7395240.47 7395240.70 7395240.93 0.0545 0.0097 Uranus 15536-03-20 05:45 G 7395545.53 7395545.74 7395545.98 0.0133 0.0063 Uranus 15537-03-24 13:55 G 7395914.95 7395915.08 7395915.24 0.0133 0.0108 Jupiter 15540-11-02 23:02 G 7397234.27 7397234.46 7397234.67 0.0484 0.0241 Jupiter 15547-05-25 17:16 G 7399629.02 7399629.22 7399629.43 0.0545 0.0255 Saturn 15549-05-07 00:43 G 7400341.33 7400341.53 7400341.75 0.0276 0.0150 Jupiter 15552-11-07 01:40 G 7401621.35 7401621.57 7401621.80 0.0484 0.0140 Jupiter 15559-05-31 02:24 G 7404017.45 7404017.60 7404017.76 0.0544 0.0405

Neptune 15560-05-20 01:12 G 7404372.52 7404372.55 7404372.61 0.0090 0.0088 Neptune 15561-05-22 14:09 G 7404740.01 7404740.09 7404740.21 0.0090 0.0083 Neptune 15562-05-25 02:52 G 7405107.52 7405107.62 7405107.77 0.0090 0.0078 Neptune 15563-05-27 15:36 G 7405475.03 7405475.15 7405475.33 0.0090 0.0073 Saturn 15563-10-30 23:45 G 7405631.25 7405631.49 7405631.74 0.0283 0.0012 Neptune 15564-05-29 04:33 G 7405842.54 7405842.69 7405842.88 0.0090 0.0067 Jupiter 15564-11-11 06:43 G 7406008.54 7406008.78 7406009.01 0.0484 0.0034 Neptune 15565-05-31 16:48 G 7406210.04 7406210.20 7406210.41 0.0090 0.0062 Neptune 15566-06-03 05:45 G 7406577.55 7406577.74 7406577.96 0.0090 0.0056 Neptune 15567-06-05 18:43 G 7406945.07 7406945.28 7406945.49 0.0090 0.0050 Neptune 15568-06-07 06:43 G 7407312.58 7407312.78 7407313.02 0.0090 0.0045 Neptune 15569-06-09 19:26 G 7407680.09 7407680.31 7407680.55 0.0089 0.0039 Jupiter 15570-04-27 11:31 G 7408001.96 7408001.98 7408002.00 0.0543 0.0539 Neptune 15570-06-12 08:09 G 7408047.61 7408047.84 7408048.09 0.0089 0.0033 Neptune 15571-06-14 20:38 G 7408415.12 7408415.36 7408415.61 0.0089 0.0027 Neptune 15572-06-16 09:21 G 7408782.64 7408782.89 7408783.14 0.0089 0.0021 Neptune 15573-06-18 21:36 G 7409150.15 7409150.40 7409150.65 0.0089 0.0015 Neptune 15574-06-21 10:04 G 7409517.66 7409517.92 7409518.17 0.0089 0.0009 Neptune 15575-06-23 22:04 G 7409885.17 7409885.42 7409885.68 0.0089 0.0003 Uranus 15575-09-04 17:02 G 7409958.05 7409958.21 7409958.38 0.0145 0.0108 Neptune 15576-06-25 10:04 G 7410252.67 7410252.92 7410253.18 0.0089 0.0004 Uranus 15576-09-08 16:19 G 7410327.95 7410328.18 7410328.42 0.0145 0.0050 Jupiter 15576-11-15 11:31 G 7410395.75 7410395.98 7410396.22 0.0484 0.0071 Neptune 15577-06-27 22:04 G 7410620.17 7410620.42 7410620.68 0.0089 0.0010 Uranus 15577-09-13 16:04 G 7410697.92 7410698.17 7410698.42 0.0145 0.0009 Saturn 15578-05-01 23:45 G 7410928.25 7410928.49 7410928.74 0.0276 0.0049 Neptune 15578-06-30 10:04 G 7410987.67 7410987.92 7410988.18 0.0089 0.0015 Uranus 15578-09-18 15:50 G 7411067.95 7411068.16 7411068.39 0.0146 0.0069 Neptune 15579-07-02 21:50 G 7411355.17 7411355.41 7411355.67 0.0089 0.0022 Uranus 15579-09-23 15:36 G 7411438.05 7411438.15 7411438.29 0.0146 0.0128

Neptune 15580-07-04 09:36 G 7411722.67 7411722.90 7411723.16 0.0089 0.0027 Neptune 15581-07-06 21:21 G 7412090.17 7412090.39 7412090.65 0.0089 0.0033 Jupiter 15582-05-02 21:07 G 7412390.22 7412390.38 7412390.55 0.0544 0.0390 Neptune 15582-07-09 09:21 G 7412457.67 7412457.89 7412458.13 0.0089 0.0038 Neptune 15583-07-11 21:07 G 7412825.17 7412825.38 7412825.62 0.0089 0.0044 Neptune 15584-07-13 09:07 G 7413192.67 7413192.88 7413193.09 0.0089 0.0050 Neptune 15585-07-15 20:24 G 7413560.17 7413560.35 7413560.57 0.0089 0.0056 Neptune 15586-07-18 08:38 G 7413927.67 7413927.86 7413928.04 0.0089 0.0061 Neptune 15587-07-20 19:26 G 7414295.16 7414295.31 7414295.50 0.0089 0.0066 Neptune 15588-07-22 06:57 G 7414662.66 7414662.79 7414662.96 0.0089 0.0071 Jupiter 15588-11-19 14:52 G 7414782.90 7414783.12 7414783.34 0.0483 0.0171 Neptune 15589-07-24 18:14 G 7415030.15 7415030.26 7415030.41 0.0089 0.0076 Neptune 15590-07-27 05:31 G 7415397.64 7415397.73 7415397.85 0.0089 0.0081 Neptune 15591-07-29 16:33 G 7415765.15 7415765.19 7415765.28 0.0089 0.0086 Saturn 15592-10-24 08:52 G 7416217.75 7416217.87 7416218.01 0.0283 0.0238 Saturn 15593-11-06 16:04 G 7416596.10 7416596.17 7416596.25 0.0283 0.0268 Jupiter 15594-05-08 09:50 G 7416778.70 7416778.91 7416779.12 0.0545 0.0236 15597-08-17 20:52 G 7417976.19 7417976.37 7417976.54 0.1718 0.0625 Mars Jupiter 15599-10-26 02:09 G 7418775.51 7418775.59 7418775.68 0.0485 0.0452 Jupiter 15600-11-23 19:26 G 7419170.12 7419170.31 7419170.50 0.0484 0.0274 Jupiter 15606-05-13 23:31 G 7421167.24 7421167.48 7421167.71 0.0545 0.0079 Saturn 15607-04-26 07:12 G 7421514.77 7421514.80 7421514.85 0.0276 0.0271 Saturn 15608-05-08 03:50 G 7421892.50 7421892.66 7421892.84 0.0276 0.0201 Jupiter 15611-10-30 05:02 G 7423162.55 7423162.71 7423162.87 0.0485 0.0352 Jupiter 15612-11-27 23:16 G 7423557.33 7423557.47 7423557.62 0.0484 0.0375 Uranus 15616-03-04 08:38 G 7424749.75 7424749.86 7424750.01 0.0134 0.0116 Uranus 15617-03-08 18:14 G 7425119.05 7425119.26 7425119.49 0.0133 0.0070 Uranus 15618-03-13 03:07 G 7425488.39 7425488.63 7425488.89 0.0133 0.0024 Jupiter 15618-05-19 09:50 G 7425555.68 7425555.91 7425556.14 0.0545 0.0079 Uranus 15619-03-17 12:00 G 7425857.75 7425858.00 7425858.26 0.0133 0.0023

Uranus 15620-03-20 19:55 G 7426227.13 7426227.33 7426227.57 0.0133 0.0069 Uranus 15621-03-25 04:04 G 7426596.56 7426596.67 7426596.81 0.0133 0.0114 Pluto 15622-01-12 07:40 G 7426889.58 7426889.82 7426890.09 0.0080 0.0017 Saturn 15622-10-31 23:02 G 7427182.22 7427182.46 7427182.71 0.0283 0.0036 Jupiter 15623-11-03 09:50 G 7427549.71 7427549.91 7427550.11 0.0484 0.0250 Jupiter 15624-12-02 05:02 G 7427944.69 7427944.71 7427944.76 0.0485 0.0478 Jupiter 15630-05-24 13:26 G 7429943.85 7429944.06 7429944.27 0.0545 0.0226 Jupiter 15635-11-07 14:52 G 7431936.89 7431937.12 7431937.34 0.0484 0.0146 Saturn 15637-05-03 02:24 G 7432479.36 7432479.60 7432479.85 0.0276 0.0005 Neptune 15641-11-15 06:57 G 7434136.79 7434136.79 7434136.79 0.0088 0.0088 Jupiter 15642-05-29 22:48 G 7434332.29 7434332.45 7434332.62 0.0545 0.0378 Neptune 15642-11-17 17:16 G 7434504.15 7434504.22 7434504.30 0.0088 0.0083 Neptune 15643-11-20 03:07 G 7434871.54 7434871.63 7434871.77 0.0088 0.0079 Neptune 15644-11-21 13:40 G 7435238.95 7435239.07 7435239.23 0.0088 0.0074 Neptune 15645-11-24 00:14 G 7435606.37 7435606.51 7435606.68 0.0088 0.0069 Neptune 15646-11-26 10:33 G 7435973.79 7435973.94 7435974.14 0.0088 0.0064 Jupiter 15647-11-11 18:00 G 7436324.02 7436324.25 7436324.48 0.0484 0.0045 Neptune 15647-11-28 21:21 G 7436341.22 7436341.39 7436341.60 0.0088 0.0059 Neptune 15648-11-30 07:55 G 7436708.65 7436708.83 7436709.06 0.0088 0.0054 Neptune 15649-12-02 18:43 G 7437076.09 7437076.28 7437076.52 0.0088 0.0049 Neptune 15650-12-05 05:45 G 7437443.52 7437443.74 7437443.97 0.0088 0.0043 Saturn 15651-10-26 09:36 G 7437768.72 7437768.90 7437769.09 0.0283 0.0188 Neptune 15651-12-07 16:19 G 7437810.97 7437811.18 7437811.43 0.0088 0.0038 Neptune 15652-12-09 03:21 G 7438178.41 7438178.64 7438178.89 0.0088 0.0032 Neptune 15653-12-11 14:09 G 7438545.85 7438546.09 7438546.35 0.0088 0.0027 Jupiter 15654-06-04 10:48 G 7438720.90 7438720.95 7438721.02 0.0544 0.0526 Neptune 15654-12-14 01:12 G 7438913.30 7438913.55 7438913.80 0.0088 0.0021 Neptune 15655-12-16 12:00 G 7439280.75 7439281.00 7439281.26 0.0088 0.0016 Neptune 15656-12-17 23:16 G 7439648.21 7439648.47 7439648.72 0.0088 0.0010 Neptune 15657-12-20 10:04 G 7440015.66 7440015.92 7440016.18 0.0088 0.0005

Neptune 15658-12-22 21:21 G 7440383.13 7440383.39 7440383.65 0.0088 0.0001 Uranus 15659-09-05 07:26 G 7440639.64 7440639.81 7440639.99 0.0145 0.0103 Jupiter 15659-11-15 22:19 G 7440711.19 7440711.43 7440711.66 0.0483 0.0059 Neptune 15659-12-25 08:24 G 7440750.60 7440750.85 7440751.12 0.0088 0.0007 Uranus 15660-09-09 06:57 G 7441009.55 7441009.79 7441010.03 0.0145 0.0045 Neptune 15660-12-26 19:40 G 7441118.07 7441118.32 7441118.59 0.0088 0.0013 Uranus 15661-09-14 06:28 G 7441379.52 7441379.77 7441380.02 0.0145 0.0015 Neptune 15661-12-29 07:12 G 7441485.55 7441485.80 7441486.06 0.0088 0.0018 Uranus 15662-09-19 06:14 G 7441749.54 7441749.76 7441749.97 0.0146 0.0074 Neptune 15662-12-31 18:28 G 7441853.03 7441853.27 7441853.53 0.0088 0.0024 Uranus 15663-09-24 05:45 G 7442119.66 7442119.74 7442119.86 0.0146 0.0134 Neptune 15664-01-03 06:00 G 7442220.52 7442220.75 7442221.01 0.0088 0.0029 Neptune 15665-01-04 17:16 G 7442588.00 7442588.22 7442588.48 0.0088 0.0035 Jupiter 15665-05-02 04:33 G 7442705.54 7442705.69 7442705.85 0.0544 0.0405 Neptune 15666-01-07 04:48 G 7442955.49 7442955.70 7442955.95 0.0088 0.0040 Saturn 15666-04-27 10:33 G 7443065.80 7443065.94 7443066.09 0.0276 0.0218 Neptune 15667-01-09 16:33 G 7443322.98 7443323.19 7443323.42 0.0088 0.0046 Saturn 15667-05-10 06:57 G 7443443.71 7443443.79 7443443.90 0.0276 0.0253 Neptune 15668-01-12 03:50 G 7443690.48 7443690.66 7443690.90 0.0088 0.0052 Neptune 15669-01-13 15:36 G 7444057.97 7444058.15 7444058.36 0.0088 0.0056 Neptune 15670-01-16 03:21 G 7444425.47 7444425.64 7444425.84 0.0088 0.0062 Neptune 15671-01-18 15:21 G 7444792.98 7444793.14 7444793.32 0.0088 0.0067 Jupiter 15671-11-20 01:26 G 7445098.34 7445098.56 7445098.78 0.0484 0.0160 Neptune 15672-01-21 03:07 G 7445160.50 7445160.63 7445160.80 0.0088 0.0072 Neptune 15673-01-22 15:07 G 7445528.02 7445528.13 7445528.27 0.0088 0.0077 Neptune 15674-01-25 02:52 G 7445895.55 7445895.62 7445895.74 0.0088 0.0082 Neptune 15675-01-27 15:07 G 7446263.10 7446263.13 7446263.21 0.0088 0.0087 Mars 15676-08-20 05:45 G 7446833.59 7446833.74 7446833.90 0.1712 0.0991 Jupiter 15677-05-07 15:50 G 7447093.95 7447094.16 7447094.37 0.0544 0.0251 Saturn 15681-11-01 22:19 G 7448733.20 7448733.43 7448733.66 0.0283 0.0083

Jupiter 15682-10-25 12:43 G 7449090.95 7449091.03 7449091.10 0.0486 0.0459 Jupiter 15683-11-24 06:43 G 7449485.59 7449485.78 7449485.98 0.0484 0.0264 Jupiter 15689-05-12 20:09 G 7451482.11 7451482.34 7451482.57 0.0544 0.0106 Jupiter 15694-10-29 17:16 G 7453478.07 7453478.22 7453478.38 0.0485 0.0360 Jupiter 15695-11-28 11:45 G 7453872.85 7453872.99 7453873.15 0.0484 0.0367 Saturn 15696-05-04 05:16 G 7454030.49 7454030.72 7454030.97 0.0276 0.0055 Uranus 15700-03-05 23:31 G 7455431.34 7455431.48 7455431.62 0.0134 0.0111 Uranus 15701-03-10 08:38 G 7455800.64 7455800.86 7455801.09 0.0133 0.0065 Jupiter 15701-05-19 05:31 G 7455870.50 7455870.73 7455870.96 0.0545 0.0050 Uranus 15702-03-14 17:31 G 7456169.98 7456170.23 7456170.49 0.0133 0.0018 Uranus 15703-03-19 02:09 G 7456539.35 7456539.59 7456539.85 0.0133 0.0028 Uranus 15704-03-22 10:19 G 7456908.72 7456908.93 7456909.15 0.0133 0.0074 Uranus 15705-03-26 18:28 G 7457278.16 7457278.27 7457278.38 0.0133 0.0119 Jupiter 15706-11-03 21:07 G 7457865.18 7457865.38 7457865.58 0.0484 0.0261 Jupiter 15707-12-03 15:21 G 7458260.08 7458260.14 7458260.21 0.0484 0.0463 Saturn 15710-10-28 11:16 G 7459319.76 7459319.97 7459320.18 0.0283 0.0137 Jupiter 15713-05-24 17:45 G 7460259.02 7460259.24 7460259.45 0.0545 0.0204 Jupiter 15718-11-08 01:12 G 7462252.33 7462252.55 7462252.77 0.0484 0.0157 Neptune 15724-05-20 03:21 G 7464272.59 7464272.64 7464272.71 0.0090 0.0087 Saturn 15725-04-29 13:55 G 7464616.90 7464617.08 7464617.29 0.0276 0.0165 Neptune 15725-05-22 16:19 G 7464640.09 7464640.18 7464640.29 0.0090 0.0082 Jupiter 15725-05-30 06:28 G 7464647.60 7464647.77 7464647.94 0.0545 0.0359 Neptune 15726-05-25 05:45 G 7465007.61 7465007.74 7465007.87 0.0090 0.0077 Neptune 15727-05-27 18:28 G 7465375.13 7465375.27 7465375.43 0.0090 0.0072 Neptune 15728-05-29 07:12 G 7465742.64 7465742.80 7465742.98 0.0090 0.0067 Neptune 15729-05-31 19:55 G 7466110.16 7466110.33 7466110.54 0.0090 0.0062 Neptune 15730-06-03 08:24 G 7466477.68 7466477.85 7466478.08 0.0090 0.0057 Jupiter 15730-11-12 04:04 G 7466639.44 7466639.67 7466639.91 0.0484 0.0056 Neptune 15731-06-05 21:21 G 7466845.20 7466845.39 7466845.62 0.0090 0.0051 Neptune 15732-06-07 09:50 G 7467212.71 7467212.91 7467213.15 0.0090 0.0046

Neptune 15733-06-09 22:33 G 7467580.23 7467580.44 7467580.69 0.0090 0.0040 Neptune 15734-06-12 11:16 G 7467947.74 7467947.97 7467948.22 0.0090 0.0034 Neptune 15735-06-14 23:45 G 7468315.26 7468315.49 7468315.75 0.0089 0.0028 Neptune 15736-06-16 12:14 G 7468682.77 7468683.01 7468683.27 0.0089 0.0022 Jupiter 15737-06-04 16:19 G 7469036.10 7469036.18 7469036.26 0.0544 0.0506 Neptune 15737-06-19 00:43 G 7469050.29 7469050.53 7469050.79 0.0089 0.0017 Neptune 15738-06-21 13:26 G 7469417.81 7469418.06 7469418.32 0.0089 0.0011 Neptune 15739-06-24 01:40 G 7469785.32 7469785.57 7469785.83 0.0089 0.0005 Neptune 15740-06-25 14:09 G 7470152.83 7470153.09 7470153.34 0.0089 0.0001 Saturn 15740-11-03 23:02 G 7470284.24 7470284.46 7470284.67 0.0283 0.0132 Neptune 15741-06-28 02:09 G 7470520.33 7470520.59 7470520.85 0.0089 0.0007 Neptune 15742-06-30 14:09 G 7470887.84 7470888.09 7470888.35 0.0089 0.0012 Jupiter 15742-11-16 08:52 G 7471026.64 7471026.87 7471027.10 0.0484 0.0049 Neptune 15743-07-03 01:55 G 7471255.34 7471255.58 7471255.84 0.0089 0.0018 Uranus 15743-09-06 19:26 G 7471321.13 7471321.31 7471321.50 0.0145 0.0099 Neptune 15744-07-04 13:55 G 7471622.84 7471623.08 7471623.33 0.0089 0.0024 Uranus 15744-09-10 18:28 G 7471691.04 7471691.27 7471691.52 0.0145 0.0041 Neptune 15745-07-07 01:40 G 7471990.34 7471990.57 7471990.82 0.0089 0.0029 Uranus 15745-09-15 18:00 G 7472061.01 7472061.25 7472061.51 0.0145 0.0019 Neptune 15746-07-09 13:40 G 7472357.84 7472358.07 7472358.31 0.0089 0.0035 Uranus 15746-09-20 17:31 G 7472431.04 7472431.23 7472431.46 0.0146 0.0079 Neptune 15747-07-12 01:12 G 7472725.33 7472725.55 7472725.79 0.0089 0.0040 Uranus 15747-09-25 17:31 G 7472801.17 7472801.23 7472801.33 0.0146 0.0138 Jupiter 15748-05-02 02:38 G 7473020.48 7473020.61 7473020.76 0.0543 0.0429 Neptune 15748-07-13 12:57 G 7473092.83 7473093.04 7473093.27 0.0089 0.0046 Neptune 15749-07-16 00:28 G 7473460.33 7473460.52 7473460.75 0.0089 0.0052 Neptune 15750-07-18 12:14 G 7473827.83 7473828.01 7473828.22 0.0089 0.0056 Neptune 15751-07-21 00:14 G 7474195.33 7474195.51 7474195.70 0.0089 0.0061 Neptune 15752-07-22 11:31 G 7474562.82 7474562.98 7474563.16 0.0089 0.0067 Neptune 15753-07-24 23:02 G 7474930.32 7474930.46 7474930.63 0.0089 0.0071

Neptune 15754-07-27 10:19 G 7475297.82 7475297.93 7475298.08 0.0089 0.0076 Jupiter 15754-11-20 13:26 G 7475413.84 7475414.06 7475414.29 0.0484 0.0150 Saturn 15755-05-07 08:52 G 7475581.65 7475581.87 7475582.10 0.0276 0.0108 Neptune 15755-07-29 21:21 G 7475665.31 7475665.39 7475665.52 0.0089 0.0081 Neptune 15756-07-31 08:52 G 7476032.81 7476032.87 7476032.95 0.0089 0.0085 Jupiter 15760-05-07 11:02 G 7477408.77 7477408.96 7477409.17 0.0544 0.0281 Jupiter 15765-10-25 22:48 G 7479406.40 7479406.45 7479406.50 0.0486 0.0471 Jupiter 15766-11-24 16:19 G 7479800.99 7479801.18 7479801.39 0.0484 0.0250 Saturn 15769-10-29 14:09 G 7480870.86 7480871.09 7480871.33 0.0282 0.0083 Jupiter 15772-05-12 22:19 G 7481797.20 7481797.43 7481797.66 0.0545 0.0129 Jupiter 15777-10-30 03:21 G 7483793.50 7483793.64 7483793.80 0.0485 0.0371 15778-07-16 14:38 G 7484052.95 7484053.11 7484053.33 0.0064 0.0044 Pluto Jupiter 15778-11-28 20:52 G 7484188.21 7484188.37 7484188.53 0.0484 0.0351 15779-07-18 01:55 G 7484419.42 7484419.58 7484419.81 0.0064 0.0043 Pluto 15781-02-18 01:55 G 7485000.38 7485000.58 7485000.78 0.1817 0.0218 Mars Uranus 15784-03-06 12:57 G 7486112.90 7486113.04 7486113.21 0.0134 0.0107 Saturn 15784-04-30 18:57 G 7486168.07 7486168.29 7486168.52 0.0276 0.0109 Jupiter 15784-05-18 11:45 G 7486185.75 7486185.99 7486186.22 0.0545 0.0032 Uranus 15785-03-10 22:19 G 7486482.22 7486482.43 7486482.67 0.0133 0.0060 Uranus 15786-03-15 07:26 G 7486851.56 7486851.81 7486852.07 0.0133 0.0013 Uranus 15787-03-19 16:04 G 7487220.93 7487221.17 7487221.42 0.0133 0.0033 Uranus 15788-03-23 00:14 G 7487590.31 7487590.51 7487590.72 0.0133 0.0079 Uranus 15789-03-27 07:55 G 7487959.77 7487959.83 7487959.94 0.0133 0.0125 Jupiter 15789-11-03 06:28 G 7488180.58 7488180.77 7488180.96 0.0485 0.0270 Jupiter 15790-12-03 00:43 G 7488575.46 7488575.53 7488575.62 0.0484 0.0451 Jupiter 15796-05-23 22:48 G 7490574.23 7490574.45 7490574.67 0.0545 0.0186 Saturn 15799-11-06 01:40 G 7491835.39 7491835.57 7491835.76 0.0283 0.0185 Jupiter 15801-11-08 11:02 G 7492567.74 7492567.96 7492568.18 0.0484 0.0167 Neptune 15805-11-16 13:40 G 7494037.04 7494037.07 7494037.13 0.0088 0.0086 Neptune 15806-11-18 23:45 G 7494404.42 7494404.49 7494404.60 0.0088 0.0082

Neptune 15807-11-21 09:50 G 7494771.82 7494771.91 7494772.06 0.0088 0.0078 Jupiter 15808-05-30 02:52 G 7494962.44 7494962.62 7494962.81 0.0544 0.0328 Neptune 15808-11-22 20:38 G 7495139.23 7495139.36 7495139.52 0.0088 0.0073 Neptune 15809-11-25 06:57 G 7495506.64 7495506.79 7495506.96 0.0088 0.0068 Neptune 15810-11-27 17:02 G 7495874.06 7495874.21 7495874.42 0.0088 0.0064 Neptune 15811-11-30 03:36 G 7496241.48 7496241.65 7496241.86 0.0088 0.0059 Neptune 15812-12-01 14:09 G 7496608.91 7496609.09 7496609.32 0.0088 0.0054 Jupiter 15813-11-12 14:52 G 7496954.89 7496955.12 7496955.35 0.0484 0.0067 Neptune 15813-12-04 00:43 G 7496976.34 7496976.53 7496976.77 0.0088 0.0049 Saturn 15814-05-09 12:57 G 7497132.85 7497133.04 7497133.25 0.0277 0.0164 Neptune 15814-12-06 11:31 G 7497343.78 7497343.98 7497344.23 0.0088 0.0044 Neptune 15815-12-08 22:19 G 7497711.22 7497711.43 7497711.68 0.0088 0.0039 Neptune 15816-12-10 09:36 G 7498078.66 7498078.90 7498079.14 0.0088 0.0033 Neptune 15817-12-12 20:09 G 7498446.10 7498446.34 7498446.59 0.0088 0.0028 Neptune 15818-12-15 06:57 G 7498813.55 7498813.79 7498814.05 0.0088 0.0023 Neptune 15819-12-17 17:45 G 7499181.00 7499181.24 7499181.51 0.0088 0.0018 Jupiter 15820-06-04 10:48 G 7499350.84 7499350.95 7499351.06 0.0544 0.0474 Neptune 15820-12-19 04:33 G 7499548.44 7499548.69 7499548.95 0.0088 0.0012 Neptune 15821-12-21 15:36 G 7499915.90 7499916.15 7499916.41 0.0088 0.0007 Neptune 15822-12-24 02:38 G 7500283.35 7500283.61 7500283.87 0.0088 0.0001 Neptune 15823-12-26 13:40 G 7500650.82 7500651.07 7500651.33 0.0088 0.0005 Neptune 15824-12-28 00:43 G 7501018.28 7501018.53 7501018.80 0.0088 0.0010 Jupiter 15825-11-16 18:00 G 7501342.01 7501342.25 7501342.48 0.0484 0.0033 Neptune 15825-12-30 12:00 G 7501385.75 7501386.00 7501386.26 0.0088 0.0015 Neptune 15827-01-01 23:31 G 7501753.23 7501753.48 7501753.73 0.0088 0.0020 Uranus 15827-09-08 08:38 G 7502002.67 7502002.86 7502003.05 0.0145 0.0095 Neptune 15828-01-04 10:33 G 7502120.71 7502120.94 7502121.20 0.0088 0.0026 Uranus 15828-09-12 07:40 G 7502372.59 7502372.82 7502373.07 0.0145 0.0037 Saturn 15828-10-31 19:26 G 7502422.06 7502422.31 7502422.55 0.0282 0.0025 Neptune 15829-01-05 22:04 G 7502488.19 7502488.42 7502488.68 0.0088 0.0031

Uranus 15829-09-17 07:12 G 7502742.56 7502742.80 7502743.06 0.0145 0.0024 Neptune 15830-01-08 09:21 G 7502855.67 7502855.89 7502856.15 0.0088 0.0037 Uranus 15830-09-22 06:57 G 7503112.59 7503112.79 7503113.00 0.0146 0.0083 Neptune 15831-01-10 21:07 G 7503223.17 7503223.38 7503223.62 0.0088 0.0042 Jupiter 15831-05-03 02:38 G 7503335.49 7503335.61 7503335.74 0.0543 0.0452 Uranus 15831-09-27 06:43 G 7503482.75 7503482.78 7503482.85 0.0146 0.0143 Neptune 15832-01-13 08:38 G 7503590.65 7503590.86 7503591.09 0.0088 0.0047 Neptune 15833-01-14 20:09 G 7503958.15 7503958.34 7503958.57 0.0088 0.0052 Neptune 15834-01-17 07:40 G 7504325.65 7504325.82 7504326.04 0.0088 0.0058 Neptune 15835-01-19 19:26 G 7504693.15 7504693.31 7504693.52 0.0088 0.0062 Neptune 15836-01-22 07:12 G 7505060.66 7505060.80 7505060.99 0.0088 0.0068 Neptune 15837-01-23 18:43 G 7505428.16 7505428.28 7505428.46 0.0088 0.0073 Jupiter 15837-11-20 22:04 G 7505729.19 7505729.42 7505729.64 0.0483 0.0135 Neptune 15838-01-26 07:26 G 7505795.69 7505795.81 7505795.94 0.0088 0.0077 Neptune 15839-01-28 18:57 G 7506163.22 7506163.29 7506163.42 0.0088 0.0082 Neptune 15840-01-31 07:40 G 7506530.77 7506530.82 7506530.89 0.0088 0.0086 Saturn 15843-05-04 01:12 G 7507719.31 7507719.55 7507719.79 0.0276 0.0051 Jupiter 15843-05-08 15:21 G 7507723.94 7507724.14 7507724.33 0.0544 0.0300 Jupiter 15848-10-26 07:12 G 7509721.78 7509721.80 7509721.84 0.0486 0.0482 Jupiter 15849-11-25 00:57 G 7510116.34 7510116.54 7510116.75 0.0484 0.0236 Jupiter 15855-05-14 03:07 G 7512112.40 7512112.63 7512112.85 0.0544 0.0146 Saturn 15857-10-26 00:43 G 7513008.43 7513008.53 7513008.63 0.0282 0.0257 Saturn 15858-11-08 06:43 G 7513386.66 7513386.78 7513386.91 0.0283 0.0242 Jupiter 15860-10-30 11:45 G 7514108.85 7514108.99 7514109.14 0.0486 0.0381 Jupiter 15861-11-29 06:14 G 7514503.60 7514503.76 7514503.93 0.0484 0.0339 Jupiter 15867-05-19 08:24 G 7516500.62 7516500.85 7516501.09 0.0544 0.0009 15868-01-16 16:04 G 7516742.96 7516743.17 7516743.40 0.0080 0.0041 Pluto Uranus 15868-03-08 03:21 G 7516794.48 7516794.64 7516794.80 0.0134 0.0102 Uranus 15869-03-12 12:14 G 7517163.79 7517164.01 7517164.26 0.0133 0.0056 Uranus 15870-03-16 21:21 G 7517533.13 7517533.39 7517533.65 0.0133 0.0009

Uranus 15871-03-21 05:45 G 7517902.51 7517902.74 7517903.00 0.0133 0.0038 Uranus 15872-03-24 13:55 G 7518271.89 7518272.08 7518272.29 0.0133 0.0084 Saturn 15872-04-27 19:40 G 7518306.23 7518306.32 7518306.42 0.0277 0.0254 Jupiter 15872-11-03 15:21 G 7518495.96 7518496.14 7518496.33 0.0485 0.0284 Uranus 15873-03-28 22:19 G 7518641.38 7518641.43 7518641.49 0.0133 0.0129 Saturn 15873-05-10 18:28 G 7518684.14 7518684.27 7518684.43 0.0277 0.0221 Jupiter 15873-12-03 10:33 G 7518890.85 7518890.94 7518891.05 0.0485 0.0437 Jupiter 15879-05-24 16:33 G 7520888.97 7520889.19 7520889.41 0.0544 0.0152 Mars 15881-08-20 15:21 G 7521707.96 7521708.14 7521708.33 0.1725 0.0118 Jupiter 15884-11-07 18:43 G 7522883.06 7522883.28 7522883.50 0.0484 0.0184 Saturn 15887-11-03 02:24 G 7523973.36 7523973.60 7523973.85 0.0282 0.0037 Neptune 15888-05-20 05:31 G 7524172.68 7524172.73 7524172.82 0.0090 0.0086 Neptune 15889-05-22 18:14 G 7524540.19 7524540.26 7524540.40 0.0090 0.0082 Neptune 15890-05-25 07:26 G 7524907.71 7524907.81 7524907.97 0.0090 0.0077 Neptune 15891-05-27 20:24 G 7525275.22 7525275.35 7525275.53 0.0090 0.0072 Jupiter 15891-05-30 02:09 G 7525277.40 7525277.59 7525277.79 0.0545 0.0301 Neptune 15892-05-29 09:36 G 7525642.75 7525642.90 7525643.09 0.0090 0.0067 Neptune 15893-05-31 22:33 G 7526010.27 7526010.44 7526010.65 0.0090 0.0062 Neptune 15894-06-03 11:16 G 7526377.80 7526377.97 7526378.19 0.0090 0.0057 Neptune 15895-06-06 00:28 G 7526745.31 7526745.52 7526745.73 0.0090 0.0051 Neptune 15896-06-07 12:57 G 7527112.83 7527113.04 7527113.27 0.0090 0.0046 Jupiter 15896-11-11 22:48 G 7527270.22 7527270.45 7527270.68 0.0484 0.0082 Neptune 15897-06-10 01:26 G 7527480.35 7527480.56 7527480.80 0.0090 0.0041 Neptune 15898-06-12 14:24 G 7527847.86 7527848.10 7527848.34 0.0090 0.0035 Neptune 15899-06-15 02:38 G 7528215.37 7528215.61 7528215.86 0.0090 0.0030 Neptune 15900-06-17 15:21 G 7528582.89 7528583.14 7528583.39 0.0090 0.0024 Neptune 15901-06-20 03:36 G 7528950.41 7528950.65 7528950.92 0.0089 0.0019 Saturn 15902-05-06 08:52 G 7529270.62 7529270.87 7529271.11 0.0276 0.0009 Neptune 15902-06-22 16:19 G 7529317.92 7529318.18 7529318.43 0.0089 0.0013 Jupiter 15903-06-05 14:24 G 7529665.97 7529666.10 7529666.23 0.0544 0.0452

Neptune 15903-06-25 04:48 G 7529685.45 7529685.70 7529685.96 0.0089 0.0007 Neptune 15904-06-26 17:16 G 7530052.96 7530053.22 7530053.48 0.0089 0.0002 Neptune 15905-06-29 05:45 G 7530420.48 7530420.74 7530421.00 0.0089 0.0004 Neptune 15906-07-01 18:00 G 7530787.99 7530788.25 7530788.50 0.0089 0.0010 Neptune 15907-07-04 05:45 G 7531155.50 7531155.74 7531156.01 0.0089 0.0016 Neptune 15908-07-05 18:00 G 7531523.01 7531523.25 7531523.51 0.0089 0.0021 Jupiter 15908-11-17 01:40 G 7531657.33 7531657.57 7531657.80 0.0484 0.0021 Neptune 15909-07-08 05:45 G 7531890.51 7531890.74 7531891.00 0.0089 0.0026 Neptune 15910-07-10 17:45 G 7532258.01 7532258.24 7532258.49 0.0089 0.0031 Neptune 15911-07-13 05:31 G 7532625.51 7532625.73 7532625.97 0.0089 0.0037 Uranus 15911-09-09 19:55 G 7532684.14 7532684.33 7532684.53 0.0145 0.0091 Neptune 15912-07-14 17:16 G 7532993.01 7532993.22 7532993.46 0.0089 0.0042 Uranus 15912-09-13 19:12 G 7533054.06 7533054.30 7533054.55 0.0145 0.0032 Neptune 15913-07-17 04:48 G 7533360.51 7533360.70 7533360.94 0.0089 0.0048 Uranus 15913-09-18 18:28 G 7533424.02 7533424.27 7533424.52 0.0145 0.0027 Jupiter 15914-05-03 06:14 G 7533650.66 7533650.76 7533650.89 0.0543 0.0469 Neptune 15914-07-19 16:48 G 7533728.01 7533728.20 7533728.42 0.0089 0.0052 Uranus 15914-09-23 17:45 G 7533794.06 7533794.24 7533794.46 0.0145 0.0088 Neptune 15915-07-22 04:19 G 7534095.50 7534095.68 7534095.89 0.0089 0.0057 Neptune 15916-07-23 16:04 G 7534463.01 7534463.17 7534463.37 0.0089 0.0062 Saturn 15916-10-28 08:38 G 7534559.69 7534559.86 7534560.03 0.0282 0.0195 Neptune 15917-07-26 03:36 G 7534830.51 7534830.65 7534830.84 0.0089 0.0067 Neptune 15918-07-28 15:36 G 7535198.00 7535198.15 7535198.30 0.0089 0.0072 Neptune 15919-07-31 02:38 G 7535565.50 7535565.61 7535565.76 0.0089 0.0076 Neptune 15920-08-01 13:40 G 7535933.00 7535933.07 7535933.21 0.0089 0.0081 Jupiter 15920-11-21 06:00 G 7536044.52 7536044.75 7536044.97 0.0484 0.0122 Neptune 15921-08-04 00:57 G 7536300.50 7536300.54 7536300.65 0.0089 0.0085 Jupiter 15926-05-08 13:12 G 7538038.87 7538039.05 7538039.24 0.0543 0.0327 Saturn 15931-05-01 02:09 G 7539857.42 7539857.59 7539857.77 0.0277 0.0195 Jupiter 15932-11-25 09:36 G 7540431.69 7540431.90 7540432.11 0.0484 0.0221

Jupiter 15938-05-13 20:38 G 7542427.15 7542427.36 7542427.59 0.0544 0.0180 Jupiter 15943-10-31 18:00 G 7544424.12 7544424.25 7544424.39 0.0486 0.0399 Jupiter 15944-11-29 12:28 G 7544818.84 7544819.02 7544819.19 0.0484 0.0318 Saturn 15946-11-05 12:00 G 7545524.78 7545525.00 7545525.24 0.0282 0.0100 Jupiter 15950-05-19 05:16 G 7546815.48 7546815.72 7546815.95 0.0545 0.0030 Uranus 15952-03-09 16:19 G 7547476.01 7547476.18 7547476.36 0.0134 0.0097 Uranus 15953-03-14 01:26 G 7547845.34 7547845.56 7547845.81 0.0133 0.0051 Uranus 15954-03-18 10:33 G 7548214.69 7548214.94 7548215.20 0.0133 0.0005 Uranus 15955-03-22 19:12 G 7548584.06 7548584.30 7548584.55 0.0133 0.0043 Jupiter 15955-11-04 22:33 G 7548811.27 7548811.44 7548811.63 0.0485 0.0298 Uranus 15956-03-26 03:21 G 7548953.46 7548953.64 7548953.84 0.0133 0.0089 Jupiter 15956-12-03 16:33 G 7549206.08 7549206.19 7549206.32 0.0484 0.0417 Mars 15960-08-24 01:40 G 7550565.49 7550565.57 7550565.65 0.1719 0.1549 Saturn 15961-05-07 17:31 G 7550821.99 7550822.23 7550822.47 0.0276 0.0071 Jupiter 15962-05-24 17:31 G 7551204.00 7551204.23 7551204.45 0.0545 0.0126 Jupiter 15967-11-09 01:26 G 7553198.35 7553198.56 7553198.78 0.0484 0.0197 Neptune 15969-11-16 19:55 G 7553937.30 7553937.33 7553937.43 0.0088 0.0085 Neptune 15970-11-19 06:28 G 7554304.70 7554304.77 7554304.90 0.0088 0.0081 Neptune 15971-11-21 17:16 G 7554672.10 7554672.22 7554672.36 0.0088 0.0076 Neptune 15972-11-23 03:07 G 7555039.51 7555039.63 7555039.80 0.0088 0.0072 Neptune 15973-11-25 14:09 G 7555406.93 7555407.09 7555407.25 0.0088 0.0067 Jupiter 15974-05-30 04:48 G 7555592.50 7555592.70 7555592.90 0.0545 0.0279 Neptune 15974-11-28 00:00 G 7555774.34 7555774.50 7555774.70 0.0088 0.0063 Saturn 15975-10-30 18:28 G 7556111.06 7556111.27 7556111.49 0.0282 0.0130 Neptune 15975-11-30 10:33 G 7556141.76 7556141.94 7556142.15 0.0088 0.0058 Neptune 15976-12-01 20:52 G 7556509.19 7556509.37 7556509.59 0.0088 0.0054 Neptune 15977-12-04 07:26 G 7556876.61 7556876.81 7556877.04 0.0088 0.0049 Neptune 15978-12-06 18:14 G 7557244.05 7557244.26 7557244.50 0.0088 0.0044 Jupiter 15979-11-13 05:31 G 7557585.51 7557585.73 7557585.96 0.0484 0.0096 Neptune 15979-12-09 05:02 G 7557611.49 7557611.71 7557611.95 0.0088 0.0039

Neptune 15980-12-10 15:36 G 7557978.93 7557979.15 7557979.41 0.0088 0.0034 Neptune 15981-12-13 02:24 G 7558346.37 7558346.60 7558346.86 0.0088 0.0029 Neptune 15982-12-15 13:26 G 7558713.83 7558714.06 7558714.32 0.0088 0.0024 Neptune 15983-12-18 00:14 G 7559081.27 7559081.51 7559081.77 0.0088 0.0019 Neptune 15984-12-19 11:16 G 7559448.72 7559448.97 7559449.23 0.0088 0.0013 Neptune 15985-12-21 22:04 G 7559816.17 7559816.42 7559816.68 0.0088 0.0008 Jupiter 15986-06-04 10:33 G 7559980.80 7559980.94 7559981.09 0.0544 0.0419 Neptune 15986-12-24 09:07 G 7560183.63 7560183.88 7560184.14 0.0088 0.0003 Neptune 15987-12-26 20:09 G 7560551.08 7560551.34 7560551.60 0.0088 0.0002 Neptune 15988-12-28 06:57 G 7560918.54 7560918.79 7560919.05 0.0088 0.0008 Neptune 15989-12-30 18:00 G 7561286.00 7561286.25 7561286.52 0.0088 0.0013 Saturn 15990-05-02 10:19 G 7561408.72 7561408.93 7561409.15 0.0277 0.0133 Neptune 15991-01-02 05:16 G 7561653.47 7561653.72 7561653.98 0.0088 0.0018 Jupiter 15991-11-17 08:24 G 7561972.61 7561972.85 7561973.08 0.0484 0.0009 Neptune 15992-01-04 16:33 G 7562020.95 7562021.19 7562021.45 0.0088 0.0023 Neptune 15993-01-06 03:50 G 7562388.42 7562388.66 7562388.91 0.0088 0.0028 Neptune 15994-01-08 15:21 G 7562755.91 7562756.14 7562756.39 0.0088 0.0033 Neptune 15995-01-11 02:52 G 7563123.39 7563123.62 7563123.86 0.0088 0.0038 Uranus 15995-09-10 08:52 G 7563365.68 7563365.87 7563366.08 0.0145 0.0087 Neptune 15996-01-13 14:24 G 7563490.88 7563491.10 7563491.33 0.0088 0.0043 Uranus 15996-09-14 08:09 G 7563735.59 7563735.84 7563736.09 0.0145 0.0027 Neptune 15997-01-15 01:40 G 7563858.37 7563858.57 7563858.80 0.0088 0.0048 Jupiter 15997-05-02 01:12 G 7563965.46 7563965.55 7563965.64 0.0542 0.0497 Uranus 15997-09-19 07:26 G 7564105.57 7564105.81 7564106.06 0.0145 0.0032 Neptune 15998-01-17 13:12 G 7564225.86 7564226.05 7564226.27 0.0088 0.0053 Uranus 15998-09-24 06:43 G 7564475.61 7564475.78 7564475.99 0.0145 0.0093 Neptune 15999-01-20 00:43 G 7564593.36 7564593.53 7564593.75 0.0088 0.0058 Neptune 16000-01-22 12:43 G 7564960.85 7564961.03 7564961.22 0.0088 0.0063

## 17TH MILLENNIUM CE

## This is a list of transits of Earth in the 17th millennium CE.

FROM MAX- C START MAX END SUNRAD DEPTH S

TRANSIT

TIME

Neptune 16001-01-24 00:14 G 7565328.36 7565328.51 7565328.69 0.0088 0.0067 Neptune 16002-01-26 11:45 G 7565695.87 7565695.99 7565696.16 0.0088 0.0072 Neptune 16003-01-28 23:45 G 7566063.38 7566063.49 7566063.64 0.0088 0.0077 Jupiter 16003-11-21 11:31 G 7566359.75 7566359.98 7566360.20 0.0484 0.0101 Neptune 16004-01-31 12:00 G 7566430.90 7566431.00 7566431.11 0.0088 0.0081 Neptune 16005-02-01 23:31 G 7566798.44 7566798.48 7566798.58 0.0088 0.0085 Saturn 16005-11-06 23:16 G 7567076.27 7567076.47 7567076.66 0.0282 0.0167 Jupiter 16009-05-07 07:12 G 7568353.63 7568353.80 7568353.98 0.0543 0.0358 Jupiter 16015-11-25 15:07 G 7570746.92 7570747.13 7570747.35 0.0484 0.0203 16020-05-09 03:07 G 7572373.42 7572373.63 7572373.85 0.0276 0.0135 Jupiter 16021-05-12 18:57 G 7572742.07 7572742.29 7572742.51 0.0544 0.0206 Pluto 16024-07-19 21:36 G 7573906.18 7573906.40 7573906.64 0.0064 0.0027 Pluto 16025-07-21 09:07 G 7574272.80 7574272.88 7574273.01 0.0064 0.0059 Jupiter 16026-10-31 00:28 G 7574739.40 7574739.52 7574739.64 0.0486 0.0411 Jupiter 16027-11-29 18:14 G 7575134.09 7575134.26 7575134.45 0.0484 0.0302 Jupiter 16033-05-18 06:57 G 7577130.56 7577130.79 7577131.03 0.0545 0.0052 16034-11-01 06:14 G 7577662.53 7577662.76 7577663.00 0.0282 0.0062 **Uranus** 16036-03-10 05:31 G 7578157.56 7578157.73 7578157.93 0.0134 0.0093 Uranus 16037-03-14 14:52 G 7578526.89 7578527.12 7578527.37 0.0134 0.0046 Uranus 16038-03-19 00:00 G 7578896.24 7578896.50 7578896.76 0.0133 0.0002

Jupiter 16038-11-04 04:19 G 7579126.51 7579126.68 7579126.87 0.0485 0.0312 Uranus 16039-03-23 08:38 G 7579265.63 7579265.86 7579266.10 0.0133 0.0048 Jupiter 16039-12-03 22:48 G 7579521.33 7579521.45 7579521.59 0.0484 0.0401 Uranus 16040-03-26 17:02 G 7579635.03 7579635.21 7579635.39 0.0133 0.0095 Jupiter 16045-05-23 14:52 G 7581518.89 7581519.12 7581519.35 0.0544 0.0095 Saturn 16049-05-03 19:26 G 7582960.07 7582960.31 7582960.55 0.0277 0.0071 Jupiter 16050-11-08 06:43 G 7583513.58 7583513.78 7583513.99 0.0485 0.0215 Neptune 16051-05-18 19:26 G 7583705.30 7583705.31 7583705.37 0.0090 0.0089 Neptune 16052-05-20 08:24 G 7584072.79 7584072.85 7584072.96 0.0090 0.0085 Neptune 16053-05-22 21:50 G 7584440.31 7584440.41 7584440.54 0.0090 0.0080 Neptune 16054-05-25 10:19 G 7584807.82 7584807.93 7584808.10 0.0090 0.0076 Neptune 16055-05-27 23:45 G 7585175.35 7585175.49 7585175.66 0.0090 0.0071 Neptune 16056-05-29 12:43 G 7585542.87 7585543.03 7585543.22 0.0090 0.0066 Jupiter 16057-05-28 22:04 G 7585907.21 7585907.42 7585907.62 0.0544 0.0243 Neptune 16057-06-01 02:09 G 7585910.41 7585910.59 7585910.78 0.0090 0.0061 Neptune 16058-06-03 15:07 G 7586277.93 7586278.13 7586278.33 0.0090 0.0056 Neptune 16059-06-06 04:04 G 7586645.46 7586645.67 7586645.88 0.0090 0.0051 Neptune 16060-06-07 16:48 G 7587012.98 7587013.20 7587013.42 0.0090 0.0046 Neptune 16061-06-10 05:31 G 7587380.51 7587380.73 7587380.97 0.0090 0.0041 Neptune 16062-06-12 18:00 G 7587748.02 7587748.25 7587748.49 0.0090 0.0036 Jupiter 16062-11-12 10:04 G 7587900.70 7587900.92 7587901.15 0.0484 0.0116 Neptune 16063-06-15 06:28 G 7588115.54 7588115.77 7588116.02 0.0090 0.0031 Saturn 16063-10-27 05:31 G 7588249.65 7588249.73 7588249.83 0.0282 0.0261 Neptune 16064-06-16 18:57 G 7588483.06 7588483.29 7588483.55 0.0090 0.0026 Saturn 16064-11-08 10:48 G 7588627.82 7588627.95 7588628.09 0.0282 0.0233 Mars 16065-02-20 01:12 G 7588731.36 7588731.55 7588731.75 0.1808 0.0317 Neptune 16065-06-19 07:40 G 7588850.57 7588850.82 7588851.07 0.0090 0.0020 Neptune 16066-06-21 20:09 G 7589218.09 7589218.34 7589218.60 0.0090 0.0015 Neptune 16067-06-24 08:24 G 7589585.60 7589585.85 7589586.11 0.0089 0.0009 Neptune 16068-06-25 20:52 G 7589953.12 7589953.37 7589953.63 0.0089 0.0004 Jupiter 16069-06-03 04:48 G 7590295.54 7590295.70 7590295.86 0.0545 0.0386 Neptune 16069-06-28 09:21 G 7590320.63 7590320.89 7590321.15 0.0089 0.0002 Neptune 16070-06-30 21:36 G 7590688.15 7590688.40 7590688.66 0.0089 0.0007 Neptune 16071-07-03 09:50 G 7591055.66 7591055.91 7591056.17 0.0089 0.0012 Neptune 16072-07-04 22:04 G 7591423.17 7591423.42 7591423.68 0.0089 0.0018 Neptune 16073-07-07 10:19 G 7591790.68 7591790.93 7591791.18 0.0089 0.0023 Neptune 16074-07-09 21:50 G 7592158.18 7592158.41 7592158.67 0.0089 0.0029 Jupiter 16074-11-16 14:24 G 7592287.87 7592288.10 7592288.34 0.0484 0.0015 Neptune 16075-07-12 09:50 G 7592525.69 7592525.91 7592526.16 0.0089 0.0034 Neptune 16076-07-13 21:36 G 7592893.19 7592893.40 7592893.65 0.0089 0.0039 Neptune 16077-07-16 09:36 G 7593260.69 7593260.90 7593261.14 0.0089 0.0043 Saturn 16078-04-28 14:38 G 7593547.08 7593547.11 7593547.16 0.0277 0.0272 Neptune 16078-07-18 21:07 G 7593628.18 7593628.38 7593628.61 0.0089 0.0049 Uranus 16078-09-05 22:48 G 7593677.40 7593677.45 7593677.51 0.0145 0.0140 Saturn 16079-05-11 13:40 G 7593924.92 7593925.07 7593925.26 0.0276 0.0200 Neptune 16079-07-21 08:52 G 7593995.68 7593995.87 7593996.09 0.0089 0.0053 Uranus 16079-09-10 20:52 G 7594047.18 7594047.37 7594047.59 0.0145 0.0082 Jupiter 16080-04-30 20:52 G 7594280.31 7594280.37 7594280.43 0.0542 0.0522 Neptune 16080-07-22 20:24 G 7594363.18 7594363.35 7594363.57 0.0089 0.0059 Uranus 16080-09-14 20:09 G 7594417.09 7594417.34 7594417.59 0.0145 0.0023 Jupiter 16081-06-08 15:50 G 7594684.12 7594684.16 7594684.21 0.0544 0.0533 Neptune 16081-07-25 08:24 G 7594730.68 7594730.85 7594731.04 0.0089 0.0063 Uranus 16081-09-19 19:12 G 7594787.06 7594787.30 7594787.55 0.0145 0.0037 Neptune 16082-07-27 19:55 G 7595098.18 7595098.33 7595098.52 0.0089 0.0067 Uranus 16082-09-24 18:43 G 7595157.11 7595157.28 7595157.48 0.0145 0.0097 Neptune 16083-07-30 07:55 G 7595465.68 7595465.83 7595465.98 0.0089 0.0072 Neptune 16084-07-31 18:57 G 7595833.18 7595833.29 7595833.45 0.0089 0.0076 Neptune 16085-08-03 06:28 G 7596200.68 7596200.77 7596200.90 0.0089 0.0080 Neptune 16086-08-05 17:45 G 7596568.18 7596568.24 7596568.34 0.0089 0.0084 16086-08-19 23:16 G 7596582.35 7596582.47 7596582.59 0.1738 0.1307 Mars

Jupiter 16086-11-20 17:02 G 7596674.98 7596675.21 7596675.44 0.0484 0.0085 Neptune 16087-08-08 05:02 G 7596935.69 7596935.71 7596935.76 0.0089 0.0088 Jupiter 16092-05-06 08:38 G 7598668.70 7598668.86 7598669.03 0.0543 0.0377 Saturn 16093-11-02 18:14 G 7599214.02 7599214.26 7599214.51 0.0282 0.0006 Jupiter 16098-11-24 21:07 G 7601062.16 7601062.38 7601062.59 0.0484 0.0187 Jupiter 16104-05-12 17:45 G 7603057.03 7603057.24 7603057.46 0.0543 0.0233 Saturn 16108-05-06 04:33 G 7604511.45 7604511.69 7604511.94 0.0277 0.0010 Jupiter 16109-10-31 04:33 G 7605054.58 7605054.69 7605054.80 0.0487 0.0429 Jupiter 16110-11-30 00:00 G 7605449.31 7605449.50 7605449.69 0.0484 0.0283 Pluto 16114-01-20 01:40 G 7606596.49 7606596.57 7606596.69 0.0080 0.0073 Jupiter 16116-05-18 01:26 G 7607445.33 7607445.56 7607445.79 0.0544 0.0084 Uranus 16120-03-11 17:45 G 7608839.06 7608839.24 7608839.45 0.0134 0.0088 Uranus 16121-03-16 03:21 G 7609208.40 7609208.64 7609208.89 0.0134 0.0041 Jupiter 16121-11-04 08:38 G 7609441.69 7609441.86 7609442.03 0.0486 0.0330 Uranus 16122-03-20 12:28 G 7609577.77 7609578.02 7609578.28 0.0133 0.0007 Saturn 16122-10-29 17:02 G 7609801.04 7609801.21 7609801.40 0.0282 0.0195 Jupiter 16122-12-04 03:21 G 7609836.50 7609836.64 7609836.78 0.0484 0.0379 Uranus 16123-03-24 21:07 G 7609947.15 7609947.38 7609947.62 0.0133 0.0054 Uranus 16124-03-28 05:16 G 7610316.57 7610316.72 7610316.91 0.0133 0.0100 Jupiter 16128-05-23 07:12 G 7611833.57 7611833.80 7611834.03 0.0545 0.0061 Neptune 16132-11-14 18:00 G 7613470.21 7613470.25 7613470.30 0.0088 0.0086 Jupiter 16133-11-08 13:12 G 7613828.85 7613829.05 7613829.26 0.0485 0.0229 Neptune 16133-11-17 03:50 G 7613837.60 7613837.66 7613837.77 0.0088 0.0083 Neptune 16134-11-19 14:09 G 7614205.01 7614205.09 7614205.23 0.0088 0.0079 Jupiter 16134-12-08 07:55 G 7614223.79 7614223.83 7614223.87 0.0484 0.0475 Neptune 16135-11-22 00:28 G 7614572.41 7614572.52 7614572.68 0.0088 0.0075 Neptune 16136-11-23 10:48 G 7614939.83 7614939.95 7614940.13 0.0088 0.0071 Saturn 16137-05-01 01:26 G 7615098.41 7615098.56 7615098.73 0.0277 0.0208 Neptune 16137-11-25 21:36 G 7615307.24 7615307.40 7615307.58 0.0088 0.0066 Saturn 16138-05-14 00:14 G 7615476.45 7615476.51 7615476.60 0.0276 0.0263

Neptune 16138-11-28 07:40 G 7615674.66 7615674.82 7615675.03 0.0088 0.0062 Neptune 16139-11-30 18:00 G 7616042.08 7616042.25 7616042.47 0.0088 0.0058 Jupiter 16140-05-28 18:14 G 7616222.05 7616222.26 7616222.48 0.0545 0.0213 Neptune 16140-12-02 04:33 G 7616409.50 7616409.69 7616409.91 0.0088 0.0053 Neptune 16141-12-04 14:52 G 7616776.93 7616777.12 7616777.36 0.0088 0.0049 Neptune 16142-12-07 01:26 G 7617144.35 7617144.56 7617144.80 0.0088 0.0044 Neptune 16143-12-09 12:00 G 7617511.78 7617512.00 7617512.24 0.0088 0.0039 Neptune 16144-12-10 22:48 G 7617879.22 7617879.45 7617879.69 0.0088 0.0034 Jupiter 16145-11-12 16:19 G 7618215.96 7618216.18 7618216.41 0.0484 0.0130 Neptune 16145-12-13 09:21 G 7618246.66 7618246.89 7618247.15 0.0088 0.0030 Neptune 16146-12-15 20:09 G 7618614.10 7618614.34 7618614.60 0.0088 0.0025 Neptune 16147-12-18 06:57 G 7618981.55 7618981.79 7618982.06 0.0088 0.0020 Neptune 16148-12-19 18:00 G 7619349.00 7619349.25 7619349.51 0.0088 0.0015 Neptune 16149-12-22 05:02 G 7619716.46 7619716.71 7619716.97 0.0088 0.0010 Neptune 16150-12-24 16:04 G 7620083.91 7620084.17 7620084.43 0.0088 0.0005 Neptune 16151-12-27 02:52 G 7620451.36 7620451.62 7620451.88 0.0088 0.0001 Jupiter 16152-06-03 06:28 G 7620610.60 7620610.77 7620610.94 0.0545 0.0363 Saturn 16152-11-05 05:45 G 7620765.51 7620765.74 7620765.98 0.0282 0.0073 Neptune 16152-12-28 13:40 G 7620818.82 7620819.07 7620819.34 0.0088 0.0006 Neptune 16153-12-31 00:57 G 7621186.28 7621186.54 7621186.79 0.0088 0.0010 Neptune 16155-01-02 12:00 G 7621553.75 7621554.00 7621554.26 0.0088 0.0015 Neptune 16156-01-04 23:02 G 7621921.21 7621921.46 7621921.71 0.0088 0.0020 Neptune 16157-01-06 10:19 G 7622288.68 7622288.93 7622289.18 0.0088 0.0025 Jupiter 16157-11-16 19:55 G 7622603.10 7622603.33 7622603.57 0.0484 0.0031 Neptune 16158-01-08 21:36 G 7622656.16 7622656.40 7622656.65 0.0088 0.0030 Neptune 16159-01-11 08:52 G 7623023.65 7623023.87 7623024.12 0.0088 0.0035 Neptune 16160-01-13 20:09 G 7623391.13 7623391.34 7623391.59 0.0088 0.0040 Neptune 16161-01-15 07:40 G 7623758.62 7623758.82 7623759.07 0.0088 0.0045 Neptune 16162-01-17 19:40 G 7624126.12 7624126.32 7624126.55 0.0088 0.0050 Uranus 16162-09-07 11:45 G 7624358.93 7624358.99 7624359.10 0.0144 0.0136

Neptune 16163-01-20 06:57 G 7624493.60 7624493.79 7624494.01 0.0088 0.0054 Uranus 16163-09-12 10:33 G 7624728.73 7624728.94 7624729.16 0.0145 0.0077 Neptune 16164-01-22 19:12 G 7624861.11 7624861.30 7624861.49 0.0088 0.0059 Jupiter 16164-06-08 14:24 G 7624999.02 7624999.10 7624999.19 0.0544 0.0503 Uranus 16164-09-16 09:21 G 7625098.65 7625098.89 7625099.15 0.0145 0.0018 Neptune 16165-01-24 06:14 G 7625228.60 7625228.76 7625228.96 0.0088 0.0064 16165-08-23 10:19 G 7625439.75 7625439.93 7625440.11 0.1732 0.0422 Mars Uranus 16165-09-21 08:38 G 7625468.62 7625468.86 7625469.10 0.0145 0.0042 Neptune 16166-01-26 18:14 G 7625596.11 7625596.26 7625596.44 0.0088 0.0068 Uranus 16166-09-26 08:09 G 7625838.68 7625838.84 7625839.03 0.0145 0.0103 Neptune 16167-01-29 05:31 G 7625963.62 7625963.73 7625963.91 0.0088 0.0073 Saturn 16167-05-08 14:09 G 7626062.85 7626063.09 7626063.33 0.0277 0.0054 Neptune 16168-01-31 17:31 G 7626331.12 7626331.23 7626331.38 0.0088 0.0076 Neptune 16169-02-02 05:31 G 7626698.65 7626698.73 7626698.86 0.0088 0.0080 Jupiter 16169-11-20 22:19 G 7626990.20 7626990.43 7626990.66 0.0484 0.0067 Neptune 16170-02-04 17:31 G 7627066.18 7627066.23 7627066.33 0.0088 0.0084 Neptune 16171-02-07 05:45 G 7627433.74 7627433.74 7627433.77 0.0088 0.0088 Jupiter 16175-05-07 04:48 G 7628983.56 7628983.70 7628983.87 0.0542 0.0405 Saturn 16181-10-31 03:07 G 7631352.42 7631352.63 7631352.85 0.0282 0.0131 Jupiter 16181-11-25 01:40 G 7631377.36 7631377.57 7631377.80 0.0484 0.0167 Jupiter 16187-05-12 09:21 G 7633371.69 7633371.89 7633372.09 0.0543 0.0264 Jupiter 16192-10-30 11:45 G 7635369.90 7635369.99 7635370.10 0.0487 0.0440 Jupiter 16193-11-29 06:14 G 7635764.57 7635764.76 7635764.96 0.0484 0.0267 Saturn 16196-05-02 12:14 G 7636649.80 7636650.01 7636650.22 0.0277 0.0144 Jupiter 16199-05-17 19:55 G 7637760.11 7637760.33 7637760.56 0.0544 0.0114 Uranus 16203-03-09 20:52 G 7639151.34 7639151.37 7639151.44 0.0134 0.0131 Uranus 16204-03-13 06:43 G 7639520.59 7639520.78 7639520.99 0.0134 0.0084 Jupiter 16204-11-04 15:36 G 7639756.99 7639757.15 7639757.32 0.0486 0.0342 Uranus 16205-03-17 16:19 G 7639889.94 7639890.18 7639890.43 0.0134 0.0036 Jupiter 16205-12-04 09:07 G 7640151.74 7640151.88 7640152.04 0.0484 0.0363

Uranus 16206-03-22 01:26 G 7640259.30 7640259.56 7640259.82 0.0133 0.0011 Uranus 16207-03-26 10:04 G 7640628.70 7640628.92 7640629.16 0.0133 0.0058 Uranus 16208-03-29 18:28 G 7640998.13 7640998.27 7640998.44 0.0133 0.0105 Jupiter 16211-05-24 08:38 G 7642148.63 7642148.86 7642149.09 0.0545 0.0040 Saturn 16211-11-08 16:33 G 7642316.98 7642317.19 7642317.41 0.0282 0.0138 Neptune 16215-05-19 23:16 G 7643605.43 7643605.47 7643605.55 0.0090 0.0087 Neptune 16216-05-21 12:14 G 7643972.94 7643973.01 7643973.14 0.0090 0.0083 Jupiter 16216-11-08 19:40 G 7644144.12 7644144.32 7644144.52 0.0485 0.0242 Neptune 16217-05-24 01:12 G 7644340.45 7644340.55 7644340.70 0.0090 0.0079 Jupiter 16217-12-08 13:55 G 7644539.01 7644539.08 7644539.15 0.0484 0.0459 Neptune 16218-05-26 14:38 G 7644707.97 7644708.11 7644708.26 0.0090 0.0074 Neptune 16219-05-29 03:07 G 7645075.49 7645075.63 7645075.81 0.0090 0.0070 Neptune 16220-05-30 16:48 G 7645443.02 7645443.20 7645443.38 0.0090 0.0065 Neptune 16221-06-02 05:16 G 7645810.55 7645810.72 7645810.93 0.0090 0.0061 Neptune 16222-06-04 18:14 G 7646178.07 7646178.26 7646178.48 0.0090 0.0056 Jupiter 16223-05-29 19:12 G 7646537.08 7646537.30 7646537.52 0.0544 0.0186 Neptune 16223-06-07 07:26 G 7646545.61 7646545.81 7646546.03 0.0090 0.0051 Neptune 16224-06-08 20:38 G 7646913.14 7646913.36 7646913.58 0.0090 0.0046 Neptune 16225-06-11 08:52 G 7647280.67 7647280.87 7647281.12 0.0090 0.0042 Saturn 16226-05-10 22:48 G 7647614.23 7647614.45 7647614.68 0.0277 0.0114 Neptune 16226-06-13 21:50 G 7647648.19 7647648.41 7647648.66 0.0090 0.0037 Neptune 16227-06-16 11:02 G 7648015.72 7648015.96 7648016.20 0.0090 0.0031 Neptune 16228-06-17 23:31 G 7648383.24 7648383.48 7648383.73 0.0090 0.0026 Jupiter 16228-11-12 21:36 G 7648531.18 7648531.40 7648531.62 0.0485 0.0146 Neptune 16229-06-20 12:14 G 7648750.76 7648751.01 7648751.26 0.0090 0.0021 Neptune 16230-06-23 00:28 G 7649118.27 7649118.52 7649118.77 0.0090 0.0016 Neptune 16231-06-25 12:57 G 7649485.79 7649486.04 7649486.30 0.0089 0.0011 Neptune 16232-06-27 01:26 G 7649853.31 7649853.56 7649853.82 0.0089 0.0006 Neptune 16233-06-29 13:55 G 7650220.82 7650221.08 7650221.33 0.0089 0.0001 Neptune 16234-07-02 02:09 G 7650588.34 7650588.59 7650588.85 0.0089 0.0005

Jupiter 16235-06-04 02:52 G 7650925.44 7650925.62 7650925.80 0.0544 0.0332 Neptune 16235-07-04 14:24 G 7650955.85 7650956.10 7650956.36 0.0089 0.0010 Neptune 16236-07-06 02:52 G 7651323.37 7651323.62 7651323.88 0.0089 0.0015 Neptune 16237-07-08 15:07 G 7651690.89 7651691.13 7651691.39 0.0089 0.0020 Neptune 16238-07-11 03:07 G 7652058.40 7652058.63 7652058.89 0.0089 0.0026 Neptune 16239-07-13 15:07 G 7652425.91 7652426.13 7652426.39 0.0089 0.0031 Neptune 16240-07-15 03:07 G 7652793.41 7652793.63 7652793.89 0.0089 0.0036 Saturn 16240-11-02 11:16 G 7652903.73 7652903.97 7652904.21 0.0282 0.0071 Jupiter 16240-11-17 01:40 G 7652918.33 7652918.57 7652918.80 0.0484 0.0047 Neptune 16241-07-17 14:52 G 7653160.91 7653161.12 7653161.37 0.0089 0.0040 Neptune 16242-07-20 02:52 G 7653528.41 7653528.62 7653528.85 0.0089 0.0045 Neptune 16243-07-22 14:24 G 7653895.91 7653896.10 7653896.33 0.0089 0.0050 Neptune 16244-07-24 01:55 G 7654263.40 7654263.58 7654263.81 0.0089 0.0054 Neptune 16245-07-26 13:55 G 7654630.90 7654631.08 7654631.29 0.0089 0.0059 Neptune 16246-07-29 00:57 G 7654998.39 7654998.54 7654998.75 0.0089 0.0064 Uranus 16246-09-09 00:14 G 7655040.43 7655040.51 7655040.64 0.0144 0.0132 Jupiter 16247-06-09 07:26 G 7655313.70 7655313.81 7655313.93 0.0544 0.0471 Neptune 16247-07-31 12:57 G 7655365.89 7655366.04 7655366.23 0.0089 0.0067 Uranus 16247-09-13 22:33 G 7655410.24 7655410.44 7655410.68 0.0145 0.0073 Neptune 16248-08-02 00:43 G 7655733.39 7655733.53 7655733.69 0.0089 0.0071 Uranus 16248-09-17 21:50 G 7655780.16 7655780.41 7655780.66 0.0145 0.0013 Neptune 16249-08-04 12:14 G 7656100.89 7656101.01 7656101.15 0.0089 0.0076 Uranus 16249-09-22 20:52 G 7656150.14 7656150.37 7656150.61 0.0145 0.0047 Neptune 16250-08-06 23:45 G 7656468.39 7656468.49 7656468.61 0.0089 0.0079 Uranus 16250-09-27 20:24 G 7656520.20 7656520.35 7656520.53 0.0145 0.0108 Neptune 16251-08-09 11:02 G 7656835.89 7656835.96 7656836.06 0.0089 0.0083 Neptune 16252-08-10 22:04 G 7657203.39 7657203.42 7657203.49 0.0089 0.0087 Jupiter 16252-11-21 06:14 G 7657305.53 7657305.76 7657305.99 0.0484 0.0055 Saturn 16255-05-05 21:50 G 7658201.18 7658201.41 7658201.65 0.0277 0.0082 Jupiter 16258-05-06 22:48 G 7659298.32 7659298.45 7659298.60 0.0542 0.0430

Jupiter 16264-11-25 09:07 G 7661692.66 7661692.88 7661693.10 0.0483 0.0152 Jupiter 16270-05-12 11:16 G 7663686.77 7663686.97 7663687.17 0.0544 0.0284 Pluto 16270-07-24 02:09 G 7663759.36 7663759.59 7663759.86 0.0064 0.0017 Saturn 16270-11-10 00:43 G 7663868.37 7663868.53 7663868.71 0.0282 0.0198 Jupiter 16275-10-31 19:12 G 7665685.22 7665685.30 7665685.39 0.0487 0.0450 Jupiter 16276-11-29 13:12 G 7666079.85 7666080.05 7666080.25 0.0484 0.0252 Jupiter 16282-05-17 23:02 G 7668075.23 7668075.46 7668075.68 0.0544 0.0135 Saturn 16285-05-12 06:43 G 7669165.60 7669165.78 7669165.98 0.0277 0.0173 Uranus 16287-03-10 08:09 G 7669832.79 7669832.84 7669832.94 0.0134 0.0128 Jupiter 16287-11-04 21:36 G 7670072.24 7670072.40 7670072.55 0.0486 0.0355 Uranus 16288-03-13 18:14 G 7670202.07 7670202.26 7670202.48 0.0134 0.0080 Jupiter 16288-12-03 16:04 G 7670467.01 7670467.17 7670467.34 0.0484 0.0346 Uranus 16289-03-18 03:50 G 7670571.42 7670571.66 7670571.92 0.0134 0.0033 Uranus 16290-03-22 13:12 G 7670940.80 7670941.05 7670941.31 0.0133 0.0015 Uranus 16291-03-26 22:04 G 7671310.20 7671310.42 7671310.65 0.0133 0.0063 Uranus 16292-03-30 06:43 G 7671679.65 7671679.78 7671679.94 0.0133 0.0109 Jupiter 16294-05-23 07:40 G 7672463.59 7672463.82 7672464.05 0.0544 0.0014 Neptune 16295-11-13 15:36 G 7673003.15 7673003.15 7673003.18 0.0088 0.0088 Neptune 16296-11-15 01:40 G 7673370.52 7673370.57 7673370.66 0.0088 0.0084 Neptune 16297-11-17 11:45 G 7673737.92 7673737.99 7673738.12 0.0088 0.0081 Neptune 16298-11-19 22:04 G 7674105.32 7674105.42 7674105.57 0.0088 0.0077 Saturn 16299-11-04 17:16 G 7674454.98 7674455.22 7674455.46 0.0282 0.0014 Jupiter 16299-11-09 01:40 G 7674459.38 7674459.57 7674459.78 0.0485 0.0257 Neptune 16299-11-22 08:38 G 7674472.74 7674472.86 7674473.02 0.0088 0.0073 Neptune 16300-11-24 18:57 G 7674840.15 7674840.29 7674840.47 0.0088 0.0069 Jupiter 16300-12-08 20:38 G 7674854.27 7674854.36 7674854.45 0.0484 0.0442 Neptune 16301-11-27 05:31 G 7675207.58 7675207.73 7675207.92 0.0088 0.0065 Neptune 16302-11-29 15:50 G 7675575.00 7675575.16 7675575.37 0.0088 0.0061 Neptune 16303-12-02 02:09 G 7675942.42 7675942.59 7675942.81 0.0088 0.0057 Neptune 16304-12-03 12:57 G 7676309.85 7676310.04 7676310.26 0.0088 0.0052

Neptune 16305-12-05 23:16 G 7676677.27 7676677.47 7676677.70 0.0088 0.0048 Jupiter 16306-05-29 11:45 G 7676851.77 7676851.99 7676852.21 0.0545 0.0155 Neptune 16306-12-08 10:04 G 7677044.70 7677044.92 7677045.15 0.0088 0.0043 Neptune 16307-12-10 20:09 G 7677412.13 7677412.34 7677412.59 0.0088 0.0039 Neptune 16308-12-12 06:57 G 7677779.56 7677779.79 7677780.04 0.0088 0.0034 Neptune 16309-12-14 17:31 G 7678147.00 7678147.23 7678147.48 0.0088 0.0030 Neptune 16310-12-17 04:19 G 7678514.44 7678514.68 7678514.94 0.0088 0.0025 Jupiter 16311-11-14 07:12 G 7678846.58 7678846.80 7678847.02 0.0485 0.0156 Neptune 16311-12-19 15:07 G 7678881.88 7678882.13 7678882.38 0.0088 0.0020 Neptune 16312-12-21 01:55 G 7679249.33 7679249.58 7679249.84 0.0088 0.0016 Neptune 16313-12-23 12:57 G 7679616.79 7679617.04 7679617.30 0.0088 0.0011 Saturn 16314-05-08 06:00 G 7679752.51 7679752.75 7679753.00 0.0277 0.0023 Neptune 16314-12-25 23:45 G 7679984.23 7679984.49 7679984.75 0.0088 0.0006 Neptune 16315-12-28 10:48 G 7680351.69 7680351.95 7680352.21 0.0088 0.0001 Neptune 16316-12-29 21:36 G 7680719.15 7680719.40 7680719.66 0.0088 0.0004 Neptune 16318-01-01 08:38 G 7681086.61 7681086.86 7681087.12 0.0088 0.0009 Jupiter 16318-06-03 22:19 G 7681240.24 7681240.43 7681240.63 0.0545 0.0305 Neptune 16319-01-03 19:40 G 7681454.06 7681454.32 7681454.58 0.0088 0.0013 Neptune 16320-01-06 06:28 G 7681821.53 7681821.77 7681822.03 0.0088 0.0018 Neptune 16321-01-07 17:31 G 7682188.99 7682189.23 7682189.49 0.0088 0.0023 Neptune 16322-01-10 05:02 G 7682556.46 7682556.71 7682556.96 0.0088 0.0027 Neptune 16323-01-12 15:50 G 7682923.93 7682924.16 7682924.42 0.0088 0.0032 Jupiter 16323-11-18 10:19 G 7683233.70 7683233.93 7683234.17 0.0484 0.0059 Neptune 16324-01-15 03:07 G 7683291.41 7683291.63 7683291.88 0.0088 0.0037 Neptune 16325-01-16 15:07 G 7683658.90 7683659.13 7683659.36 0.0088 0.0041 Neptune 16326-01-19 02:09 G 7684026.39 7684026.59 7684026.83 0.0088 0.0046 Neptune 16327-01-21 14:09 G 7684393.88 7684394.09 7684394.31 0.0088 0.0050 Neptune 16328-01-24 01:12 G 7684761.37 7684761.55 7684761.78 0.0088 0.0055 Saturn 16328-10-30 02:09 G 7685041.47 7685041.59 7685041.73 0.0282 0.0237 Neptune 16329-01-25 13:12 G 7685128.88 7685129.05 7685129.26 0.0088 0.0059

Saturn 16329-11-12 06:43 G 7685419.69 7685419.78 7685419.90 0.0282 0.0256 Neptune 16330-01-28 00:57 G 7685496.37 7685496.54 7685496.73 0.0088 0.0063 Jupiter 16330-06-09 11:02 G 7685628.83 7685628.96 7685629.09 0.0545 0.0451 Uranus 16330-09-10 12:28 G 7685721.92 7685722.02 7685722.15 0.0144 0.0128 Neptune 16331-01-30 12:43 G 7685863.87 7685864.03 7685864.20 0.0088 0.0068 Uranus 16331-09-15 11:02 G 7686091.75 7686091.96 7686092.19 0.0145 0.0069 Neptune 16332-02-02 00:28 G 7686231.38 7686231.52 7686231.68 0.0088 0.0072 Uranus 16332-09-19 10:04 G 7686461.67 7686461.92 7686462.17 0.0145 0.0009 Neptune 16333-02-03 12:28 G 7686598.89 7686599.02 7686599.15 0.0088 0.0076 Uranus 16333-09-24 09:21 G 7686831.66 7686831.89 7686832.13 0.0145 0.0051 Neptune 16334-02-06 00:00 G 7686966.41 7686966.50 7686966.63 0.0088 0.0080 Uranus 16334-09-29 08:52 G 7687201.73 7687201.87 7687202.05 0.0145 0.0112 Neptune 16335-02-08 11:45 G 7687333.93 7687333.99 7687334.10 0.0088 0.0084 Jupiter 16335-11-22 14:09 G 7687620.86 7687621.09 7687621.33 0.0484 0.0043 Neptune 16336-02-10 23:45 G 7687701.48 7687701.49 7687701.56 0.0088 0.0087 Jupiter 16341-05-07 03:36 G 7689613.52 7689613.65 7689613.78 0.0542 0.0446 Saturn 16343-05-02 14:24 G 7690338.98 7690339.10 7690339.22 0.0277 0.0240 Saturn 16344-05-14 13:26 G 7690716.93 7690717.06 7690717.21 0.0276 0.0229 Jupiter 16347-11-26 16:48 G 7692007.98 7692008.20 7692008.42 0.0484 0.0139 16349-02-23 03:36 G 7692462.46 7692462.65 7692462.84 0.1799 0.0485 Mars Jupiter 16353-05-12 12:43 G 7694001.83 7694002.03 7694002.22 0.0543 0.0303 Jupiter 16358-11-01 02:09 G 7696000.53 7696000.59 7696000.67 0.0487 0.0461 Saturn 16358-11-06 20:52 G 7696006.13 7696006.37 7696006.61 0.0282 0.0038 Jupiter 16359-11-30 21:07 G 7696395.18 7696395.38 7696395.59 0.0484 0.0238 Jupiter 16365-05-17 16:19 G 7698389.96 7698390.18 7698390.41 0.0544 0.0164 Mars 16370-08-23 16:48 G 7700314.04 7700314.20 7700314.37 0.1745 0.0823 Jupiter 16370-11-05 07:55 G 7700387.68 7700387.83 7700387.99 0.0486 0.0363 Uranus 16371-03-11 20:09 G 7700514.27 7700514.34 7700514.46 0.0134 0.0125 Jupiter 16371-12-05 02:24 G 7700782.43 7700782.60 7700782.77 0.0484 0.0335 Uranus 16372-03-15 06:14 G 7700883.57 7700883.76 7700883.99 0.0134 0.0077

Uranus 16373-03-19 16:04 G 7701252.93 7701253.17 7701253.43 0.0134 0.0029 Saturn 16373-05-09 12:43 G 7701303.78 7701304.03 7701304.27 0.0277 0.0034 Uranus 16374-03-24 01:12 G 7701622.31 7701622.55 7701622.81 0.0133 0.0020 Uranus 16375-03-28 10:33 G 7701991.72 7701991.94 7701992.16 0.0133 0.0066 Uranus 16376-03-31 19:12 G 7702361.18 7702361.30 7702361.44 0.0133 0.0113 Jupiter 16377-05-23 02:38 G 7702778.37 7702778.61 7702778.84 0.0545 0.0018 Neptune 16378-05-17 15:21 G 7703138.10 7703138.14 7703138.19 0.0090 0.0088 Neptune 16379-05-20 04:04 G 7703505.61 7703505.67 7703505.78 0.0090 0.0085 Neptune 16380-05-21 17:16 G 7703873.13 7703873.22 7703873.36 0.0090 0.0081 Neptune 16381-05-24 06:28 G 7704240.66 7704240.77 7704240.93 0.0090 0.0077 Neptune 16382-05-26 19:12 G 7704608.18 7704608.30 7704608.48 0.0090 0.0073 Jupiter 16382-11-09 12:14 G 7704774.82 7704775.01 7704775.21 0.0485 0.0265 Neptune 16383-05-29 08:52 G 7704975.71 7704975.87 7704976.04 0.0090 0.0068 Jupiter 16383-12-09 05:16 G 7705169.63 7705169.72 7705169.84 0.0484 0.0429 Neptune 16384-05-30 21:36 G 7705343.23 7705343.40 7705343.59 0.0090 0.0064 Neptune 16385-06-02 10:04 G 7705710.75 7705710.92 7705711.14 0.0090 0.0060 Neptune 16386-06-04 23:31 G 7706078.28 7706078.48 7706078.68 0.0090 0.0055 Neptune 16387-06-07 12:00 G 7706445.81 7706446.00 7706446.23 0.0090 0.0051 Saturn 16387-11-01 05:45 G 7706592.57 7706592.74 7706592.94 0.0282 0.0184 Neptune 16388-06-09 01:12 G 7706813.34 7706813.55 7706813.78 0.0090 0.0046 Jupiter 16389-05-28 15:50 G 7707166.93 7707167.16 7707167.38 0.0545 0.0137 Neptune 16389-06-11 14:09 G 7707180.87 7707181.09 7707181.33 0.0090 0.0041 Neptune 16390-06-14 02:52 G 7707548.40 7707548.62 7707548.87 0.0090 0.0037 Neptune 16391-06-16 15:50 G 7707915.93 7707916.16 7707916.41 0.0090 0.0032 Neptune 16392-06-18 04:48 G 7708283.46 7708283.70 7708283.95 0.0090 0.0027 Neptune 16393-06-20 17:16 G 7708650.97 7708651.22 7708651.47 0.0090 0.0022 Neptune 16394-06-23 06:00 G 7709018.49 7709018.75 7709019.00 0.0090 0.0017 Jupiter 16394-11-13 16:19 G 7709161.97 7709162.18 7709162.40 0.0485 0.0166 Neptune 16395-06-25 18:28 G 7709386.01 7709386.27 7709386.52 0.0090 0.0012 Neptune 16396-06-27 06:43 G 7709753.53 7709753.78 7709754.04 0.0090 0.0007

Neptune 16397-06-29 19:12 G 7710121.04 7710121.30 7710121.56 0.0089 0.0002 Neptune 16398-07-02 07:26 G 7710488.55 7710488.81 7710489.07 0.0089 0.0003 Neptune 16399-07-04 19:55 G 7710856.07 7710856.33 7710856.58 0.0089 0.0008 Neptune 16400-07-06 07:55 G 7711223.58 7711223.83 7711224.09 0.0089 0.0013 Jupiter 16401-06-03 04:04 G 7711555.47 7711555.67 7711555.87 0.0545 0.0285 Neptune 16401-07-08 20:09 G 7711591.10 7711591.34 7711591.60 0.0089 0.0018 Saturn 16402-05-03 19:55 G 7711890.16 7711890.33 7711890.52 0.0277 0.0185 Neptune 16402-07-11 08:24 G 7711958.61 7711958.85 7711959.11 0.0089 0.0023 Neptune 16403-07-13 20:38 G 7712326.13 7712326.36 7712326.62 0.0089 0.0028 Neptune 16404-07-15 08:38 G 7712693.64 7712693.86 7712694.12 0.0089 0.0032 Neptune 16405-07-17 21:07 G 7713061.15 7713061.38 7713061.61 0.0089 0.0037 Neptune 16406-07-20 08:38 G 7713428.65 7713428.86 7713429.11 0.0089 0.0042 Jupiter 16406-11-17 18:57 G 7713549.06 7713549.29 7713549.52 0.0484 0.0070 Neptune 16407-07-22 20:24 G 7713796.15 7713796.35 7713796.59 0.0089 0.0046 Neptune 16408-07-24 08:24 G 7714163.65 7714163.85 7714164.08 0.0089 0.0050 Neptune 16409-07-26 20:09 G 7714531.14 7714531.34 7714531.55 0.0089 0.0055 Neptune 16410-07-29 07:26 G 7714898.65 7714898.81 7714899.03 0.0089 0.0060 Neptune 16411-07-31 19:12 G 7715266.14 7715266.30 7715266.50 0.0089 0.0064 Neptune 16412-08-02 06:43 G 7715633.64 7715633.78 7715633.97 0.0089 0.0068 Jupiter 16413-06-08 13:12 G 7715943.91 7715944.05 7715944.20 0.0544 0.0429 Neptune 16413-08-04 18:28 G 7716001.13 7716001.27 7716001.44 0.0089 0.0071 Neptune 16414-08-07 06:00 G 7716368.63 7716368.75 7716368.91 0.0089 0.0075 Uranus 16414-09-10 23:45 G 7716403.39 7716403.49 7716403.64 0.0144 0.0125 Neptune 16415-08-09 17:16 G 7716736.13 7716736.22 7716736.37 0.0089 0.0079 Uranus 16415-09-15 22:33 G 7716773.22 7716773.44 7716773.66 0.0144 0.0065 Neptune 16416-08-11 05:02 G 7717103.63 7717103.71 7717103.82 0.0089 0.0082 Uranus 16416-09-19 21:36 G 7717143.14 7717143.40 7717143.65 0.0145 0.0006 Neptune 16417-08-13 16:04 G 7717471.14 7717471.17 7717471.27 0.0089 0.0086 Uranus 16417-09-24 20:24 G 7717513.13 7717513.35 7717513.59 0.0145 0.0055 Saturn 16417-11-07 22:19 G 7717557.20 7717557.43 7717557.66 0.0282 0.0088

Neptune 16418-08-16 04:04 G 7717838.67 7717838.67 7717838.67 0.0089 0.0089 Uranus 16418-09-29 19:55 G 7717883.19 7717883.33 7717883.49 0.0145 0.0116 Jupiter 16418-11-21 23:31 G 7717936.24 7717936.48 7717936.71 0.0484 0.0031 Jupiter 16424-05-05 22:33 G 7719928.33 7719928.44 7719928.56 0.0541 0.0470 Jupiter 16430-11-26 04:33 G 7722323.46 7722323.69 7722323.91 0.0484 0.0130 Saturn 16432-05-10 17:31 G 7722855.00 7722855.23 7722855.47 0.0277 0.0088 Jupiter 16436-05-11 07:55 G 7724316.64 7724316.83 7724317.02 0.0543 0.0328 Jupiter 16441-10-31 13:26 G 7726316.01 7726316.06 7726316.13 0.0487 0.0469 Jupiter 16442-11-30 07:40 G 7726710.62 7726710.82 7726711.03 0.0483 0.0226 Saturn 16446-11-02 07:55 G 7728143.62 7728143.83 7728144.05 0.0282 0.0133 Jupiter 16448-05-16 20:09 G 7728705.12 7728705.34 7728705.56 0.0544 0.0181 Mars 16449-08-26 04:48 G 7729171.54 7729171.70 7729171.86 0.1739 0.0958 Jupiter 16453-11-04 18:28 G 7730703.13 7730703.27 7730703.43 0.0486 0.0371 Jupiter 16454-12-04 12:00 G 7731097.83 7731098.00 7731098.17 0.0484 0.0323 Uranus 16455-03-12 06:57 G 7731195.70 7731195.79 7731195.91 0.0134 0.0121 Uranus 16456-03-15 17:02 G 7731565.01 7731565.21 7731565.44 0.0134 0.0073 Uranus 16457-03-20 03:07 G 7731934.38 7731934.63 7731934.88 0.0134 0.0025 Uranus 16458-03-24 12:14 G 7732303.77 7732304.01 7732304.27 0.0133 0.0024 Uranus 16459-03-28 21:36 G 7732673.19 7732673.40 7732673.62 0.0133 0.0070 Neptune 16459-11-14 00:28 G 7732903.48 7732903.52 7732903.60 0.0088 0.0085 Uranus 16460-04-01 06:28 G 7733042.66 7733042.77 7733042.90 0.0133 0.0117 Jupiter 16460-05-22 09:36 G 7733093.67 7733093.90 7733094.14 0.0544 0.0031 Neptune 16460-11-15 10:33 G 7733270.88 7733270.94 7733271.06 0.0088 0.0082 Saturn 16461-05-05 00:28 G 7733441.31 7733441.52 7733441.74 0.0277 0.0131 Neptune 16461-11-17 20:52 G 7733638.27 7733638.37 7733638.50 0.0088 0.0078 Neptune 16462-11-20 06:57 G 7734005.68 7734005.79 7734005.95 0.0088 0.0075 Neptune 16463-11-22 17:16 G 7734373.09 7734373.22 7734373.39 0.0088 0.0071 Neptune 16464-11-24 03:50 G 7734740.51 7734740.66 7734740.84 0.0088 0.0067 Jupiter 16465-11-08 21:21 G 7735090.20 7735090.39 7735090.59 0.0486 0.0275 Neptune 16465-11-26 14:38 G 7735107.93 7735108.11 7735108.28 0.0088 0.0063

Neptune 16466-11-29 00:14 G 7735475.35 7735475.51 7735475.73 0.0088 0.0060 Jupiter 16466-12-08 15:21 G 7735485.03 7735485.14 7735485.26 0.0484 0.0417 Neptune 16467-12-01 10:48 G 7735842.78 7735842.95 7735843.18 0.0088 0.0056 Neptune 16468-12-02 21:36 G 7736210.20 7736210.40 7736210.62 0.0088 0.0051 Neptune 16469-12-05 08:09 G 7736577.63 7736577.84 7736578.07 0.0088 0.0047 Neptune 16470-12-07 18:14 G 7736945.06 7736945.26 7736945.51 0.0088 0.0043 Neptune 16471-12-10 04:48 G 7737312.49 7737312.70 7737312.95 0.0088 0.0039 Jupiter 16472-05-27 19:55 G 7737482.10 7737482.33 7737482.56 0.0545 0.0118 Neptune 16472-12-11 15:36 G 7737679.92 7737680.15 7737680.39 0.0088 0.0034 Neptune 16473-12-14 02:09 G 7738047.36 7738047.59 7738047.84 0.0088 0.0030 Neptune 16474-12-16 12:57 G 7738414.79 7738415.04 7738415.28 0.0088 0.0025 Neptune 16475-12-18 23:16 G 7738782.23 7738782.47 7738782.73 0.0088 0.0021 Saturn 16476-11-08 22:04 G 7739108.21 7739108.42 7739108.63 0.0282 0.0134 Neptune 16476-12-20 10:19 G 7739149.68 7739149.93 7739150.19 0.0088 0.0016 Jupiter 16477-11-13 02:09 G 7739477.38 7739477.59 7739477.81 0.0485 0.0176 Neptune 16477-12-22 20:52 G 7739517.12 7739517.37 7739517.64 0.0088 0.0012 Neptune 16478-12-25 08:09 G 7739884.58 7739884.84 7739885.10 0.0088 0.0007 Neptune 16479-12-27 18:57 G 7740252.03 7740252.29 7740252.55 0.0088 0.0002 Neptune 16480-12-29 06:00 G 7740619.50 7740619.75 7740620.02 0.0088 0.0003 Neptune 16481-12-31 17:02 G 7740986.96 7740987.21 7740987.47 0.0088 0.0007 Neptune 16483-01-03 03:50 G 7741354.42 7741354.66 7741354.93 0.0088 0.0012 Neptune 16484-01-05 15:07 G 7741721.88 7741722.13 7741722.39 0.0088 0.0016 Jupiter 16484-06-01 23:31 G 7741870.28 7741870.48 7741870.69 0.0545 0.0257 Neptune 16485-01-07 02:09 G 7742089.35 7742089.59 7742089.85 0.0088 0.0021 Neptune 16486-01-09 13:12 G 7742456.81 7742457.05 7742457.31 0.0088 0.0025 Neptune 16487-01-12 00:14 G 7742824.28 7742824.51 7742824.77 0.0088 0.0030 Neptune 16488-01-14 11:31 G 7743191.76 7743191.98 7743192.24 0.0088 0.0034 Neptune 16489-01-15 23:02 G 7743559.23 7743559.46 7743559.70 0.0088 0.0038 Jupiter 16489-11-17 07:26 G 7743864.58 7743864.81 7743865.04 0.0484 0.0078 Neptune 16490-01-18 10:19 G 7743926.72 7743926.93 7743927.17 0.0088 0.0043

Neptune 16491-01-20 21:36 G 7744294.20 7744294.40 7744294.64 0.0088 0.0047 Saturn 16491-05-12 21:21 G 7744406.18 7744406.39 7744406.61 0.0277 0.0140 Neptune 16492-01-23 09:36 G 7744661.70 7744661.90 7744662.12 0.0088 0.0051 Neptune 16493-01-24 21:21 G 7745029.19 7745029.39 7745029.60 0.0088 0.0055 Neptune 16494-01-27 08:52 G 7745396.69 7745396.87 7745397.07 0.0088 0.0060 Neptune 16495-01-29 20:38 G 7745764.19 7745764.36 7745764.55 0.0088 0.0064 Neptune 16496-02-01 08:09 G 7746131.69 7746131.84 7746132.02 0.0088 0.0068 Jupiter 16496-06-07 09:36 G 7746258.75 7746258.90 7746259.06 0.0545 0.0402 Neptune 16497-02-02 19:55 G 7746499.20 7746499.33 7746499.50 0.0088 0.0072 Neptune 16498-02-05 07:26 G 7746866.70 7746866.81 7746866.97 0.0088 0.0076 Uranus 16498-09-11 11:16 G 7747084.84 7747084.97 7747085.12 0.0144 0.0121 Neptune 16499-02-07 19:40 G 7747234.22 7747234.32 7747234.45 0.0088 0.0079 Uranus 16499-09-16 09:36 G 7747454.68 7747454.90 7747455.14 0.0144 0.0062 Neptune 16500-02-10 07:12 G 7747601.74 7747601.80 7747601.92 0.0088 0.0083 Uranus 16500-09-21 08:38 G 7747824.61 7747824.86 7747825.11 0.0145 0.0002 Neptune 16501-02-12 19:26 G 7747969.27 7747969.31 7747969.39 0.0088 0.0086 Uranus 16501-09-26 07:26 G 7748194.59 7748194.81 7748195.05 0.0145 0.0059 Jupiter 16501-11-22 10:48 G 7748251.72 7748251.95 7748252.19 0.0484 0.0022 Uranus 16502-10-01 06:57 G 7748564.66 7748564.79 7748564.95 0.0145 0.0119 Saturn 16505-11-04 09:07 G 7749694.65 7749694.88 7749695.11 0.0282 0.0084 Jupiter 16507-05-07 02:24 G 7750243.50 7750243.60 7750243.71 0.0542 0.0486 Jupiter 16508-06-13 21:50 G 7750647.41 7750647.41 7750647.43 0.0545 0.0544 Jupiter 16513-11-26 15:07 G 7752638.91 7752639.13 7752639.36 0.0484 0.0119 Pluto 16516-07-27 07:12 G 7753612.55 7753612.80 7753613.06 0.0064 0.0007 Jupiter 16519-05-12 15:21 G 7754631.96 7754632.14 7754632.32 0.0543 0.0342 Saturn 16520-05-07 03:50 G 7754992.43 7754992.66 7754992.90 0.0277 0.0080 Jupiter 16524-10-31 23:16 G 7756631.43 7756631.47 7756631.52 0.0488 0.0476 Jupiter 16525-11-30 18:00 G 7757026.04 7757026.25 7757026.46 0.0484 0.0216 Jupiter 16531-05-18 02:09 G 7759020.37 7759020.59 7759020.81 0.0543 0.0195 Saturn 16535-11-11 21:07 G 7760659.20 7760659.38 7760659.57 0.0282 0.0180

Jupiter 16536-11-05 04:19 G 7761018.55 7761018.68 7761018.84 0.0487 0.0379 Jupiter 16537-12-04 23:16 G 7761413.29 7761413.47 7761413.65 0.0484 0.0313 Uranus 16539-03-13 18:28 G 7761877.16 7761877.27 7761877.40 0.0134 0.0117 Uranus 16540-03-17 04:48 G 7762246.48 7762246.70 7762246.92 0.0134 0.0069 Uranus 16541-03-21 14:38 G 7762615.86 7762616.11 7762616.37 0.0134 0.0021 Neptune 16541-05-15 06:57 G 7762670.78 7762670.79 7762670.84 0.0089 0.0089 Uranus 16542-03-25 23:45 G 7762985.25 7762985.49 7762985.75 0.0133 0.0028 Neptune 16542-05-17 20:09 G 7763038.29 7763038.34 7763038.44 0.0089 0.0086 Uranus 16543-03-30 09:07 G 7763354.68 7763355.10 0.0133 0.0075 Neptune 16543-05-20 09:36 G 7763405.81 7763405.90 7763406.02 0.0090 0.0082 Jupiter 16543-05-23 06:14 G 7763408.53 7763408.76 7763408.99 0.0544 0.0057 Uranus 16544-04-02 18:14 G 7763724.16 7763724.26 7763724.36 0.0133 0.0122 Neptune 16544-05-21 22:33 G 7763773.35 7763773.44 7763773.59 0.0090 0.0079 Neptune 16545-05-24 11:45 G 7764140.87 7764140.99 7764141.15 0.0090 0.0075 Neptune 16546-05-27 00:57 G 7764508.41 7764508.54 7764508.72 0.0090 0.0071 Neptune 16547-05-29 14:09 G 7764875.94 7764876.09 7764876.28 0.0090 0.0067 Neptune 16548-05-31 03:07 G 7765243.46 7765243.63 7765243.83 0.0090 0.0063 Jupiter 16548-11-09 09:50 G 7765405.73 7765405.91 7765406.10 0.0486 0.0282 Saturn 16549-05-02 00:00 G 7765579.50 7765579.50 7765579.52 0.0278 0.0277 Neptune 16549-06-02 15:50 G 7765610.99 7765611.16 7765611.38 0.0090 0.0059 Jupiter 16549-12-09 04:04 G 7765800.56 7765800.67 7765800.80 0.0484 0.0409 Saturn 16550-05-15 00:00 G 7765957.33 7765957.50 7765957.68 0.0277 0.0191 Neptune 16550-06-05 05:16 G 7765978.52 7765978.72 7765978.93 0.0090 0.0054 Neptune 16551-06-07 18:00 G 7766346.05 7766346.25 7766346.48 0.0090 0.0050 Neptune 16552-06-09 06:43 G 7766713.58 7766713.78 7766714.03 0.0090 0.0046 Neptune 16553-06-11 19:55 G 7767081.11 7767081.33 7767081.57 0.0090 0.0041 16554-02-21 10:33 G 7767335.84 7767335.94 7767336.03 0.1783 0.1552 Mars Neptune 16554-06-14 08:38 G 7767448.64 7767448.86 7767449.11 0.0090 0.0037 Jupiter 16555-05-28 15:50 G 7767796.93 7767797.16 7767797.39 0.0545 0.0090 Neptune 16555-06-16 21:50 G 7767816.18 7767816.41 7767816.66 0.0090 0.0032

Neptune 16556-06-18 10:48 G 7768183.70 7768183.95 7768184.19 0.0090 0.0027 Neptune 16557-06-20 23:16 G 7768551.23 7768551.47 7768551.73 0.0090 0.0023 Neptune 16558-06-23 12:14 G 7768918.76 7768919.01 7768919.27 0.0090 0.0018 Neptune 16559-06-26 00:57 G 7769286.28 7769286.54 7769286.79 0.0090 0.0013 Neptune 16560-06-27 13:26 G 7769653.81 7769654.06 7769654.32 0.0090 0.0008 Jupiter 16560-11-13 14:09 G 7769792.87 7769793.09 7769793.30 0.0485 0.0186 Neptune 16561-06-30 01:40 G 7770021.32 7770021.57 7770021.83 0.0090 0.0004 Neptune 16562-07-02 14:24 G 7770388.84 7770389.10 7770389.35 0.0089 0.0002 Neptune 16563-07-05 02:24 G 7770756.35 7770756.60 7770756.86 0.0089 0.0007 Neptune 16564-07-06 14:52 G 7771123.86 7771124.12 7771124.37 0.0089 0.0011 Saturn 16564-11-05 09:36 G 7771245.65 7771245.90 7771246.14 0.0282 0.0036 Neptune 16565-07-09 02:52 G 7771491.37 7771491.62 7771491.88 0.0089 0.0015 Neptune 16566-07-11 15:07 G 7771858.89 7771859.13 7771859.39 0.0089 0.0020 Jupiter 16567-06-03 04:19 G 7772185.47 7772185.68 7772185.89 0.0545 0.0238 Neptune 16567-07-14 03:21 G 7772226.40 7772226.64 7772226.89 0.0089 0.0025 Neptune 16568-07-15 15:21 G 7772593.91 7772594.14 7772594.40 0.0089 0.0030 Neptune 16569-07-18 03:50 G 7772961.43 7772961.66 7772961.90 0.0089 0.0034 Neptune 16570-07-20 15:36 G 7773328.93 7773329.15 7773329.40 0.0089 0.0038 Neptune 16571-07-23 03:50 G 7773696.44 7773696.66 7773696.89 0.0089 0.0043 Neptune 16572-07-24 15:36 G 7774063.94 7774064.15 7774064.37 0.0089 0.0047 Jupiter 16572-11-17 18:28 G 7774180.04 7774180.27 7774180.50 0.0484 0.0087 Neptune 16573-07-27 02:52 G 7774431.44 7774431.62 7774431.86 0.0089 0.0052 Neptune 16574-07-29 14:38 G 7774798.93 7774799.11 7774799.34 0.0089 0.0056 Neptune 16575-08-01 02:24 G 7775166.43 7775166.60 7775166.81 0.0089 0.0059 Neptune 16576-08-02 13:55 G 7775533.92 7775534.08 7775534.28 0.0089 0.0063 Neptune 16577-08-05 01:12 G 7775901.41 7775901.55 7775901.75 0.0089 0.0068 Neptune 16578-08-07 13:26 G 7776268.91 7776269.06 7776269.22 0.0089 0.0071 Saturn 16579-05-09 07:12 G 7776543.56 7776543.80 7776544.05 0.0277 0.0028 Jupiter 16579-06-08 17:31 G 7776574.07 7776574.23 7776574.40 0.0545 0.0386 Neptune 16579-08-10 00:28 G 7776636.40 7776636.52 7776636.68 0.0089 0.0074

Neptune 16580-08-11 11:45 G 7777003.90 7777003.99 7777004.14 0.0089 0.0078 Neptune 16581-08-13 23:31 G 7777371.39 7777371.48 7777371.60 0.0089 0.0081 Neptune 16582-08-16 11:16 G 7777738.90 7777738.97 7777739.06 0.0089 0.0084 Uranus 16582-09-12 23:02 G 7777766.31 7777766.46 7777766.61 0.0144 0.0116 Neptune 16583-08-18 22:33 G 7778106.40 7778106.44 7778106.49 0.0089 0.0087 Uranus 16583-09-17 20:52 G 7778136.15 7778136.37 7778136.61 0.0144 0.0058 Uranus 16584-09-21 19:55 G 7778506.08 7778506.33 7778506.58 0.0145 0.0003 Jupiter 16584-11-21 21:21 G 7778567.16 7778567.39 7778567.63 0.0484 0.0012 Uranus 16585-09-26 18:43 G 7778876.06 7778876.28 7778876.51 0.0145 0.0063 Uranus 16586-10-01 18:00 G 7779246.13 7779246.25 7779246.39 0.0145 0.0123 Jupiter 16590-05-06 09:07 G 7780558.80 7780558.88 7780558.98 0.0541 0.0497 Jupiter 16591-06-14 03:50 G 7780962.61 7780962.66 7780962.72 0.0544 0.0526 Saturn 16593-10-30 15:50 G 7781832.08 7781832.16 7781832.25 0.0281 0.0262 Saturn 16594-11-12 20:09 G 7782210.21 7782210.34 7782210.50 0.0282 0.0227 Jupiter 16596-11-26 02:09 G 7782954.36 7782954.59 7782954.82 0.0484 0.0110 Jupiter 16602-05-12 13:26 G 7784946.90 7784947.06 7784947.24 0.0542 0.0365 16605-01-25 09:21 G 7785935.73 7785935.89 7785936.08 0.0080 0.0060 Pluto Jupiter 16607-11-02 10:33 G 7786946.92 7786946.94 7786946.97 0.0488 0.0485 Saturn 16608-05-04 02:24 G 7787130.46 7787130.60 7787130.74 0.0278 0.0226 Jupiter 16608-12-01 06:57 G 7787341.58 7787341.79 7787342.00 0.0484 0.0207 Saturn 16609-05-17 01:55 G 7787508.48 7787508.58 7787508.71 0.0277 0.0242 Jupiter 16614-05-17 22:04 G 7789335.21 7789335.42 7789335.64 0.0543 0.0222 Jupiter 16619-11-06 15:50 G 7791334.03 7791334.16 7791334.30 0.0487 0.0389 Jupiter 16620-12-05 10:19 G 7791728.74 7791728.93 7791729.11 0.0483 0.0300 Neptune 16622-11-12 23:45 G 7792436.45 7792436.49 7792436.57 0.0088 0.0085 Uranus 16623-03-15 04:19 G 7792558.56 7792558.68 7792558.83 0.0134 0.0114 Saturn 16623-11-08 10:48 G 7792796.70 7792796.95 7792797.19 0.0282 0.0015 Neptune 16623-11-15 10:04 G 7792803.85 7792803.92 7792804.03 0.0088 0.0082 Uranus 16624-03-18 14:38 G 7792927.90 7792928.11 7792928.34 0.0134 0.0066 Neptune 16624-11-16 20:09 G 7793171.25 7793171.34 7793171.47 0.0088 0.0079

Uranus 16625-03-23 00:28 G 7793297.27 7793297.52 7793297.78 0.0134 0.0018 Neptune 16625-11-19 06:14 G 7793538.66 7793538.76 7793538.92 0.0088 0.0076 Uranus 16626-03-27 10:04 G 7793666.68 7793666.92 7793667.18 0.0134 0.0031 Jupiter 16626-05-23 09:36 G 7793723.67 7793723.90 7793724.13 0.0544 0.0077 Neptune 16626-11-21 16:48 G 7793906.07 7793906.20 7793906.36 0.0088 0.0072 Uranus 16627-03-31 19:12 G 7794036.11 7794036.30 7794036.52 0.0133 0.0079 Neptune 16627-11-24 02:52 G 7794273.49 7794273.62 7794273.80 0.0088 0.0069 Uranus 16628-04-04 04:19 G 7794405.60 7794405.68 7794405.76 0.0133 0.0126 Neptune 16628-11-25 13:26 G 7794640.90 7794641.06 7794641.24 0.0088 0.0065 Neptune 16629-11-27 23:16 G 7795008.32 7795008.47 7795008.68 0.0088 0.0062 Neptune 16630-11-30 09:50 G 7795375.74 7795375.91 7795376.13 0.0088 0.0058 Jupiter 16631-11-10 20:52 G 7795721.19 7795721.37 7795721.56 0.0486 0.0291 Neptune 16631-12-02 20:24 G 7795743.17 7795743.35 7795743.57 0.0088 0.0054 Neptune 16632-12-04 07:12 G 7796110.60 7796110.80 7796111.02 0.0088 0.0050 Jupiter 16632-12-09 14:24 G 7796115.97 7796116.10 7796116.24 0.0484 0.0396 Mars 16633-02-25 06:57 G 7796193.61 7796193.79 7796193.97 0.1790 0.0685 Neptune 16633-12-06 17:31 G 7796478.03 7796478.23 7796478.47 0.0088 0.0046 Neptune 16634-12-09 04:04 G 7796845.46 7796845.67 7796845.91 0.0088 0.0042 Neptune 16635-12-11 14:38 G 7797212.89 7797213.11 7797213.36 0.0088 0.0038 Neptune 16636-12-13 01:12 G 7797580.33 7797580.55 7797580.80 0.0088 0.0034 Neptune 16637-12-15 11:31 G 7797947.75 7797947.98 7797948.24 0.0088 0.0030 Saturn 16638-05-11 10:19 G 7798094.69 7798094.93 7798095.18 0.0277 0.0025 Jupiter 16638-05-28 23:02 G 7798112.23 7798112.46 7798112.69 0.0545 0.0074 Neptune 16638-12-17 22:33 G 7798315.19 7798315.44 7798315.69 0.0088 0.0025 Neptune 16639-12-20 08:52 G 7798682.63 7798682.87 7798683.13 0.0088 0.0021 Neptune 16640-12-21 19:26 G 7799050.07 7799050.31 7799050.58 0.0088 0.0017 Neptune 16641-12-24 06:28 G 7799417.51 7799417.77 7799418.03 0.0088 0.0012 Neptune 16642-12-26 17:02 G 7799784.96 7799785.21 7799785.47 0.0088 0.0008 Jupiter 16643-11-15 00:14 G 7800108.30 7800108.51 7800108.72 0.0485 0.0195 Neptune 16643-12-29 04:04 G 7800152.41 7800152.67 7800152.93 0.0088 0.0004

Neptune 16644-12-30 15:07 G 7800519.87 7800520.13 7800520.39 0.0088 0.0001 Neptune 16646-01-02 01:55 G 7800887.32 7800887.58 7800887.84 0.0088 0.0005 Neptune 16647-01-04 12:57 G 7801254.79 7801255.04 7801255.30 0.0088 0.0010 Neptune 16648-01-07 00:00 G 7801622.25 7801622.50 7801622.76 0.0088 0.0014 Neptune 16649-01-08 11:16 G 7801989.71 7801989.97 7801990.22 0.0088 0.0018 Neptune 16650-01-10 22:04 G 7802357.18 7802357.42 7802357.68 0.0088 0.0023 Jupiter 16650-06-03 10:19 G 7802500.72 7802500.93 7802501.15 0.0545 0.0222 Neptune 16651-01-13 09:07 G 7802724.65 7802724.88 7802725.14 0.0088 0.0027 Neptune 16652-01-15 20:24 G 7803092.12 7803092.35 7803092.60 0.0088 0.0031 Saturn 16652-11-01 16:04 G 7803383.02 7803383.17 7803383.34 0.0281 0.0213 Neptune 16653-01-17 07:55 G 7803459.60 7803459.83 7803460.07 0.0088 0.0035 Saturn 16653-11-14 20:24 G 7803761.30 7803761.35 7803761.42 0.0282 0.0274 Neptune 16654-01-19 18:43 G 7803827.07 7803827.28 7803827.53 0.0088 0.0040 16654-08-26 08:52 G 7804045.69 7804045.87 7804046.06 0.1752 0.0362 Mars Neptune 16655-01-22 06:14 G 7804194.55 7804194.76 7804195.00 0.0088 0.0044 Jupiter 16655-11-19 05:02 G 7804495.48 7804495.71 7804495.94 0.0485 0.0095 Neptune 16656-01-24 17:45 G 7804562.04 7804562.24 7804562.47 0.0088 0.0048 Neptune 16657-01-26 05:16 G 7804929.53 7804929.72 7804929.94 0.0088 0.0052 Neptune 16658-01-28 17:02 G 7805297.03 7805297.21 7805297.43 0.0088 0.0056 Neptune 16659-01-31 04:33 G 7805664.52 7805664.69 7805664.90 0.0088 0.0060 Neptune 16660-02-02 17:02 G 7806032.03 7806032.21 7806032.39 0.0088 0.0064 Neptune 16661-02-04 04:19 G 7806399.53 7806399.68 7806399.87 0.0088 0.0068 Neptune 16662-02-06 15:50 G 7806767.04 7806767.16 7806767.35 0.0088 0.0072 Jupiter 16662-06-08 14:38 G 7806888.94 7806889.11 7806889.29 0.0544 0.0358 Neptune 16663-02-09 04:04 G 7807134.55 7807134.67 7807134.83 0.0088 0.0074 Neptune 16664-02-11 16:19 G 7807502.07 Neptune 16665-02-13 03:36 G 7807869.58 7807869.65 7807869.78 0.0088 0.0082 Neptune 16666-02-15 15:36 G 7808237.10 7808237.15 7808237.25 0.0088 0.0085 Uranus 16666-09-14 10:04 G 7808447.78 7808447.92 7808448.09 0.0144 0.0113 Neptune 16667-02-18 03:50 G 7808604.64 7808604.66 7808604.72 0.0088 0.0088

Saturn 16667-05-06 05:02 G 7808681.52 7808681.71 7808681.90 0.0278 0.0174 Uranus 16667-09-19 08:24 G 7808817.63 7808817.85 7808818.09 0.0144 0.0054 Jupiter 16667-11-23 09:21 G 7808882.66 7808882.89 7808883.12 0.0484 0.0001 Uranus 16668-09-23 07:12 G 7809187.55 7809187.80 7809188.05 0.0145 0.0007 Uranus 16669-09-28 06:00 G 7809557.52 7809557.75 7809557.97 0.0145 0.0067 Uranus 16670-10-03 04:33 G 7809927.60 7809927.69 7809927.83 0.0145 0.0129 Jupiter 16673-05-06 06:14 G 7810873.70 7810873.76 7810873.82 0.0540 0.0520 Jupiter 16674-06-13 23:02 G 7811277.38 7811277.46 7811277.57 0.0544 0.0498 Jupiter 16679-11-27 12:43 G 7813269.81 7813270.03 7813270.26 0.0484 0.0098 Saturn 16682-11-09 12:43 G 7814347.80 7814348.03 7814348.27 0.0282 0.0066 Jupiter 16685-05-11 15:21 G 7815261.97 7815262.14 7815262.30 0.0542 0.0384 Jupiter 16691-12-01 16:48 G 7817656.99 7817657.20 7817657.42 0.0484 0.0194 Saturn 16697-05-12 14:24 G 7819645.87 7819646.10 7819646.34 0.0277 0.0079 Jupiter 16697-05-17 03:50 G 7819650.46 7819650.66 7819650.88 0.0543 0.0239 Jupiter 16702-11-07 01:26 G 7821649.44 7821649.56 7821649.70 0.0487 0.0397 Jupiter 16703-12-06 19:55 G 7822044.15 7822044.33 7822044.52 0.0484 0.0289 Neptune 16704-05-14 00:43 G 7822203.52 7822203.53 7822203.58 0.0089 0.0089 Neptune 16705-05-16 13:55 G 7822571.03 7822571.08 7822571.17 0.0089 0.0086 Neptune 16706-05-19 02:52 G 7822938.55 7822938.62 7822938.74 0.0089 0.0083 Uranus 16707-03-16 15:07 G 7823240.00 7823240.13 7823240.29 0.0134 0.0111 Neptune 16707-05-21 16:04 G 7823306.08 7823306.17 7823306.32 0.0089 0.0080 Uranus 16708-03-20 01:40 G 7823609.35 7823609.57 7823609.80 0.0134 0.0062 Neptune 16708-05-23 05:16 G 7823673.61 7823673.72 7823673.88 0.0090 0.0076 Uranus 16709-03-24 11:31 G 7823978.73 7823978.98 7823979.24 0.0134 0.0014 Jupiter 16709-05-23 15:36 G 7824038.92 7824039.15 7824039.38 0.0544 0.0092 Neptune 16709-05-25 18:28 G 7824041.15 7824041.27 7824041.45 0.0090 0.0073 Uranus 16710-03-28 20:52 G 7824348.13 7824348.37 7824348.63 0.0134 0.0035 Neptune 16710-05-28 07:55 G 7824408.68 7824408.83 7824409.02 0.0090 0.0069 Uranus 16711-04-02 06:00 G 7824717.56 7824717.75 7824717.96 0.0133 0.0083 Neptune 16711-05-30 21:07 G 7824776.22 7824776.38 7824776.58 0.0090 0.0065 Saturn 16711-11-04 18:28 G 7824934.07 7824934.27 7824934.47 0.0281 0.0161 Uranus 16712-04-05 14:24 G 7825087.07 7825087.10 7825087.18 0.0133 0.0131 Neptune 16712-06-01 10:19 G 7825143.75 7825143.93 7825144.13 0.0090 0.0061 Neptune 16713-06-03 23:16 G 7825511.28 7825511.47 7825511.68 0.0090 0.0057 Neptune 16714-06-06 12:14 G 7825878.81 7825879.01 7825879.23 0.0090 0.0053 Jupiter 16714-11-11 06:28 G 7826036.59 7826036.77 7826036.95 0.0486 0.0300 Neptune 16715-06-09 00:57 G 7826246.34 7826246.54 7826246.77 0.0090 0.0049 Jupiter 16715-12-11 01:12 G 7826431.41 7826431.55 7826431.69 0.0484 0.0385 Neptune 16716-06-10 13:40 G 7826613.87 7826614.07 7826614.31 0.0090 0.0045 Neptune 16717-06-13 02:24 G 7826981.39 7826981.60 7826981.85 0.0090 0.0041 Neptune 16718-06-15 15:36 G 7827348.92 7827349.15 7827349.40 0.0090 0.0036 Neptune 16719-06-18 04:19 G 7827716.45 7827716.68 7827716.93 0.0090 0.0032 Neptune 16720-06-19 17:16 G 7828083.98 7828084.22 7828084.47 0.0090 0.0027 Jupiter 16721-05-28 20:52 G 7828427.14 7828427.37 7828427.61 0.0544 0.0047 Neptune 16721-06-22 06:00 G 7828451.51 7828451.75 7828452.01 0.0090 0.0023 Neptune 16722-06-24 18:43 G 7828819.04 7828819.28 7828819.55 0.0090 0.0019 Neptune 16723-06-27 07:40 G 7829186.57 7829186.82 7829187.08 0.0090 0.0014 Neptune 16724-06-28 20:24 G 7829554.09 7829554.35 7829554.60 0.0090 0.0009 Neptune 16725-07-01 09:07 G 7829921.62 7829921.88 7829922.13 0.0089 0.0005 Saturn 16726-05-08 07:55 G 7830232.62 7830232.83 7830233.06 0.0278 0.0121 Neptune 16726-07-03 21:36 G 7830289.14 7830289.40 7830289.65 0.0089 0.0001 Jupiter 16726-11-15 10:33 G 7830423.73 7830423.94 7830424.16 0.0486 0.0207 Neptune 16727-07-06 09:50 G 7830656.65 7830656.91 7830657.17 0.0089 0.0005 Jupiter 16727-12-15 05:45 G 7830818.71 7830818.74 7830818.78 0.0484 0.0478 Neptune 16728-07-07 22:04 G 7831024.17 7831024.42 7831024.68 0.0089 0.0009 Neptune 16729-07-10 10:19 G 7831391.68 7831391.93 7831392.19 0.0089 0.0014 Neptune 16730-07-12 22:33 G 7831759.20 7831759.44 7831759.70 0.0089 0.0018 Neptune 16731-07-15 10:48 G 7832126.71 7832126.95 7832127.21 0.0089 0.0022 Neptune 16732-07-16 23:02 G 7832494.22 7832494.46 7832494.71 0.0089 0.0027 Jupiter 16733-06-03 05:16 G 7832815.51 7832815.72 7832815.95 0.0544 0.0192

Neptune 16733-07-19 10:48 G 7832861.73 7832861.95 7832862.21 0.0089 0.0032 16733-08-29 21:50 G 7832903.31 7832903.41 7832903.51 0.1746 0.1473 Mars Neptune 16734-07-21 23:16 G 7833229.25 7833229.47 7833229.72 0.0089 0.0036 Neptune 16735-07-24 11:16 G 7833596.75 7833596.97 7833597.21 0.0089 0.0040 Neptune 16736-07-25 23:31 G 7833964.27 7833964.48 7833964.71 0.0089 0.0044 Neptune 16737-07-28 11:31 G 7834331.77 7834331.98 7834332.20 0.0089 0.0048 Neptune 16738-07-30 23:31 G 7834699.27 7834699.48 7834699.69 0.0089 0.0052 Jupiter 16738-11-19 14:24 G 7834810.88 7834811.10 7834811.33 0.0485 0.0110 Neptune 16739-08-02 11:02 G 7835066.77 7835066.96 7835067.17 0.0089 0.0056 Neptune 16740-08-03 22:33 G 7835434.26 7835434.44 7835434.64 0.0089 0.0059 Neptune 16741-08-06 09:50 G 7835801.76 7835801.91 7835802.12 0.0089 0.0064 Saturn 16741-11-11 16:33 G 7835898.98 7835899.19 7835899.42 0.0281 0.0121 Neptune 16742-08-08 21:50 G 7836169.25 7836169.41 7836169.59 0.0089 0.0067 Neptune 16743-08-11 08:52 G 7836536.74 7836536.87 7836537.05 0.0089 0.0070 Neptune 16744-08-12 20:38 G 7836904.23 7836904.36 7836904.51 0.0089 0.0073 Jupiter 16745-06-08 15:50 G 7837203.98 7837204.16 7837204.35 0.0545 0.0335 Neptune 16745-08-15 08:24 G 7837271.72 7837271.85 7837271.98 0.0089 0.0076 Neptune 16746-08-17 18:57 G 7837639.21 7837639.29 7837639.43 0.0089 0.0080 Neptune 16747-08-20 06:28 G 7838006.71 7838006.77 7838006.89 0.0089 0.0083 Neptune 16748-08-21 17:45 G 7838374.21 7838374.24 7838374.34 0.0089 0.0086 Neptune 16749-08-24 05:16 G 7838741.71 7838741.72 7838741.77 0.0089 0.0088 Uranus 16750-09-15 21:50 G 7839129.27 7839129.41 7839129.60 0.0144 0.0109 Jupiter 16750-11-23 18:57 G 7839198.06 7839198.29 7839198.52 0.0484 0.0011 Uranus 16751-09-20 19:55 G 7839499.11 7839499.33 7839499.58 0.0144 0.0050 Uranus 16752-09-24 18:43 G 7839869.03 7839869.28 7839869.53 0.0145 0.0011 Uranus 16753-09-29 17:16 G 7840239.01 7840239.22 7840239.44 0.0145 0.0072 Uranus 16754-10-04 16:04 G 7840609.08 7840609.17 7840609.28 0.0145 0.0132 Jupiter 16756-05-06 09:36 G 7841188.89 7841188.90 7841188.94 0.0540 0.0537 Saturn 16756-05-14 19:40 G 7841197.11 7841197.32 7841197.55 0.0277 0.0135 Jupiter 16757-06-14 04:33 G 7841592.59 7841592.69 7841592.81 0.0545 0.0478

16762-07-31 10:19 G 7843465.67 7843465.93 7843466.19 0.0064 0.0002 Pluto Jupiter 16762-11-27 21:50 G 7843585.18 7843585.41 7843585.64 0.0484 0.0086 Jupiter 16768-05-11 20:52 G 7845577.22 7845577.37 7845577.53 0.0542 0.0398 Saturn 16770-11-05 22:33 G 7846485.22 7846485.44 7846485.67 0.0281 0.0106 Jupiter 16774-12-02 02:09 G 7847972.38 7847972.59 7847972.81 0.0484 0.0183 Jupiter 16780-05-17 02:52 G 7849965.42 7849965.62 7849965.83 0.0542 0.0263 Neptune 16784-11-08 13:26 G 7851602.05 7851602.06 7851602.10 0.0088 0.0087 Saturn 16785-05-09 12:28 G 7851783.79 7851784.02 7851784.27 0.0278 0.0066 Jupiter 16785-11-06 09:36 G 7851964.78 7851964.90 7851965.03 0.0488 0.0411 Neptune 16785-11-10 23:16 G 7851969.43 7851969.47 7851969.57 0.0088 0.0085 Neptune 16786-11-13 09:50 G 7852336.84 7852336.91 7852337.02 0.0088 0.0082 Jupiter 16786-12-06 06:14 G 7852359.57 7852359.76 7852359.95 0.0484 0.0276 Neptune 16787-11-15 19:55 G 7852704.25 7852704.33 7852704.47 0.0088 0.0079 Neptune 16788-11-17 06:28 G 7853071.66 7853071.77 7853071.92 0.0088 0.0076 Neptune 16789-11-19 16:19 G 7853439.07 7853439.18 7853439.35 0.0088 0.0073 Neptune 16790-11-22 02:38 G 7853806.48 7853806.61 7853806.79 0.0088 0.0070 Uranus 16791-03-17 00:43 G 7853921.39 7853921.53 7853921.69 0.0134 0.0109 Neptune 16791-11-24 13:26 G 7854173.90 7854174.06 7854174.23 0.0088 0.0066 Uranus 16792-03-20 10:48 G 7854290.74 7854290.95 7854291.20 0.0134 0.0060 Jupiter 16792-05-22 10:48 G 7854353.72 7854353.95 7854354.18 0.0543 0.0122 Neptune 16792-11-25 23:16 G 7854541.31 7854541.47 7854541.66 0.0088 0.0063 Uranus 16793-03-24 20:52 G 7854660.11 7854660.37 7854660.63 0.0134 0.0011 Neptune 16793-11-28 09:21 G 7854908.73 7854908.89 7854909.11 0.0088 0.0060 Uranus 16794-03-29 06:14 G 7855029.52 7855029.76 7855030.01 0.0134 0.0038 Neptune 16794-11-30 19:55 G 7855276.14 7855276.33 7855276.54 0.0088 0.0056 Uranus 16795-04-02 15:21 G 7855398.95 7855399.14 7855399.34 0.0134 0.0086 Neptune 16795-12-03 06:43 G 7855643.57 7855643.78 7855643.99 0.0088 0.0052 Uranus 16796-04-06 00:14 G 7855768.51 7855768.51 7855768.52 0.0133 0.0133 Neptune 16796-12-04 16:33 G 7856011.00 7856011.19 7856011.43 0.0088 0.0049 Jupiter 16797-11-10 14:24 G 7856351.93 7856352.10 7856352.28 0.0487 0.0316

Neptune 16797-12-07 03:07 G 7856378.43 7856378.63 7856378.87 0.0088 0.0045 Neptune 16798-12-09 13:55 G 7856745.86 7856746.08 7856746.32 0.0088 0.0041 Jupiter 16798-12-10 09:07 G 7856746.73 7856746.88 7856747.03 0.0484 0.0368 Neptune 16799-12-12 00:28 G 7857113.30 7857113.52 7857113.77 0.0088 0.0037 Saturn 16800-11-12 23:02 G 7857450.28 7857450.46 7857450.66 0.0281 0.0179 Neptune 16800-12-13 11:02 G 7857480.73 7857480.96 7857481.21 0.0088 0.0033 Neptune 16801-12-15 21:36 G 7857848.17 7857848.40 7857848.66 0.0088 0.0029 Neptune 16802-12-18 08:24 G 7858215.61 7858215.85 7858216.10 0.0088 0.0025 Neptune 16803-12-20 18:57 G 7858583.05 7858583.29 7858583.55 0.0088 0.0021 Jupiter 16804-05-27 19:40 G 7858742.09 7858742.32 7858742.56 0.0544 0.0023 Neptune 16804-12-22 05:45 G 7858950.49 7858950.74 7858951.00 0.0088 0.0017 Neptune 16805-12-24 16:19 G 7859317.93 7859318.18 7859318.44 0.0088 0.0013 Neptune 16806-12-27 03:07 G 7859685.38 7859685.63 7859685.89 0.0088 0.0009 Neptune 16807-12-29 13:55 G 7860052.83 7860053.08 7860053.34 0.0088 0.0005 Neptune 16808-12-31 00:43 G 7860420.28 7860420.53 7860420.79 0.0088 0.0001 Jupiter 16809-11-14 19:26 G 7860739.10 7860739.31 7860739.52 0.0486 0.0218 Neptune 16810-01-02 11:45 G 7860787.73 7860787.99 7860788.25 0.0088 0.0004 Jupiter 16810-12-14 13:26 G 7861133.99 7861134.06 7861134.13 0.0484 0.0461 Neptune 16811-01-04 22:48 G 7861155.19 7861155.45 7861155.71 0.0088 0.0008 Neptune 16812-01-07 09:50 G 7861522.66 7861522.91 7861523.17 0.0088 0.0013 Neptune 16813-01-08 20:52 G 7861890.12 7861890.37 7861890.63 0.0088 0.0017 Neptune 16814-01-11 07:55 G 7862257.59 7862257.83 7862258.10 0.0088 0.0021 Saturn 16814-05-04 00:43 G 7862370.51 7862370.53 7862370.58 0.0278 0.0275 Neptune 16815-01-13 19:12 G 7862625.06 7862625.30 7862625.56 0.0088 0.0025 Saturn 16815-05-17 02:24 G 7862748.43 7862748.60 7862748.78 0.0277 0.0192 Neptune 16816-01-16 06:28 G 7862992.53 7862992.77 7862993.02 0.0088 0.0029 Jupiter 16816-06-02 08:09 G 7863130.62 7863130.84 7863131.07 0.0545 0.0170 Neptune 16817-01-17 17:31 G 7863360.00 7863360.23 7863360.48 0.0088 0.0033 Neptune 16818-01-20 04:33 G 7863727.47 7863727.69 7863727.94 0.0088 0.0037 Neptune 16819-01-22 16:04 G 7864094.95 7864095.17 7864095.41 0.0088 0.0041

Neptune 16820-01-25 03:07 G 7864462.43 7864462.63 7864462.87 0.0088 0.0045 Neptune 16821-01-26 14:38 G 7864829.92 7864830.11 7864830.35 0.0088 0.0049 Jupiter 16821-11-18 22:33 G 7865126.22 7865126.44 7865126.67 0.0485 0.0122 Neptune 16822-01-29 02:24 G 7865197.40 7865197.60 7865197.81 0.0088 0.0052 Neptune 16823-01-31 13:55 G 7865564.90 Neptune 16824-02-03 01:12 G 7865932.39 7865932.55 7865932.77 0.0088 0.0061 Neptune 16825-02-04 13:12 G 7866299.89 Neptune 16826-02-07 01:26 G 7866667.40 7866667.56 7866667.73 0.0088 0.0067 Neptune 16827-02-09 12:57 G 7867034.91 7867035.04 7867035.22 0.0088 0.0070 Neptune 16828-02-12 00:57 G 7867402.41 7867402.54 7867402.70 0.0088 0.0073 Jupiter 16828-06-07 19:55 G 7867519.15 7867519.33 7867519.53 0.0545 0.0316 Neptune 16829-02-13 12:43 G 7867769.92 7867770.03 7867770.18 0.0088 0.0077 Saturn 16829-11-07 05:31 G 7868036.49 7868036.73 7868036.97 0.0281 0.0047 Neptune 16830-02-16 00:43 G 7868137.44 7868137.53 7868137.66 0.0088 0.0080 Neptune 16831-02-18 12:43 G 7868504.96 7868505.03 7868505.14 0.0088 0.0083 Neptune 16832-02-21 00:43 G 7868872.49 7868872.53 7868872.62 0.0088 0.0086 Neptune 16833-02-22 12:43 G 7869240.03 7869240.03 7869240.07 0.0088 0.0088 Jupiter 16833-11-23 02:52 G 7869513.39 7869513.62 7869513.85 0.0485 0.0023 Uranus 16834-09-16 08:38 G 7869810.71 7869810.86 7869811.04 0.0144 0.0106 Uranus 16835-09-21 06:43 G 7870180.55 7870180.78 7870181.03 0.0144 0.0047 Uranus 16836-09-25 05:16 G 7870550.47 7870550.72 7870550.98 0.0145 0.0015 Uranus 16837-09-30 03:50 G 7870920.45 7870920.66 7870920.88 0.0145 0.0075 16838-02-23 16:48 G 7871067.06 7871067.20 7871067.34 0.1775 0.1257 Mars Uranus 16838-10-05 02:38 G 7871290.54 7871290.61 7871290.71 0.0145 0.0136 Jupiter 16840-06-13 01:40 G 7871907.44 7871907.57 7871907.70 0.0544 0.0447 Saturn 16844-05-10 18:43 G 7873335.03 7873335.28 7873335.53 0.0278 0.0008 Jupiter 16845-11-27 06:00 G 7873900.52 7873900.75 7873900.98 0.0484 0.0071 Pluto 16851-01-28 11:31 G 7875788.83 7875788.98 7875789.19 0.0080 0.0057 Jupiter 16851-05-11 16:48 G 7875892.06 7875892.20 7875892.35 0.0540 0.0424 Jupiter 16857-12-01 09:07 G 7878287.66 7878287.88 7878288.10 0.0484 0.0165

Saturn 16858-11-02 04:48 G 7878623.59 7878623.70 7878623.84 0.0280 0.0240 Saturn 16859-11-15 07:12 G 7879001.69 7879001.80 7879001.94 0.0281 0.0240 Jupiter 16863-05-16 23:16 G 7880280.28 7880280.47 7880280.67 0.0542 0.0289 Neptune 16867-05-11 18:57 G 7881736.28 7881736.29 7881736.36 0.0089 0.0089 Neptune 16868-05-13 07:55 G 7882103.79 7882103.83 7882103.94 0.0089 0.0086 Jupiter 16868-11-05 18:00 G 7882280.13 7882280.25 7882280.36 0.0488 0.0421 Neptune 16869-05-15 21:21 G 7882471.31 7882471.39 7882471.51 0.0089 0.0083 Jupiter 16869-12-05 13:12 G 7882674.85 7882675.05 7882675.25 0.0484 0.0260 Neptune 16870-05-18 10:33 G 7882838.85 7882838.94 7882839.08 0.0089 0.0080 Neptune 16871-05-20 23:31 G 7883206.37 7883206.48 7883206.64 0.0089 0.0077 Neptune 16872-05-22 12:57 G 7883573.90 7883574.04 7883574.20 0.0089 0.0073 Saturn 16873-05-05 09:07 G 7883921.73 7883921.88 7883922.04 0.0278 0.0214 Neptune 16873-05-25 01:55 G 7883941.44 7883941.58 7883941.76 0.0089 0.0070 Saturn 16874-05-18 11:02 G 7884299.86 7884299.96 7884300.06 0.0277 0.0252 Neptune 16874-05-27 15:21 G 7884308.98 7884309.14 7884309.32 0.0089 0.0066 Uranus 16875-03-17 10:33 G 7884602.80 7884602.94 7884603.11 0.0134 0.0106 Jupiter 16875-05-22 11:02 G 7884668.73 7884668.96 7884669.19 0.0543 0.0144 Neptune 16875-05-30 04:19 G 7884676.52 7884676.68 7884676.89 0.0090 0.0063 Uranus 16876-03-20 20:52 G 7884972.15 7884972.37 7884972.61 0.0134 0.0057 Neptune 16876-05-31 17:31 G 7885044.06 7885044.23 7885044.44 0.0090 0.0059 Uranus 16877-03-25 06:57 G 7885341.53 7885341.79 7885342.04 0.0134 0.0008 Neptune 16877-06-03 07:12 G 7885411.60 7885411.80 7885412.01 0.0090 0.0055 Uranus 16878-03-29 16:19 G 7885710.94 7885711.18 7885711.43 0.0134 0.0041 Neptune 16878-06-05 20:24 G 7885779.14 7885779.35 7885779.56 0.0090 0.0051 Uranus 16879-04-03 01:26 G 7886080.37 7886080.56 7886080.75 0.0134 0.0089 Neptune 16879-06-08 08:52 G 7886146.67 7886146.87 7886147.11 0.0090 0.0048 Neptune 16880-06-09 21:36 G 7886514.20 7886514.40 7886514.65 0.0090 0.0044 Jupiter 16880-11-09 21:36 G 7886667.23 7886667.40 7886667.58 0.0487 0.0327 Neptune 16881-06-12 10:48 G 7886881.73 7886881.95 7886882.20 0.0090 0.0039 Jupiter 16881-12-09 16:04 G 7887062.02 7887062.17 7887062.33 0.0484 0.0354

Neptune 16882-06-14 23:45 G 7887249.26 7887249.49 7887249.73 0.0090 0.0035 Neptune 16883-06-17 12:43 G 7887616.79 7887617.03 7887617.27 0.0090 0.0031 Neptune 16884-06-19 01:12 G 7887984.32 7887984.55 7887984.81 0.0090 0.0027 Neptune 16885-06-21 13:55 G 7888351.84 7888352.08 7888352.34 0.0090 0.0023 Neptune 16886-06-24 02:52 G 7888719.38 7888719.62 7888719.88 0.0090 0.0018 Jupiter 16887-05-27 22:48 G 7889057.22 7889057.45 7889057.69 0.0544 0.0007 Neptune 16887-06-26 15:36 G 7889086.90 7889087.15 7889087.41 0.0090 0.0014 Neptune 16888-06-28 04:19 G 7889454.43 7889454.68 7889454.94 0.0090 0.0010 Saturn 16888-11-08 14:38 G 7889587.87 7889588.11 7889588.35 0.0281 0.0016 Neptune 16889-06-30 17:02 G 7889821.96 7889822.21 7889822.47 0.0089 0.0006 Neptune 16890-07-03 05:45 G 7890189.48 7890189.74 7890190.00 0.0089 0.0001 Neptune 16891-07-05 18:14 G 7890557.00 7890557.26 7890557.52 0.0089 0.0003 Neptune 16892-07-07 06:28 G 7890924.52 7890924.77 7890925.03 0.0089 0.0008 Jupiter 16892-11-14 02:09 G 7891054.39 7891054.59 7891054.80 0.0486 0.0230 Neptune 16893-07-09 18:57 G 7891292.04 7891292.29 7891292.55 0.0089 0.0012 Jupiter 16893-12-13 20:24 G 7891449.28 7891449.35 7891449.45 0.0484 0.0448 Neptune 16894-07-12 06:57 G 7891659.55 7891659.79 7891660.05 0.0089 0.0016 Neptune 16895-07-14 19:12 G 7892027.06 7892027.30 7892027.56 0.0089 0.0020 Neptune 16896-07-16 07:12 G 7892394.56 7892394.80 7892395.06 0.0089 0.0025 Neptune 16897-07-18 19:26 G 7892762.08 7892762.31 7892762.57 0.0089 0.0029 Neptune 16898-07-21 07:26 G 7893129.58 7893129.81 7893130.06 0.0089 0.0033 Jupiter 16899-06-02 06:14 G 7893445.54 7893445.76 7893445.99 0.0544 0.0141 Neptune 16899-07-23 19:40 G 7893497.09 7893497.32 7893497.56 0.0089 0.0037 Neptune 16900-07-26 07:55 G 7893864.60 7893864.83 7893865.06 0.0089 0.0041 Neptune 16901-07-28 19:55 G 7894232.11 7894232.33 7894232.56 0.0089 0.0045 Neptune 16902-07-31 07:40 G 7894599.62 7894599.82 7894600.05 0.0089 0.0049 Saturn 16903-05-14 02:09 G 7894886.35 7894886.59 7894886.84 0.0278 0.0051 Neptune 16903-08-02 19:12 G 7894967.12 7894967.30 7894967.53 0.0089 0.0053 Neptune 16904-08-04 07:40 G 7895334.62 7895334.82 7895335.02 0.0089 0.0056 Jupiter 16904-11-19 04:48 G 7895441.48 7895441.70 7895441.92 0.0486 0.0138

Neptune 16905-08-06 18:57 G 7895702.11 7895702.29 7895702.50 0.0089 0.0059 Neptune 16906-08-09 06:43 G 7896069.61 7896069.78 7896069.97 0.0089 0.0063 Neptune 16907-08-11 17:45 G 7896437.09 7896437.24 7896437.44 0.0089 0.0067 Neptune 16908-08-13 05:31 G 7896804.59 7896804.73 7896804.91 0.0089 0.0069 Neptune 16909-08-15 17:02 G 7897172.08 7897172.21 7897172.37 0.0089 0.0072 Neptune 16910-08-18 04:33 G 7897539.57 7897539.69 7897539.84 0.0089 0.0075 Jupiter 16911-06-08 13:26 G 7897833.87 7897834.06 7897834.27 0.0544 0.0281 Neptune 16911-08-20 15:50 G 7897907.05 7897907.16 7897907.29 0.0089 0.0078 Neptune 16912-08-22 03:07 G 7898274.54 7898274.63 7898274.75 0.0089 0.0081 Neptune 16913-08-24 14:24 G 7898642.04 7898642.10 7898642.21 0.0089 0.0084 Neptune 16914-08-27 01:40 G 7899009.53 7899009.57 7899009.65 0.0089 0.0086 Neptune 16915-08-29 12:57 G 7899377.04 7899377.04 7899377.09 0.0089 0.0089 Jupiter 16916-11-23 08:24 G 7899828.62 7899828.85 7899829.09 0.0485 0.0042 16917-02-27 11:31 G 7899924.81 7899924.98 7899925.14 0.1782 0.0904 Mars Saturn 16917-11-04 14:52 G 7900174.94 7900175.12 7900175.32 0.0280 0.0177 Uranus 16918-09-17 18:57 G 7900492.13 7900492.29 7900492.48 0.0144 0.0103 Uranus 16919-09-22 17:02 G 7900861.98 7900862.21 7900862.46 0.0144 0.0043 Uranus 16920-09-26 15:21 G 7901231.89 7901232.14 7901232.39 0.0145 0.0018 Uranus 16921-10-01 13:40 G 7901601.87 7901602.07 7901602.30 0.0145 0.0079 Uranus 16922-10-06 12:43 G 7901971.97 7901972.03 7901972.11 0.0145 0.0139 Jupiter 16923-06-13 21:21 G 7902222.24 7902222.39 7902222.54 0.0545 0.0418 Jupiter 16928-11-27 12:43 G 7904215.80 7904216.03 7904216.26 0.0484 0.0056 Saturn 16932-05-07 18:57 G 7905473.08 7905473.29 7905473.50 0.0278 0.0151 Jupiter 16934-05-11 14:24 G 7906206.97 7906207.10 7906207.23 0.0541 0.0446 Mars 16938-08-28 22:19 G 7907777.24 7907777.43 7907777.62 0.1760 0.0048 Jupiter 16940-12-01 15:36 G 7908602.93 7908603.15 7908603.37 0.0484 0.0150 Jupiter 16946-05-17 01:40 G 7910595.38 7910595.57 7910595.77 0.0542 0.0307 Neptune 16947-11-07 13:40 G 7911135.04 7911135.07 7911135.14 0.0088 0.0086 Saturn 16947-11-12 01:40 G 7911139.33 7911139.57 7911139.80 0.0281 0.0081 Neptune 16948-11-08 23:31 G 7911502.44 7911502.48 7911502.59 0.0088 0.0084

Neptune 16949-11-11 10:04 G 7911869.84 7911869.92 7911870.04 0.0088 0.0081 Neptune 16950-11-13 20:38 G 7912237.25 7912237.36 7912237.48 0.0088 0.0078 Jupiter 16951-11-06 23:31 G 7912595.38 7912595.48 7912595.59 0.0488 0.0433 Neptune 16951-11-16 06:43 G 7912604.68 7912604.78 7912604.93 0.0088 0.0076 Neptune 16952-11-17 16:48 G 7912972.09 7912972.20 7912972.37 0.0088 0.0073 Jupiter 16952-12-05 19:26 G 7912990.11 7912990.31 7912990.52 0.0484 0.0246 Neptune 16953-11-20 03:21 G 7913339.51 7913339.64 7913339.82 0.0088 0.0070 Neptune 16954-11-22 13:40 G 7913706.93 7913707.07 7913707.26 0.0088 0.0067 Neptune 16955-11-24 23:45 G 7914074.34 7914074.49 7914074.69 0.0088 0.0064 Neptune 16956-11-26 10:48 G 7914441.76 7914441.95 7914442.14 0.0088 0.0060 Neptune 16957-11-28 20:38 G 7914809.18 7914809.36 7914809.57 0.0088 0.0057 Jupiter 16958-05-22 10:04 G 7914983.70 7914983.92 7914984.15 0.0542 0.0171 Neptune 16958-12-01 06:57 G 7915176.60 7915176.79 7915177.01 0.0088 0.0054 Uranus 16959-03-18 19:12 G 7915284.15 7915284.30 7915284.48 0.0134 0.0104 Neptune 16959-12-03 17:02 G 7915544.02 7915544.21 7915544.44 0.0088 0.0051 Uranus 16960-03-22 05:31 G 7915653.51 7915653.73 7915653.97 0.0134 0.0055 Neptune 16960-12-05 03:36 G 7915911.45 7915911.65 7915911.88 0.0088 0.0047 Uranus 16961-03-26 15:21 G 7916022.89 7916023.14 7916023.40 0.0134 0.0006 Neptune 16961-12-07 14:09 G 7916278.87 7916279.09 7916279.32 0.0088 0.0043 Uranus 16962-03-31 00:57 G 7916392.30 7916392.54 7916392.78 0.0134 0.0043 Saturn 16962-05-15 11:02 G 7916437.74 7916437.96 7916438.19 0.0278 0.0112 Neptune 16962-12-10 00:14 G 7916646.30 7916646.51 7916646.76 0.0088 0.0040 Uranus 16963-04-04 09:36 G 7916761.73 7916761.90 7916762.10 0.0134 0.0092 Jupiter 16963-11-11 01:55 G 7916982.43 7916982.58 7916982.75 0.0488 0.0344 Neptune 16963-12-12 11:02 G 7917013.73 7917013.96 7917014.20 0.0088 0.0036 Jupiter 16964-12-09 22:19 G 7917377.27 7917377.43 7917377.60 0.0484 0.0337 Neptune 16964-12-13 21:36 G 7917381.17 7917381.40 7917381.65 0.0088 0.0032 Neptune 16965-12-16 07:55 G 7917748.61 7917748.83 7917749.10 0.0088 0.0029 Neptune 16966-12-18 18:43 G 7918116.05 7918116.28 7918116.54 0.0088 0.0025 Neptune 16967-12-21 05:31 G 7918483.49 7918483.73 7918483.99 0.0088 0.0021

Neptune 16968-12-22 16:04 G 7918850.92 7918851.17 7918851.43 0.0088 0.0017 Neptune 16969-12-25 02:52 G 7919218.37 7919218.62 7919218.88 0.0088 0.0013 Jupiter 16970-05-27 17:16 G 7919371.99 7919372.22 7919372.46 0.0543 0.0031 Neptune 16970-12-27 13:40 G 7919585.81 7919586.07 7919586.33 0.0088 0.0009 Neptune 16971-12-30 00:14 G 7919953.26 7919953.51 7919953.77 0.0088 0.0005 Neptune 16972-12-31 11:02 G 7920320.71 7920320.96 7920321.22 0.0088 0.0002 Neptune 16974-01-02 21:50 G 7920688.15 7920688.41 7920688.67 0.0088 0.0003 Neptune 16975-01-05 08:52 G 7921055.61 7921055.87 7921056.13 0.0088 0.0007 Jupiter 16975-11-15 06:28 G 7921369.57 7921369.77 7921369.97 0.0487 0.0249 Neptune 16976-01-07 19:55 G 7921423.07 7921423.33 7921423.58 0.0088 0.0011 Saturn 16976-11-06 01:55 G 7921726.36 7921726.58 7921726.81 0.0281 0.0112 Jupiter 16976-12-14 01:26 G 7921764.46 7921764.56 7921764.67 0.0484 0.0427 Neptune 16977-01-09 06:57 G 7921790.53 7921790.79 7921791.04 0.0088 0.0015 Neptune 16978-01-11 18:00 G 7922158.00 7922158.25 7922158.51 0.0088 0.0019 Neptune 16979-01-14 05:16 G 7922525.48 7922525.72 7922525.98 0.0088 0.0023 Neptune 16980-01-16 16:19 G 7922892.94 7922893.18 7922893.44 0.0088 0.0027 Neptune 16981-01-18 03:36 G 7923260.42 7923260.65 7923260.90 0.0088 0.0031 Neptune 16982-01-20 14:38 G 7923627.89 7923628.11 7923628.37 0.0088 0.0035 Jupiter 16982-06-01 23:31 G 7923760.26 7923760.48 7923760.71 0.0544 0.0110 Neptune 16983-01-23 02:24 G 7923995.37 7923995.60 7923995.83 0.0088 0.0038 Neptune 16984-01-25 13:26 G 7924362.85 7924363.06 7924363.31 0.0088 0.0042 Neptune 16985-01-27 00:28 G 7924730.33 7924730.52 7924730.77 0.0088 0.0047 Neptune 16986-01-29 12:28 G 7925097.82 7925098.02 7925098.24 0.0088 0.0049 Neptune 16987-01-31 23:45 G 7925465.30 7925465.49 7925465.72 0.0088 0.0053 Jupiter 16987-11-19 11:31 G 7925756.76 7925756.98 7925757.20 0.0486 0.0151 Neptune 16988-02-03 11:16 G 7925832.79 7925832.97 7925833.19 0.0088 0.0057 Neptune 16989-02-04 22:48 G 7926200.29 7926200.45 7926200.67 0.0088 0.0060 Neptune 16990-02-07 10:48 G 7926567.79 7926567.95 7926568.16 0.0088 0.0063 Neptune 16991-02-09 22:48 G 7926935.30 7926935.45 7926935.64 0.0088 0.0067 Saturn 16991-05-10 06:00 G 7927024.51 7927024.75 7927024.98 0.0278 0.0087

Neptune 16992-02-12 10:33 G 7927302.81 7927302.94 7927303.13 0.0088 0.0070

Neptune 16993-02-13 22:33 G 7927670.32 7927670.44 7927670.61 0.0088 0.0073

Neptune 16994-02-16 10:19 G 7928037.83 7928037.93 7928038.10 0.0088 0.0076

Jupiter 16994-06-07 10:48 G 7928148.75 7928148.95 7928149.16 0.0545 0.0255

Neptune 16995-02-18 22:19 G 7928405.35 7928405.43 7928405.59 0.0088 0.0079

Neptune 16996-02-21 10:33 G 7928772.85 7928772.94 7928773.06 0.0088 0.0081

Neptune 16997-02-22 22:19 G 7929140.38 7929140.43 7929140.55 0.0088 0.0084

Neptune 16998-02-25 10:48 G 7929507.91 7929507.95 7929508.03 0.0088 0.0086

Neptune 16999-02-27 22:48 G 7929875.45 7929875.45 7929875.49 0.0088 0.0088

Jupiter 16999-11-23 14:38 G 7930143.88 7930144.11 7930144.35 0.0485 0.0056

## 18TH MILLENNIUM CE

## This is a list of transits of Earth in the 18th millennium CE.

FROM MAX- C START MAX END SUNRAD DEPTH S

TRANSIT

TIME

Uranus 17002-09-19 03:50 G 7931173.50 7931173.66 7931173.85 0.0144 0.0101
Uranus 17003-09-24 01:55 G 7931543.35 7931543.58 7931543.83 0.0144 0.0041
Uranus 17004-09-28 00:28 G 7931913.27 7931913.52 7931913.77 0.0145 0.0020
Uranus 17005-10-02 22:33 G 7932283.25 7932283.44 7932283.66 0.0145 0.0081
Jupiter 17006-06-13 23:02 G 7932537.30 7932537.46 7932537.62 0.0545 0.0396
Uranus 17006-10-07 21:21 G 7932653.37 7932653.39 7932653.46 0.0145 0.0142
Saturn 17006-11-14 13:40 G 7932690.86 7932691.07 7932691.28 0.0281 0.0148
Pluto 17008-08-03 11:31 G 7933318.73 7933318.98 7933319.24 0.0064 0.0003
Jupiter 17011-11-28 18:28 G 7934531.03 7934531.27 7934531.50 0.0484 0.0042

Jupiter 17017-05-11 14:52 G 7936522.01 7936522.12 7936522.24 0.0540 0.0467 Jupiter 17018-06-19 06:28 G 7936925.72 7936925.77 7936925.83 0.0544 0.0527 Saturn 17021-05-17 20:09 G 7937989.16 7937989.34 7937989.55 0.0278 0.0175 Jupiter 17023-12-02 20:38 G 7938918.14 7938918.36 7938918.59 0.0484 0.0133 Neptune 17029-05-08 01:40 G 7940901.55 7940901.57 7940901.60 0.0089 0.0089 Jupiter 17029-05-16 21:36 G 7940910.22 7940910.40 7940910.58 0.0541 0.0333 Neptune 17030-05-10 14:38 G 7941269.06 7941269.11 7941269.19 0.0089 0.0087 Neptune 17031-05-13 03:21 G 7941636.59 7941636.64 7941636.76 0.0089 0.0085 Neptune 17032-05-14 16:48 G 7942004.12 7942004.20 7942004.33 0.0089 0.0082 Neptune 17033-05-17 06:14 G 7942371.66 7942371.76 7942371.90 0.0089 0.0079 Neptune 17034-05-19 19:26 G 7942739.18 7942739.31 7942739.45 0.0089 0.0076 Jupiter 17034-11-07 02:52 G 7942910.53 7942910.62 7942910.71 0.0489 0.0450 Neptune 17035-05-22 08:38 G 7943106.72 7943106.86 7943107.01 0.0089 0.0073 Saturn 17035-11-09 13:12 G 7943277.81 7943278.05 7943278.29 0.0281 0.0047 Jupiter 17035-12-06 23:45 G 7943305.29 7943305.49 7943305.70 0.0484 0.0226 Neptune 17036-05-23 21:36 G 7943474.25 7943474.40 7943474.57 0.0090 0.0070 Neptune 17037-05-26 10:33 G 7943841.78 7943841.94 7943842.13 0.0090 0.0067 Neptune 17038-05-28 23:31 G 7944209.32 7944209.48 7944209.68 0.0090 0.0064 Neptune 17039-05-31 12:57 G 7944576.85 7944577.04 7944577.23 0.0090 0.0060 Neptune 17040-06-02 01:55 G 7944944.39 7944944.58 7944944.79 0.0090 0.0057 Jupiter 17041-05-22 01:55 G 7945298.37 7945298.58 7945298.80 0.0542 0.0201 Neptune 17041-06-04 15:21 G 7945311.93 7945312.14 7945312.35 0.0090 0.0053 Neptune 17042-06-07 04:04 G 7945679.47 7945679.67 7945679.90 0.0090 0.0050 Uranus 17043-03-20 04:48 G 7945965.54 7945965.70 7945965.87 0.0134 0.0102 Neptune 17043-06-09 17:16 G 7946047.01 7946047.22 7946047.45 0.0090 0.0046 Uranus 17044-03-23 14:52 G 7946334.89 7946335.12 7946335.36 0.0134 0.0052 Neptune 17044-06-11 06:28 G 7946414.55 7946414.77 7946415.01 0.0090 0.0042 Uranus 17045-03-28 00:43 G 7946704.27 7946704.53 7946704.79 0.0134 0.0003 Neptune 17045-06-13 19:26 G 7946782.08 7946782.31 7946782.55 0.0090 0.0038 Uranus 17046-04-01 10:04 G 7947073.69 7947073.92 7947074.17 0.0134 0.0046

Neptune 17046-06-16 07:55 G 7947149.61 7947149.83 7947150.09 0.0090 0.0035 Jupiter 17046-11-11 08:52 G 7947297.71 7947297.87 7947298.03 0.0488 0.0355 Uranus 17047-04-05 18:43 G 7947443.12 7947443.28 7947443.48 0.0134 0.0095 Neptune 17047-06-18 20:52 G 7947517.14 7947517.37 7947517.63 0.0090 0.0030 Jupiter 17047-12-11 04:04 G 7947692.51 7947692.67 7947692.85 0.0484 0.0321 Neptune 17048-06-20 09:36 G 7947884.67 7947884.90 7947885.16 0.0090 0.0027 Neptune 17049-06-22 22:33 G 7948252.20 7948252.44 7948252.70 0.0090 0.0022 Saturn 17050-05-12 17:02 G 7948575.97 7948576.21 7948576.46 0.0278 0.0024 Neptune 17050-06-25 11:02 G 7948619.72 7948619.96 7948620.23 0.0090 0.0019 Neptune 17051-06-28 00:14 G 7948987.25 7948987.51 7948987.76 0.0090 0.0014 Neptune 17052-06-29 12:57 G 7949354.78 7949355.04 7949355.29 0.0089 0.0010 Jupiter 17053-05-27 12:14 G 7949686.78 7949687.01 7949687.25 0.0544 0.0057 Neptune 17053-07-02 01:40 G 7949722.31 7949722.57 7949722.83 0.0089 0.0006 Neptune 17054-07-04 14:24 G 7950089.84 7950090.10 7950090.36 0.0089 0.0002 Neptune 17055-07-07 02:52 G 7950457.37 7950457.62 7950457.88 0.0089 0.0003 Neptune 17056-07-08 15:36 G 7950824.90 7950825.15 7950825.41 0.0089 0.0007 Neptune 17057-07-11 04:04 G 7951192.42 7951192.67 7951192.93 0.0089 0.0011 Neptune 17058-07-13 16:19 G 7951559.93 7951560.18 7951560.44 0.0089 0.0015 Jupiter 17058-11-15 12:57 G 7951684.84 7951685.04 7951685.24 0.0486 0.0261 Neptune 17059-07-16 04:33 G 7951927.44 7951927.69 7951927.95 0.0089 0.0019 Jupiter 17059-12-15 06:57 G 7952079.67 7952079.79 7952079.91 0.0484 0.0411 Neptune 17060-07-17 16:48 G 7952294.96 7952295.20 7952295.46 0.0089 0.0023 Neptune 17061-07-20 05:02 G 7952662.47 7952662.71 7952662.96 0.0089 0.0027 Neptune 17062-07-22 17:02 G 7953029.98 7953030.21 7953030.46 0.0089 0.0030 Neptune 17063-07-25 05:02 G 7953397.48 7953397.71 7953397.96 0.0089 0.0034 Neptune 17064-07-26 16:48 G 7953764.99 7953765.20 7953765.46 0.0089 0.0039 Saturn 17064-11-02 23:45 G 7953864.42 7953864.49 7953864.58 0.0280 0.0263 Jupiter 17065-06-02 00:43 G 7954075.30 7954075.53 7954075.76 0.0544 0.0088 Neptune 17065-07-29 05:16 G 7954132.50 7954132.72 7954132.95 0.0089 0.0042 Saturn 17065-11-16 01:12 G 7954242.40 7954242.55 7954242.72 0.0281 0.0213

Neptune 17066-07-31 17:02 G 7954500.00 7954500.21 7954500.44 0.0089 0.0045 Neptune 17067-08-03 04:48 G 7954867.51 7954867.70 7954867.94 0.0089 0.0050 Neptune 17068-08-04 17:02 G 7955235.01 7955235.21 7955235.43 0.0089 0.0052 Neptune 17069-08-07 04:33 G 7955602.52 7955602.69 7955602.91 0.0089 0.0056 Neptune 17070-08-09 16:19 G 7955970.01 7955970.18 7955970.39 0.0089 0.0059 Jupiter 17070-11-19 17:02 G 7956071.99 7956072.21 7956072.43 0.0486 0.0164 Neptune 17071-08-12 04:04 G 7956337.50 7956337.67 7956337.87 0.0089 0.0062 Neptune 17072-08-13 15:21 G 7956704.99 7956705.14 7956705.34 0.0089 0.0066 Neptune 17073-08-16 02:52 G 7957072.48 7957072.62 7957072.81 0.0089 0.0069 Neptune 17074-08-18 14:09 G 7957439.96 7957440.09 7957440.27 0.0089 0.0071 Neptune 17075-08-21 01:26 G 7957807.45 7957807.56 7957807.73 0.0089 0.0074 Neptune 17076-08-22 13:26 G 7958174.94 7958175.06 7958175.19 0.0089 0.0076 Jupiter 17077-06-07 10:19 G 7958463.72 7958463.93 7958464.15 0.0544 0.0228 Neptune 17077-08-25 00:14 G 7958542.41 7958542.51 7958542.64 0.0089 0.0079 Neptune 17078-08-27 11:45 G 7958909.90 7958909.99 7958910.10 0.0089 0.0081 Saturn 17079-05-07 03:21 G 7959162.51 7959162.64 7959162.78 0.0279 0.0234 Neptune 17079-08-29 22:48 G 7959277.39 7959277.45 7959277.55 0.0089 0.0084 Saturn 17080-05-19 06:14 G 7959540.64 7959540.76 7959540.90 0.0278 0.0235 Neptune 17080-08-31 10:04 G 7959644.88 7959644.92 7959645.01 0.0089 0.0086 Neptune 17081-09-02 21:21 G 7960012.37 7960012.39 7960012.44 0.0089 0.0088 Jupiter 17082-11-23 18:57 G 7960459.06 7960459.29 7960459.52 0.0485 0.0072 Uranus 17086-09-19 13:26 G 7961854.88 7961855.06 7961855.25 0.0144 0.0098 Uranus 17087-09-24 11:16 G 7962224.74 7962224.97 7962225.22 0.0144 0.0038 Uranus 17088-09-28 09:36 G 7962594.65 7962594.90 7962595.15 0.0144 0.0023 Jupiter 17089-06-12 18:00 G 7962852.08 7962852.25 7962852.42 0.0544 0.0364 Uranus 17089-10-03 07:55 G 7962964.64 7962964.83 7962965.05 0.0145 0.0084 Uranus 17090-10-08 06:57 G 7963334.79 7963334.79 7963334.82 0.0145 0.0145 Saturn 17094-11-10 23:45 G 7964829.24 7964829.49 7964829.73 0.0281 0.0016 Jupiter 17094-11-27 22:48 G 7964846.22 7964846.45 7964846.68 0.0485 0.0024 Pluto 17097-01-31 14:09 G 7965641.91 7965642.09 7965642.30 0.0080 0.0052

Jupiter 17100-05-11 06:00 G 7966836.67 7966836.75 7966836.85 0.0540 0.0493 Jupiter 17101-06-18 23:02 G 7967240.37 7967240.46 7967240.56 0.0544 0.0497 Jupiter 17106-12-03 03:21 G 7969233.41 7969233.64 7969233.87 0.0484 0.0119 Neptune 17108-11-01 18:43 G 7969933.28 7969933.28 7969933.29 0.0088 0.0088 Saturn 17109-05-15 04:04 G 7970127.42 7970127.67 7970127.91 0.0278 0.0040 Neptune 17109-11-04 04:33 G 7970300.66 7970300.69 7970300.76 0.0088 0.0086 Neptune 17110-11-06 14:38 G 7970668.06 7970668.11 7970668.21 0.0088 0.0084 Neptune 17111-11-09 00:43 G 7971035.47 7971035.53 7971035.65 0.0088 0.0082 Jupiter 17112-05-16 15:07 G 7971224.96 7971225.13 7971225.30 0.0541 0.0358 Neptune 17112-11-10 10:48 G 7971402.87 7971402.95 7971403.09 0.0088 0.0080 Neptune 17113-11-12 21:36 G 7971770.28 7971770.40 7971770.52 0.0088 0.0077 Neptune 17114-11-15 07:26 G 7972137.70 7972137.81 7972137.96 0.0088 0.0075 Neptune 17115-11-17 17:45 G 7972505.11 7972505.24 7972505.40 0.0088 0.0072 Neptune 17116-11-19 03:36 G 7972872.53 7972872.65 7972872.84 0.0088 0.0070 Jupiter 17117-11-07 09:50 G 7973225.84 7973225.91 7973225.99 0.0489 0.0460 Neptune 17117-11-21 14:09 G 7973239.95 7973240.09 7973240.28 0.0088 0.0067 Neptune 17118-11-24 00:28 G 7973607.37 7973607.52 7973607.72 0.0088 0.0064 Jupiter 17118-12-07 06:14 G 7973620.55 7973620.76 7973620.97 0.0484 0.0212 Neptune 17119-11-26 11:02 G 7973974.80 7973974.96 7973975.16 0.0088 0.0061 Neptune 17120-11-27 21:07 G 7974342.21 7974342.38 7974342.60 0.0088 0.0058 Neptune 17121-11-30 07:40 G 7974709.64 7974709.82 7974710.04 0.0088 0.0055 17122-02-26 23:45 G 7974798.33 7974798.49 7974798.66 0.1766 0.0950 Mars Neptune 17122-12-02 17:45 G 7975077.06 7975077.24 7975077.48 0.0088 0.0052 Saturn 17123-11-06 10:33 G 7975415.78 7975415.94 7975416.13 0.0280 0.0200 Neptune 17123-12-05 04:33 G 7975444.48 7975444.69 7975444.91 0.0088 0.0048 Jupiter 17124-05-22 02:38 G 7975613.40 7975613.61 7975613.83 0.0543 0.0220 Saturn 17124-11-18 12:28 G 7975793.98 7975794.02 7975794.06 0.0281 0.0277 Neptune 17124-12-06 14:38 G 7975811.91 7975812.11 7975812.35 0.0088 0.0045 Neptune 17125-12-09 00:57 G 7976179.33 7976179.54 7976179.79 0.0088 0.0042 Neptune 17126-12-11 11:31 G 7976546.76 7976546.98 7976547.23 0.0088 0.0038

Uranus 17127-03-21 12:28 G 7976646.86 7976647.02 7976647.20 0.0134 0.0100 Neptune 17127-12-13 21:50 G 7976914.19 7976914.41 7976914.67 0.0088 0.0035 Uranus 17128-03-24 22:48 G 7977016.22 7977016.45 7977016.70 0.0134 0.0050 Neptune 17128-12-15 08:38 G 7977281.63 7977281.86 7977282.11 0.0088 0.0031 Uranus 17129-03-29 08:38 G 7977385.61 7977385.86 7977386.12 0.0134 0.0003 Jupiter 17129-11-11 14:38 G 7977612.97 7977613.11 7977613.27 0.0488 0.0367 Neptune 17129-12-17 19:26 G 7977649.06 7977649.31 7977649.55 0.0088 0.0027 Uranus 17130-04-02 18:00 G 7977755.02 7977755.25 7977755.50 0.0134 0.0049 Jupiter 17130-12-11 10:04 G 7978007.74 7978007.92 7978008.10 0.0484 0.0305 Neptune 17130-12-20 06:00 G 7978016.51 7978016.75 7978017.01 0.0088 0.0024 Uranus 17131-04-07 03:07 G 7978124.47 7978124.63 7978124.82 0.0134 0.0097 Neptune 17131-12-22 16:33 G 7978383.95 7978384.19 7978384.45 0.0088 0.0020 Neptune 17132-12-24 03:36 G 7978751.39 7978751.65 7978751.90 0.0088 0.0016 Neptune 17133-12-26 13:55 G 7979118.84 7979119.08 7979119.35 0.0088 0.0013 Neptune 17134-12-29 00:43 G 7979486.28 7979486.53 7979486.80 0.0088 0.0009 Neptune 17135-12-31 11:45 G 7979853.73 7979853.99 7979854.25 0.0088 0.0005 Jupiter 17136-05-27 13:40 G 7980001.84 7980002.07 7980002.30 0.0543 0.0079 Neptune 17137-01-01 22:19 G 7980221.17 7980221.43 7980221.69 0.0088 0.0001 Neptune 17138-01-04 09:07 G 7980588.63 7980588.88 7980589.14 0.0088 0.0003 Saturn 17138-05-09 13:12 G 7980713.87 7980714.05 7980714.25 0.0278 0.0173 Neptune 17139-01-06 19:55 G 7980956.08 7980956.33 7980956.59 0.0088 0.0006 Neptune 17140-01-09 06:43 G 7981323.53 7981323.78 7981324.04 0.0088 0.0010 Neptune 17141-01-10 17:31 G 7981690.98 7981691.23 7981691.49 0.0088 0.0014 Jupiter 17141-11-15 17:02 G 7982000.02 7982000.21 7982000.40 0.0487 0.0276 Neptune 17142-01-13 04:33 G 7982058.45 7982058.69 7982058.96 0.0088 0.0018 Jupiter 17142-12-15 12:28 G 7982394.89 7982395.02 7982395.16 0.0484 0.0395 Neptune 17143-01-15 15:50 G 7982425.91 7982426.16 7982426.42 0.0088 0.0021 Mars 17143-08-28 19:55 G 7982651.24 7982651.33 7982651.42 0.1775 0.1552 Neptune 17144-01-18 02:52 G 7982793.38 7982793.62 7982793.88 0.0088 0.0025 Neptune 17145-01-19 14:09 G 7983160.86 7983161.09 7983161.35 0.0088 0.0029

Neptune 17146-01-22 01:26 G 7983528.33 7983528.56 7983528.81 0.0088 0.0032 Neptune 17147-01-24 12:43 G 7983895.81 7983896.03 7983896.28 0.0088 0.0036 Neptune 17148-01-27 00:00 G 7984263.28 7984263.50 7984263.74 0.0088 0.0039 Jupiter 17148-06-01 21:50 G 7984390.17 7984390.41 7984390.64 0.0543 0.0062 Neptune 17149-01-28 11:16 G 7984630.76 7984630.97 7984631.22 0.0088 0.0043 Neptune 17150-01-30 22:48 G 7984998.24 7984998.45 7984998.68 0.0088 0.0046 Neptune 17151-02-02 10:33 G 7985365.72 7985365.94 7985366.15 0.0088 0.0050 Neptune 17152-02-04 21:36 G 7985733.21 7985733.40 7985733.62 0.0088 0.0053 Neptune 17153-02-06 09:07 G 7986100.70 7986100.88 7986101.10 0.0088 0.0057 Saturn 17153-11-13 08:24 G 7986380.62 7986380.85 7986381.09 0.0281 0.0075 Jupiter 17153-11-19 21:21 G 7986387.18 7986387.39 7986387.61 0.0486 0.0180 Neptune 17154-02-08 20:52 G 7986468.20 7986468.37 7986468.58 0.0088 0.0060 Jupiter 17154-12-19 16:33 G 7986782.19 7986782.19 7986782.20 0.0484 0.0484 Neptune 17155-02-11 08:38 G 7986835.69 7986835.86 7986836.06 0.0088 0.0063 Neptune 17156-02-13 20:24 G 7987203.20 7987203.35 7987203.54 0.0088 0.0066 Neptune 17157-02-15 08:24 G 7987570.70 7987570.85 7987571.03 0.0088 0.0068 Neptune 17158-02-17 20:24 G 7987938.22 7987938.35 7987938.53 0.0088 0.0071 Neptune 17159-02-20 08:38 G 7988305.73 7988305.86 7988306.01 0.0088 0.0074 Neptune 17160-02-22 20:24 G 7988673.25 7988673.35 7988673.50 0.0088 0.0077 Jupiter 17160-06-07 01:55 G 7988778.36 7988778.58 7988778.80 0.0544 0.0197 Neptune 17161-02-24 08:52 G 7989040.76 7989040.87 7989040.99 0.0088 0.0079 Neptune 17162-02-26 20:24 G 7989408.28 7989408.35 7989408.49 0.0088 0.0082 Neptune 17163-03-01 08:38 G 7989775.81 7989775.86 7989775.98 0.0088 0.0084 Neptune 17164-03-02 20:52 G 7990143.33 7990143.37 7990143.46 0.0088 0.0086 Neptune 17165-03-05 09:07 G 7990510.87 7990510.88 7990510.95 0.0089 0.0088 Jupiter 17165-11-24 02:52 G 7990774.39 7990774.62 7990774.85 0.0485 0.0083 Saturn 17168-05-16 14:24 G 7991678.87 7991679.10 7991679.33 0.0278 0.0102 Uranus 17170-09-20 22:19 G 7992536.26 7992536.43 7992536.63 0.0144 0.0096 Uranus 17171-09-25 20:24 G 7992906.11 7992906.35 7992906.60 0.0144 0.0036 Jupiter 17172-06-12 12:28 G 7993166.84 7993167.02 7993167.21 0.0545 0.0338

Uranus 17172-09-29 18:43 G 7993276.03 7993276.28 7993276.53 0.0144 0.0026 Uranus 17173-10-04 17:02 G 7993646.02 7993646.21 7993646.42 0.0145 0.0087 Jupiter 17177-11-28 06:14 G 7995161.53 7995161.76 7995161.99 0.0484 0.0011 Saturn 17182-11-07 19:40 G 7996967.11 7996967.32 7996967.53 0.0281 0.0139 Jupiter 17183-05-11 07:12 G 7997151.73 7997151.80 7997151.88 0.0540 0.0509 Jupiter 17184-06-18 00:57 G 7997555.43 7997555.54 7997555.66 0.0545 0.0476 Jupiter 17189-12-02 10:04 G 7999548.69 7999548.92 7999549.15 0.0484 0.0106 Neptune 17191-05-04 07:26 G 8000066.79 8000066.81 8000066.85 0.0089 0.0089 Neptune 17192-05-05 20:52 G 8000434.32 8000434.37 8000434.43 0.0089 0.0087 Neptune 17193-05-08 09:50 G 8000801.85 8000801.91 8000802.01 0.0089 0.0085 Neptune 17194-05-10 23:02 G 8001169.38 8001169.46 8001169.58 0.0089 0.0083 Neptune 17195-05-13 12:00 G 8001536.92 8001537.00 8001537.15 0.0089 0.0081 Jupiter 17195-05-16 18:00 G 8001540.09 8001540.25 8001540.42 0.0541 0.0376 Neptune 17196-05-15 01:55 G 8001904.47 8001904.58 8001904.72 0.0089 0.0078 Saturn 17197-05-10 22:33 G 8002265.22 8002265.44 8002265.67 0.0278 0.0113 Neptune 17197-05-17 15:21 G 8002272.01 8002272.14 8002272.29 0.0089 0.0075 Neptune 17198-05-20 04:04 G 8002639.55 8002639.67 8002639.85 0.0089 0.0073 Neptune 17199-05-22 17:16 G 8003007.08 8003007.22 8003007.41 0.0089 0.0070 Neptune 17200-05-24 06:43 G 8003374.62 8003374.78 8003374.97 0.0089 0.0067 Jupiter 17200-11-06 14:24 G 8003541.05 8003541.10 8003541.16 0.0489 0.0473 Mars 17201-03-01 16:48 G 8003656.06 8003656.20 8003656.35 0.1773 0.1139 Neptune 17201-05-26 19:40 G 8003742.16 8003742.32 8003742.52 0.0089 0.0064 Jupiter 17201-12-06 12:00 G 8003935.80 8003936.00 8003936.22 0.0484 0.0197 Neptune 17202-05-29 08:38 G 8004109.69 8004109.86 8004110.07 0.0090 0.0061 Neptune 17203-05-31 21:50 G 8004477.23 8004477.41 8004477.63 0.0090 0.0058 8004844.95 8004845.18 0.0090 0.0055 Neptune 17204-06-02 10:48 G 8004844.77 Neptune 17205-06-05 00:00 G 8005212.30 8005212.50 8005212.73 0.0090 0.0051 Neptune 17206-06-07 12:57 G 8005579.84 8005580.04 8005580.28 0.0090 0.0048 Jupiter 17207-05-22 02:09 G 8005928.39 8005928.59 8005928.80 0.0542 0.0240 Neptune 17207-06-10 02:09 G 8005947.38 8005947.59 8005947.83 0.0090 0.0044

Neptune 17208-06-11 15:50 G 8006314.93 8006315.16 8006315.39 0.0090 0.0040 Neptune 17209-06-14 04:33 G 8006682.47 8006682.69 8006682.94 0.0090 0.0037 Neptune 17210-06-16 17:31 G 8007050.00 8007050.23 8007050.48 0.0090 0.0033 Uranus 17211-03-21 21:07 G 8007328.22 8007328.38 8007328.58 0.0134 0.0098 Neptune 17211-06-19 06:43 G 8007417.53 8007417.78 8007418.02 0.0090 0.0029 Uranus 17212-03-25 07:40 G 8007697.58 8007697.82 8007698.06 0.0134 0.0048 Neptune 17212-06-20 19:26 G 8007785.07 8007785.31 8007785.57 0.0090 0.0025 Jupiter 17212-11-10 19:40 G 8007928.18 8007928.32 8007928.47 0.0488 0.0380 Saturn 17212-11-14 15:21 G 8007931.93 8007932.14 8007932.36 0.0281 0.0132 Uranus 17213-03-29 17:31 G 8008066.97 8008067.23 8008067.49 0.0134 0.0002 Neptune 17213-06-23 07:55 G 8008152.59 8008152.83 8008153.09 0.0090 0.0022 Jupiter 17213-12-10 16:19 G 8008323.00 8008323.18 8008323.37 0.0484 0.0290 Uranus 17214-04-03 03:07 G 8008436.39 8008436.63 8008436.87 0.0134 0.0051 Neptune 17214-06-25 20:52 G 8008520.12 8008520.37 8008520.63 0.0090 0.0018 Uranus 17215-04-07 12:14 G 8008805.84 8008806.01 8008806.18 0.0134 0.0100 Neptune 17215-06-28 09:36 G 8008887.65 8008887.90 8008888.16 0.0090 0.0014 Neptune 17216-06-29 22:19 G 8009255.18 8009255.43 8009255.69 0.0090 0.0010 Neptune 17217-07-02 11:02 G 8009622.70 8009622.96 8009623.22 0.0090 0.0006 Neptune 17218-07-04 23:31 G 8009990.22 8009990.48 8009990.74 0.0089 0.0002 Jupiter 17219-05-27 05:31 G 8010316.50 8010316.73 8010316.96 0.0543 0.0108 Neptune 17219-07-07 12:14 G 8010357.75 8010358.01 8010358.27 0.0089 0.0002 Neptune 17220-07-09 00:43 G 8010725.28 8010725.53 8010725.79 0.0089 0.0006 Neptune 17221-07-11 13:12 G 8011092.80 8011093.05 8011093.31 0.0089 0.0010 Neptune 17222-07-14 01:40 G 8011460.32 8011460.57 8011460.83 0.0089 0.0013 Mars 17222-08-31 10:19 G 8011508.75 8011508.93 8011509.12 0.1768 0.0428 Neptune 17223-07-16 14:09 G 8011827.84 8011828.09 8011828.35 0.0089 0.0017 Neptune 17224-07-18 02:09 G 8012195.36 8012195.59 8012195.86 0.0089 0.0022 Jupiter 17224-11-15 01:55 G 8012315.39 8012315.58 8012315.77 0.0487 0.0284 Neptune 17225-07-20 14:38 G 8012562.87 8012563.11 8012563.36 0.0089 0.0025 Jupiter 17225-12-14 20:52 G 8012710.24 8012710.37 8012710.52 0.0484 0.0383

Neptune 17226-07-23 02:38 G 8012930.38 8012930.61 8012930.86 0.0089 0.0029 Saturn 17227-05-18 23:02 G 8013230.27 8013230.46 8013230.67 0.0278 0.0161 Neptune 17227-07-25 14:38 G 8013297.89 8013298.11 8013298.37 0.0089 0.0032 Neptune 17228-07-27 02:52 G 8013665.40 8013665.62 8013665.87 0.0089 0.0036 Neptune 17229-07-29 14:38 G 8014032.90 8014033.11 8014033.36 0.0089 0.0039 Neptune 17230-08-01 02:52 G 8014400.40 8014400.62 8014400.86 0.0089 0.0043 Jupiter 17231-06-01 15:21 G 8014704.91 8014705.14 8014705.38 0.0544 0.0036 Neptune 17231-08-03 14:38 G 8014767.91 8014768.11 8014768.35 0.0089 0.0046 Neptune 17232-08-05 02:38 G 8015135.42 8015135.61 8015135.84 0.0089 0.0050 Neptune 17233-08-07 14:52 G 8015502.92 8015503.12 8015503.33 0.0089 0.0053 Neptune 17234-08-10 02:52 G 8015870.42 8015870.62 8015870.82 0.0089 0.0056 Neptune 17235-08-12 14:38 G 8016237.92 8016238.11 8016238.31 0.0089 0.0059 Neptune 17236-08-14 02:24 G 8016605.42 8016605.60 8016605.79 0.0089 0.0062 Jupiter 17236-11-19 06:28 G 8016702.55 8016702.77 8016702.98 0.0486 0.0190 Neptune 17237-08-16 13:40 G 8016972.91 8016973.07 8016973.26 0.0089 0.0064 Jupiter 17237-12-19 00:00 G 8017097.46 8017097.50 8017097.56 0.0484 0.0470 Neptune 17238-08-19 00:57 G 8017340.39 8017340.54 8017340.73 0.0089 0.0067 Neptune 17239-08-21 12:14 G 8017707.88 8017708.01 8017708.20 0.0089 0.0070 Neptune 17240-08-22 23:45 G 8018075.36 8018075.49 8018075.66 0.0089 0.0072 Neptune 17241-08-25 10:48 G 8018442.85 8018442.95 8018443.12 0.0089 0.0075 Saturn 17241-11-09 02:09 G 8018518.36 8018518.59 8018518.83 0.0281 0.0083 Neptune 17242-08-27 22:19 G 8018810.32 8018810.43 8018810.58 0.0089 0.0077 Jupiter 17243-06-07 04:04 G 8019093.45 8019093.67 8019093.90 0.0545 0.0177 Neptune 17243-08-30 09:36 G 8019177.81 8019177.90 8019178.04 0.0089 0.0079 Neptune 17244-08-31 20:52 G 8019545.29 8019545.37 8019545.49 0.0089 0.0081 Neptune 17245-09-03 07:55 G 8019912.77 8019912.83 8019912.94 0.0089 0.0083 Neptune 17246-09-05 19:12 G 8020280.25 8020280.30 8020280.40 0.0089 0.0085 Neptune 17247-09-08 06:14 G 8020647.73 8020647.76 8020647.84 0.0089 0.0087 Neptune 17248-09-09 17:31 G 8021015.22 8021015.23 8021015.28 0.0089 0.0088 Jupiter 17248-11-23 10:33 G 8021089.71 8021089.94 8021090.17 0.0485 0.0094

17254-08-06 10:04 G 8023171.67 8023171.92 8023172.18 0.0064 0.0009 Pluto Uranus 17254-09-21 08:09 G 8023217.66 8023217.84 8023218.05 0.0144 0.0093 Jupiter 17255-06-12 16:04 G 8023481.99 8023482.17 8023482.37 0.0544 0.0317 Uranus 17255-09-26 06:14 G 8023587.52 8023587.76 8023588.01 0.0144 0.0032 Saturn 17256-05-12 06:43 G 8023816.54 8023816.78 8023817.03 0.0278 0.0054 Uranus 17256-09-30 04:33 G 8023957.44 8023957.69 8023957.94 0.0144 0.0029 Uranus 17257-10-05 02:52 G 8024327.44 8024327.62 8024327.83 0.0145 0.0091 Jupiter 17260-11-27 12:57 G 8025476.81 8025477.04 8025477.27 0.0485 0.0004 Jupiter 17266-05-10 09:07 G 8027466.83 8027466.88 8027466.94 0.0539 0.0523 Jupiter 17267-06-18 00:57 G 8027870.42 8027870.54 8027870.68 0.0544 0.0453 Neptune 17270-10-28 09:07 G 8029098.87 8029098.88 8029098.95 0.0088 0.0087 Neptune 17271-10-30 19:40 G 8029466.28 8029466.32 8029466.40 0.0088 0.0085 Saturn 17271-11-16 19:26 G 8029483.13 8029483.31 8029483.50 0.0281 0.0184 Neptune 17272-11-01 06:14 G 8029833.69 8029833.76 8029833.85 0.0088 0.0083 Jupiter 17272-12-01 17:16 G 8029863.99 8029864.22 8029864.45 0.0484 0.0093 Neptune 17273-11-03 16:04 G 8030201.11 8030201.17 8030201.30 0.0088 0.0082 Neptune 17274-11-06 02:24 G 8030568.52 8030568.60 8030568.74 0.0088 0.0080 Neptune 17275-11-08 12:43 G 8030935.94 8030936.03 8030936.17 0.0088 0.0078 Neptune 17276-11-09 22:48 G 8031303.35 8031303.45 8031303.61 0.0088 0.0076 Neptune 17277-11-12 09:21 G 8031670.77 8031670.89 8031671.05 0.0088 0.0073 Jupiter 17278-05-15 11:45 G 8031854.83 8031854.99 8031855.14 0.0540 0.0400 Neptune 17278-11-14 19:26 G 8032038.18 8032038.31 8032038.48 0.0088 0.0071 Neptune 17279-11-17 05:16 G 8032405.59 8032405.72 8032405.91 0.0088 0.0069 Neptune 17280-11-18 15:50 G 8032773.01 8032773.16 8032773.34 0.0088 0.0066 Neptune 17281-11-21 02:24 G 8033140.43 8033140.60 8033140.78 0.0088 0.0063 Neptune 17282-11-23 12:14 G 8033507.85 8033508.01 8033508.22 0.0088 0.0061 Jupiter 17283-11-07 00:00 G 8033856.46 8033856.50 8033856.55 0.0490 0.0480 Neptune 17283-11-25 22:33 G 8033875.27 8033875.44 8033875.65 0.0088 0.0058 Neptune 17284-11-27 09:07 G 8034242.70 8034242.88 8034243.10 0.0088 0.0055 Jupiter 17284-12-05 22:19 G 8034251.22 8034251.43 8034251.65 0.0484 0.0187

Saturn 17285-05-07 04:04 G 8034403.56 8034403.67 8034403.78 0.0279 0.0248 Neptune 17285-11-29 19:26 G 8034610.12 8034610.31 8034610.53 0.0088 0.0052 Saturn 17286-05-20 06:14 G 8034781.62 8034781.76 8034781.92 0.0278 0.0218 Neptune 17286-12-02 05:45 G 8034977.55 8034977.74 8034977.97 0.0088 0.0049 Neptune 17287-12-04 16:04 G 8035344.97 8035345.17 8035345.41 0.0088 0.0046 Neptune 17288-12-06 02:24 G 8035712.39 8035712.60 8035712.84 0.0088 0.0043 Neptune 17289-12-08 12:43 G 8036079.82 8036080.03 8036080.28 0.0088 0.0040 Jupiter 17290-05-20 20:09 G 8036243.14 8036243.34 8036243.54 0.0542 0.0265 Neptune 17290-12-10 23:31 G 8036447.25 8036447.48 8036447.71 0.0088 0.0036 Neptune 17291-12-13 09:36 G 8036814.67 8036814.90 8036815.15 0.0088 0.0033 Neptune 17292-12-14 19:55 G 8037182.10 8037182.33 8037182.59 0.0088 0.0030 Neptune 17293-12-17 06:43 G 8037549.54 8037549.78 8037550.03 0.0088 0.0026 Neptune 17294-12-19 17:02 G 8037916.97 8037917.21 8037917.47 0.0088 0.0023 Uranus 17295-03-22 04:48 G 8038009.54 8038009.70 8038009.90 0.0134 0.0096 Jupiter 17295-11-11 05:31 G 8038243.60 8038243.73 8038243.88 0.0488 0.0389 Neptune 17295-12-22 03:50 G 8038284.41 8038284.66 8038284.91 0.0088 0.0019 Uranus 17296-03-25 15:21 G 8038378.91 8038379.14 8038379.39 0.0134 0.0046 Jupiter 17296-12-10 01:26 G 8038638.37 8038638.56 8038638.75 0.0484 0.0278 Neptune 17296-12-23 14:24 G 8038651.85 8038652.10 8038652.36 0.0088 0.0016 Uranus 17297-03-30 01:26 G 8038748.30 8038748.56 8038748.81 0.0134 0.0004 Neptune 17297-12-26 01:12 G 8039019.30 8039019.55 8039019.81 0.0088 0.0012 Uranus 17298-04-03 10:33 G 8039117.72 8039117.94 8039118.19 0.0134 0.0054 Neptune 17298-12-28 12:00 G 8039386.75 8039387.00 8039387.26 0.0088 0.0009 Uranus 17299-04-07 19:40 G 8039487.18 8039487.32 8039487.50 0.0134 0.0103 Neptune 17299-12-30 22:48 G 8039754.19 8039754.45 8039754.71 0.0088 0.0005 Saturn 17300-11-11 06:43 G 8040069.54 8040069.78 8040070.03 0.0281 0.0030 Neptune 17301-01-02 09:36 G 8040121.65 8040121.90 8040122.16 0.0088 0.0002 Neptune 17302-01-04 20:24 G 8040489.09 8040489.35 8040489.61 0.0088 0.0002 Jupiter 17302-05-27 07:55 G 8040631.61 8040631.83 8040632.06 0.0543 0.0126 Neptune 17303-01-07 07:12 G 8040856.54 8040856.80 8040857.06 0.0088 0.0006

Neptune 17304-01-09 18:00 G 8041224.00 8041224.25 8041224.51 0.0088 0.0009 Neptune 17305-01-11 05:02 G 8041591.46 8041591.71 8041591.97 0.0088 0.0013 Neptune 17306-01-13 15:50 G 8041958.91 8041959.16 8041959.42 0.0088 0.0017 Neptune 17307-01-16 02:52 G 8042326.37 8042326.62 8042326.88 0.0088 0.0020 Jupiter 17307-11-16 11:02 G 8042630.78 8042630.96 8042631.15 0.0487 0.0293 Neptune 17308-01-18 13:55 G 8042693.84 8042694.08 8042694.34 0.0088 0.0024 Jupiter 17308-12-15 05:31 G 8043025.58 8043025.73 8043025.88 0.0484 0.0369 Neptune 17309-01-20 01:12 G 8043061.31 8043061.55 8043061.80 0.0088 0.0027 Neptune 17310-01-22 12:43 G 8043428.79 8043429.03 8043429.28 0.0088 0.0030 Neptune 17311-01-24 23:31 G 8043796.26 8043796.48 8043796.74 0.0088 0.0034 Neptune 17312-01-27 11:16 G 8044163.74 8044163.97 8044164.21 0.0088 0.0037 Neptune 17313-01-28 22:48 G 8044531.22 8044531.45 8044531.68 0.0088 0.0040 Neptune 17314-01-31 09:36 G 8044898.70 8044898.90 8044899.15 0.0088 0.0045 Jupiter 17314-06-01 20:52 G 8045020.13 8045020.37 8045020.60 0.0544 0.0018 Neptune 17315-02-02 21:07 G 8045266.19 8045266.38 8045266.62 0.0088 0.0047 Saturn 17315-05-15 13:12 G 8045367.80 8045368.05 8045368.29 0.0278 0.0005 Neptune 17316-02-05 08:38 G 8045633.67 8045633.86 8045634.09 0.0088 0.0050 Neptune 17317-02-06 20:09 G 8046001.16 8046001.34 8046001.57 0.0088 0.0053 Neptune 17318-02-09 07:40 G 8046368.64 8046368.82 8046369.04 0.0088 0.0056 Neptune 17319-02-11 19:40 G 8046736.13 8046736.32 8046736.52 0.0088 0.0059 Jupiter 17319-11-20 13:55 G 8047017.87 8047018.08 8047018.29 0.0486 0.0200 Neptune 17320-02-14 07:12 G 8047103.63 8047103.80 8047104.00 0.0088 0.0062 Jupiter 17320-12-19 08:38 G 8047412.78 8047412.86 8047412.93 0.0484 0.0457 Neptune 17321-02-15 18:57 G 8047471.14 8047471.29 8047471.49 0.0088 0.0065 Neptune 17322-02-18 06:43 G 8047838.64 8047838.78 8047838.97 0.0088 0.0067 Neptune 17323-02-20 18:57 G 8048206.15 8048206.29 8048206.46 0.0088 0.0070 Neptune 17324-02-23 06:43 G 8048573.66 8048573.78 8048573.96 0.0088 0.0072 Neptune 17325-02-24 18:43 G 8048941.17 8048941.28 8048941.45 0.0088 0.0075 Neptune 17326-02-27 07:12 G 8049308.69 8049308.80 8049308.95 0.0088 0.0077 Jupiter 17326-06-07 06:28 G 8049408.55 8049408.77 8049409.00 0.0544 0.0158

Neptune 17327-03-01 18:57 G 8049676.20 8049676.29 8049676.43 0.0088 0.0079 Neptune 17328-03-03 07:26 G 8050043.72 8050043.81 8050043.93 0.0088 0.0081 Neptune 17329-03-05 19:26 G 8050411.24 8050411.31 8050411.42 0.0089 0.0083 Saturn 17329-11-05 19:26 G 8050656.19 8050656.31 8050656.43 0.0280 0.0241 Neptune 17330-03-08 07:26 G 8050778.76 8050778.81 8050778.92 0.0089 0.0085 Saturn 17330-11-18 21:07 G 8051034.26 8051034.38 8051034.53 0.0281 0.0234 Neptune 17331-03-10 19:55 G 8051146.29 8051146.33 8051146.41 0.0089 0.0086 Jupiter 17331-11-24 18:43 G 8051405.05 8051405.28 8051405.51 0.0486 0.0105 Neptune 17332-03-12 08:09 G 8051513.83 8051513.84 8051513.90 0.0089 0.0088 Jupiter 17338-06-12 10:19 G 8053796.73 8053796.93 8053797.13 0.0544 0.0290 Uranus 17338-09-22 18:00 G 8053899.07 8053899.25 8053899.46 0.0144 0.0090 Uranus 17339-09-27 16:04 G 8054268.93 8054269.17 8054269.42 0.0144 0.0029 Uranus 17340-10-01 14:09 G 8054638.85 8054639.09 8054639.35 0.0144 0.0033 Uranus 17341-10-06 12:43 G 8055008.86 8055009.03 8055009.24 0.0145 0.0094 Pluto 17343-02-04 10:04 G 8055494.82 8055494.92 8055495.07 0.0080 0.0071 Jupiter 17343-11-29 00:14 G 8055792.27 8055792.51 8055792.74 0.0485 0.0013 Saturn 17344-05-09 10:04 G 8055954.75 8055954.92 8055955.11 0.0279 0.0192 Saturn 17345-05-22 12:14 G 8056332.97 8056333.01 8056333.07 0.0278 0.0272 Jupiter 17350-06-17 20:09 G 8058185.20 8058185.34 8058185.49 0.0545 0.0427 Neptune 17352-04-27 01:55 G 8058864.57 8058864.58 8058864.63 0.0089 0.0089 Neptune 17353-04-29 14:52 G 8059232.09 8059232.12 8059232.20 0.0089 0.0087 Neptune 17354-05-02 04:04 G 8059599.61 8059599.67 8059599.75 0.0089 0.0086 Neptune 17355-05-04 16:48 G 8059967.15 8059967.20 8059967.32 0.0089 0.0085 Jupiter 17355-12-03 03:50 G 8060179.43 8060179.66 8060179.89 0.0484 0.0082 Neptune 17356-05-06 06:00 G 8060334.68 8060334.75 8060334.88 0.0089 0.0083 Neptune 17357-05-08 19:12 G 8060702.21 8060702.30 8060702.44 0.0089 0.0081 Neptune 17358-05-11 08:09 G 8061069.75 8061069.84 8061069.99 0.0089 0.0079 Neptune 17359-05-13 22:04 G 8061437.29 8061437.42 8061437.56 0.0089 0.0076 Saturn 17359-11-13 09:07 G 8061620.64 8061620.88 8061621.12 0.0281 0.0021 Neptune 17360-05-15 11:02 G 8061804.83 8061804.96 8061805.12 0.0089 0.0074

Jupiter 17361-05-15 14:24 G 8062169.95 8062170.10 8062170.25 0.0540 0.0415 Neptune 17361-05-18 00:00 G 8062172.37 8062172.50 8062172.68 0.0089 0.0072 Neptune 17362-05-20 13:26 G 8062539.91 8062540.06 8062540.24 0.0089 0.0069 Neptune 17363-05-23 03:07 G 8062907.46 8062907.63 8062907.80 0.0089 0.0066 Neptune 17364-05-24 15:50 G 8063275.00 8063275.16 8063275.37 0.0089 0.0064 Neptune 17365-05-27 04:48 G 8063642.53 8063642.70 8063642.91 0.0089 0.0061 Neptune 17366-05-29 18:14 G 8064010.08 8064010.26 8064010.47 0.0090 0.0058 Jupiter 17366-11-07 10:04 G 8064171.91 8064171.92 8064171.95 0.0490 0.0487 Neptune 17367-06-01 07:12 G 8064377.61 8064377.80 8064378.02 0.0090 0.0055 Jupiter 17367-12-07 07:55 G 8064566.62 8064566.83 8064567.05 0.0484 0.0176 Neptune 17368-06-02 20:09 G 8064745.15 8064745.34 8064745.57 0.0090 0.0052 Neptune 17369-06-05 09:07 G 8065112.69 8065112.88 8065113.12 0.0090 0.0049 Neptune 17370-06-07 22:33 G 8065480.22 8065480.44 8065480.67 0.0090 0.0045 Neptune 17371-06-10 11:31 G 8065847.76 8065847.98 8065848.22 0.0090 0.0042 Neptune 17372-06-12 00:28 G 8066215.30 8066215.52 8066215.77 0.0090 0.0039 Jupiter 17373-05-21 02:38 G 8066558.41 8066558.61 8066558.81 0.0542 0.0279 Neptune 17373-06-14 13:40 G 8066582.84 8066583.07 8066583.32 0.0090 0.0035 Saturn 17374-05-16 18:14 G 8066919.03 8066919.26 8066919.51 0.0278 0.0056 Neptune 17374-06-17 02:38 G 8066950.38 8066950.61 8066950.87 0.0090 0.0032 Neptune 17375-06-19 16:04 G 8067317.93 8067318.17 8067318.42 0.0090 0.0028 Neptune 17376-06-21 05:02 G 8067685.46 8067685.71 8067685.96 0.0090 0.0024 Neptune 17377-06-23 17:45 G 8068053.00 8068053.24 8068053.50 0.0090 0.0021 Neptune 17378-06-26 06:43 G 8068420.53 8068420.78 8068421.04 0.0090 0.0017 Jupiter 17378-11-11 14:24 G 8068558.96 8068559.10 8068559.23 0.0489 0.0396 Uranus 17379-03-23 13:26 G 8068690.89 8068691.06 8068691.26 0.0134 0.0094 Neptune 17379-06-28 19:26 G 8068788.06 8068788.31 8068788.57 0.0090 0.0013 Jupiter 17379-12-11 10:33 G 8068953.75 8068953.94 8068954.13 0.0484 0.0268 Uranus 17380-03-27 00:00 G 8069060.27 8069060.50 8069060.75 0.0134 0.0044 Neptune 17380-06-30 08:09 G 8069155.59 8069155.84 8069156.10 0.0090 0.0010 Uranus 17381-03-31 09:50 G 8069429.66 8069429.91 8069430.17 0.0134 0.0007

Neptune 17381-07-02 20:38 G 8069523.11 8069523.36 8069523.62 0.0090 0.0006 Uranus 17382-04-04 19:26 G 8069799.09 8069799.31 8069799.55 0.0134 0.0056 Neptune 17382-07-05 09:36 G 8069890.64 8069890.90 8069891.15 0.0090 0.0003 Uranus 17383-04-09 05:02 G 8070168.55 8070168.87 0.0134 0.0105 8070168.71 Neptune 17383-07-07 22:04 G 8070258.16 8070258.42 8070258.68 0.0089 0.0001 Neptune 17384-07-09 10:33 G 8070625.69 8070625.94 8070626.20 0.0089 0.0006 Jupiter 17385-05-26 12:43 G 8070946.81 8070947.03 8070947.26 0.0542 0.0140 Neptune 17385-07-11 23:16 G 8070993.21 8070993.47 8070993.72 0.0089 0.0009 Neptune 17386-07-14 11:45 G 8071360.74 8071360.99 8071361.25 0.0089 0.0013 Neptune 17387-07-17 00:14 G 8071728.26 8071728.51 8071728.77 0.0089 0.0016 Neptune 17388-07-18 12:57 G 8072095.79 8072096.04 8072096.29 0.0089 0.0020 Saturn 17388-11-06 19:12 G 8072207.14 8072207.30 8072207.48 0.0280 0.0195 Neptune 17389-07-21 00:57 G 8072463.30 8072463.54 8072463.80 0.0089 0.0023 Saturn 17389-11-19 21:36 G 8072585.38 8072585.40 8072585.43 0.0281 0.0279 Neptune 17390-07-23 13:12 G 8072830.81 8072831.05 8072831.31 0.0089 0.0027 Jupiter 17390-11-15 19:40 G 8072946.14 8072946.32 8072946.50 0.0488 0.0302 Neptune 17391-07-26 01:12 G 8073198.33 8073198.55 8073198.81 0.0089 0.0031 Jupiter 17391-12-15 15:21 G 8073340.99 8073341.14 8073341.30 0.0484 0.0360 Neptune 17392-07-27 13:26 G 8073565.83 8073566.06 8073566.30 0.0089 0.0034 Neptune 17393-07-30 01:26 G 8073933.34 8073933.56 8073933.80 0.0089 0.0037 Neptune 17394-08-01 13:12 G 8074300.84 8074301.05 8074301.30 0.0089 0.0040 Neptune 17395-08-04 01:12 G 8074668.34 8074668.55 8074668.79 0.0089 0.0043 Neptune 17396-08-05 13:12 G 8075035.84 8075036.05 8075036.28 0.0089 0.0046 Jupiter 17397-05-31 16:19 G 8075334.94 8075335.18 8075335.41 0.0543 0.0010 Neptune 17397-08-08 00:57 G 8075403.34 8075403.54 8075403.77 0.0089 0.0049 Neptune 17398-08-10 12:57 G 8075770.84 8075771.04 8075771.26 0.0089 0.0052 Neptune 17399-08-13 00:43 G 8076138.34 8076138.53 8076138.75 0.0089 0.0055 Neptune 17400-08-15 12:14 G 8076505.84 8076506.01 8076506.23 0.0089 0.0059 Neptune 17401-08-18 00:28 G 8076873.33 8076873.52 8076873.71 0.0089 0.0061 Neptune 17402-08-20 12:00 G 8077240.83 8077241.00 8077241.19 0.0089 0.0063

Jupiter 17402-11-21 01:40 G 8077333.36 8077333.57 8077333.78 0.0487 0.0208 Saturn 17403-05-12 14:09 G 8077505.89 8077506.09 8077506.32 0.0279 0.0140 Neptune 17403-08-22 23:02 G 8077608.31 8077608.46 8077608.66 0.0089 0.0066 Jupiter 17403-12-20 20:24 G 8077728.27 8077728.35 8077728.44 0.0484 0.0449 Neptune 17404-08-24 10:48 G 8077975.80 8077975.95 8077976.13 0.0089 0.0068 Neptune 17405-08-26 22:04 G 8078343.28 8078343.42 8078343.59 0.0089 0.0070 17406-03-01 07:26 G 8078529.63 8078529.81 8078529.99 0.1758 0.0634 Mars Neptune 17406-08-29 09:07 G 8078710.76 8078710.88 8078711.05 0.0089 0.0073 Neptune 17407-08-31 20:24 G 8079078.24 8079078.35 8079078.51 0.0089 0.0075 Neptune 17408-09-02 07:26 G 8079445.71 8079445.81 8079445.97 0.0089 0.0077 Jupiter 17409-06-07 01:55 G 8079723.36 8079723.58 8079723.81 0.0544 0.0132 Neptune 17409-09-04 19:26 G 8079813.19 8079813.31 8079813.43 0.0089 0.0078 Neptune 17410-09-07 06:14 G 8080180.67 8080180.76 8080180.88 0.0089 0.0080 Neptune 17411-09-09 17:16 G 8080548.15 8080548.22 8080548.34 0.0089 0.0082 Neptune 17412-09-11 04:48 G 8080915.62 8080915.70 8080915.79 0.0089 0.0083 Neptune 17413-09-13 15:21 G 8081283.10 8081283.14 8081283.25 0.0089 0.0085 Neptune 17414-09-16 02:24 G 8081650.57 8081650.60 8081650.69 0.0089 0.0086 Jupiter 17414-11-25 06:14 G 8081720.53 8081720.76 8081720.99 0.0486 0.0114 Neptune 17415-09-18 13:26 G 8082018.03 8082018.06 8082018.14 0.0089 0.0087 Neptune 17416-09-20 00:14 G 8082385.50 8082385.51 8082385.57 0.0089 0.0088 Neptune 17417-09-22 11:02 G 8082752.96 8082752.96 8082753.00 0.0089 0.0089 Saturn 17418-11-15 10:04 G 8083171.69 8083171.92 8083172.16 0.0281 0.0070 Jupiter 17421-06-12 14:24 G 8084111.90 8084112.10 8084112.30 0.0545 0.0271 Uranus 17422-09-24 03:21 G 8084580.45 8084580.64 8084580.85 0.0144 0.0088 Uranus 17423-09-29 01:40 G 8084950.33 8084950.57 8084950.82 0.0144 0.0027 Uranus 17424-10-03 00:00 G 8085320.26 8085320.50 8085320.75 0.0144 0.0035 Uranus 17425-10-07 22:33 G 8085690.27 8085690.44 8085690.64 0.0145 0.0097 Jupiter 17426-11-29 10:48 G 8086107.72 8086107.95 8086108.19 0.0485 0.0021 17427-08-31 05:02 G 8086382.58 8086382.71 8086382.85 0.1783 0.1271 Mars Neptune 17429-10-18 18:14 G 8087162.24 8087162.26 8087162.30 0.0088 0.0088

Neptune 17430-10-21 03:50 G 8087529.65 8087529.66 8087529.73 0.0088 0.0087 Neptune 17431-10-23 14:52 G 8087897.06 8087897.12 8087897.18 0.0088 0.0086 Neptune 17432-10-25 00:14 G 8088264.48 8088264.51 8088264.61 0.0088 0.0086 Saturn 17433-05-18 22:33 G 8088470.22 8088470.67 0.0278 0.0108 8088470.44 Jupiter 17433-06-18 03:50 G 8088500.51 8088500.66 8088500.81 0.0545 0.0411 Neptune 17433-10-27 11:02 G 8088631.89 8088631.96 8088632.05 0.0088 0.0083 Neptune 17434-10-29 21:07 G 8088999.31 8088999.49 0.0088 0.0082 8088999.38 Neptune 17435-11-01 07:40 G 8089366.72 8089366.82 8089366.93 0.0088 0.0081 Neptune 17436-11-02 17:45 G 8089734.15 8089734.24 8089734.37 0.0088 0.0079 Neptune 17437-11-05 04:04 G 8090101.57 8090101.81 0.0088 0.0077 8090101.67 Neptune 17438-11-07 14:52 G 8090468.99 8090469.12 8090469.25 0.0088 0.0075 Jupiter 17438-12-03 13:40 G 8090494.84 8090495.07 8090495.30 0.0484 0.0073 Neptune 17439-11-10 00:57 G 8090836.41 8090836.54 8090836.69 0.0088 0.0073 Neptune 17440-11-11 10:48 G 8091203.83 8091203.95 8091204.12 0.0088 0.0072 Neptune 17441-11-13 21:21 G 8091571.25 8091571.39 8091571.56 0.0088 0.0069 Neptune 17442-11-16 07:26 G 8091938.66 8091938.81 8091938.99 0.0088 0.0067 Neptune 17443-11-18 17:31 G 8092306.08 8092306.23 8092306.42 0.0088 0.0065 Jupiter 17444-05-15 20:52 G 8092485.23 8092485.37 8092485.52 0.0540 0.0426 Neptune 17444-11-20 03:36 G 8092673.50 8092673.65 8092673.85 0.0088 0.0063 Jupiter 17445-06-23 13:55 G 8092889.08 8092889.08 8092889.09 0.0545 0.0544 Neptune 17445-11-22 14:09 G 8093040.92 8093041.09 8093041.29 0.0088 0.0060 Neptune 17446-11-25 00:00 G 8093408.33 8093408.50 8093408.72 0.0088 0.0058 Saturn 17447-11-09 18:14 G 8093758.07 8093758.26 8093758.48 0.0280 0.0150 Neptune 17447-11-27 10:19 G 8093775.76 8093775.93 8093776.16 0.0088 0.0055 Neptune 17448-11-28 20:52 G 8094143.18 8094143.37 8094143.59 0.0088 0.0052 Neptune 17449-12-01 07:26 G 8094510.61 8094510.81 8094511.03 0.0088 0.0049 Neptune 17450-12-03 18:00 G 8094878.04 8094878.25 8094878.47 0.0088 0.0046 Jupiter 17450-12-07 18:14 G 8094882.05 8094882.26 8094882.49 0.0484 0.0168 Neptune 17451-12-06 04:19 G 8095245.46 8095245.68 8095245.91 0.0088 0.0043 Neptune 17452-12-07 14:24 G 8095612.90 8095613.10 8095613.35 0.0088 0.0041

Neptune 17453-12-10 01:12 G 8095980.32 8095980.55 8095980.79 0.0088 0.0037 Neptune 17454-12-12 11:31 G 8096347.75 8096347.98 8096348.23 0.0088 0.0034 Neptune 17455-12-14 21:50 G 8096715.18 8096715.41 8096715.66 0.0088 0.0031 Jupiter 17456-05-21 00:28 G 8096873.32 8096873.52 8096873.71 0.0541 0.0301 Neptune 17456-12-16 08:24 G 8097082.61 8097082.85 8097083.10 0.0088 0.0028 Neptune 17457-12-18 18:28 G 8097450.04 8097450.27 8097450.54 0.0088 0.0025 Neptune 17458-12-21 05:02 G 8097817.48 8097817.71 8097817.98 0.0088 0.0022 Neptune 17459-12-23 15:50 G 8098184.91 8098185.16 8098185.41 0.0088 0.0018 Neptune 17460-12-25 02:24 G 8098552.35 8098552.60 8098552.86 0.0088 0.0015 Jupiter 17461-11-12 01:26 G 8098874.44 8098874.56 8098874.70 0.0490 0.0405 Neptune 17461-12-27 12:57 G 8098919.80 8098920.04 8098920.31 0.0088 0.0012 Saturn 17462-05-13 17:31 G 8099057.00 8099057.23 8099057.47 0.0279 0.0087 Jupiter 17462-12-11 23:16 G 8099269.28 8099269.47 8099269.67 0.0484 0.0260 Neptune 17462-12-29 23:45 G 8099287.23 8099287.49 8099287.75 0.0088 0.0008 Uranus 17463-03-24 21:36 G 8099372.22 8099372.40 8099372.59 0.0134 0.0092 Neptune 17464-01-01 10:33 G 8099654.69 8099654.94 8099655.20 0.0088 0.0005 Uranus 17464-03-28 07:40 G 8099741.59 8099741.82 8099742.08 0.0134 0.0042 Neptune 17465-01-02 21:21 G 8100022.13 8100022.39 8100022.65 0.0088 0.0002 Uranus 17465-04-01 17:45 G 8100110.99 8100111.24 8100111.50 0.0134 0.0009 Neptune 17466-01-05 08:09 G 8100389.58 8100389.84 8100390.10 0.0088 0.0002 Uranus 17466-04-06 03:21 G 8100480.42 8100480.64 8100480.88 0.0134 0.0058 Neptune 17467-01-07 18:57 G 8100757.03 8100757.29 8100757.55 0.0088 0.0005 Uranus 17467-04-10 12:57 G 8100849.89 8100850.04 8100850.20 0.0134 0.0107 Neptune 17468-01-10 05:45 G 8101124.49 8101124.74 8101125.00 0.0088 0.0009 Jupiter 17468-05-26 08:52 G 8101261.65 8101261.87 8101262.09 0.0542 0.0165 Neptune 17469-01-11 16:33 G 8101491.94 8101492.19 8101492.45 0.0088 0.0012 Neptune 17470-01-14 03:36 G 8101859.40 8101859.65 8101859.90 0.0088 0.0015 Neptune 17471-01-16 14:09 G 8102226.85 8102227.09 8102227.36 0.0088 0.0019 Neptune 17472-01-19 01:12 G 8102594.31 8102594.55 8102594.81 0.0088 0.0022 Neptune 17473-01-20 12:28 G 8102961.78 8102962.02 8102962.27 0.0088 0.0025

Jupiter 17473-11-16 07:26 G 8103261.63 8103261.81 8103261.99 0.0488 0.0311 Neptune 17474-01-22 23:16 G 8103329.24 8103329.47 8103329.73 0.0088 0.0029 Jupiter 17474-12-16 02:52 G 8103656.46 8103656.62 8103656.78 0.0484 0.0348 Neptune 17475-01-25 10:33 G 8103696.71 8103696.94 8103697.20 0.0088 0.0032 Neptune 17476-01-27 21:50 G 8104064.19 8104064.41 8104064.67 0.0088 0.0035 Neptune 17477-01-29 09:21 G 8104431.67 8104431.89 8104432.14 0.0088 0.0038 Saturn 17477-11-16 10:33 G 8104722.72 8104722.94 8104723.16 0.0281 0.0117 Neptune 17478-01-31 20:52 G 8104799.16 8104799.37 8104799.61 0.0088 0.0041 Neptune 17479-02-03 08:09 G 8105166.63 8105166.84 8105167.08 0.0088 0.0044 Neptune 17480-02-05 19:55 G 8105534.12 8105534.33 8105534.56 0.0088 0.0047 Jupiter 17480-05-31 19:55 G 8105650.10 8105650.33 8105650.57 0.0543 0.0027 Neptune 17481-02-07 07:12 G 8105901.61 8105901.80 8105902.03 0.0088 0.0050 Neptune 17482-02-09 18:43 G 8106269.09 8106269.28 8106269.51 0.0088 0.0053 Neptune 17483-02-12 06:28 G 8106636.58 8106636.77 8106636.98 0.0088 0.0056 Neptune 17484-02-14 18:00 G 8107004.08 8107004.25 8107004.47 0.0088 0.0059 Neptune 17485-02-16 06:00 G 8107371.57 8107371.75 8107371.95 0.0088 0.0061 Mars 17485-03-03 23:45 G 8107387.37 8107387.49 8107387.60 0.1765 0.1407 Jupiter 17485-11-20 12:57 G 8107648.83 8107649.04 8107649.25 0.0487 0.0216 Neptune 17486-02-18 17:31 G 8107739.07 8107739.23 8107739.43 0.0088 0.0064 Jupiter 17486-12-20 06:57 G 8108043.70 8108043.79 8108043.90 0.0484 0.0437 Neptune 17487-02-21 05:31 G 8108106.57 8108106.73 8108106.92 0.0088 0.0066 Neptune 17488-02-23 18:00 G 8108474.08 8108474.25 8108474.41 0.0088 0.0068 Neptune 17489-02-25 05:31 G 8108841.60 8108841.73 8108841.91 0.0088 0.0070 Neptune 17490-02-27 17:31 G 8109209.10 8109209.23 8109209.40 0.0088 0.0072 Neptune 17491-03-02 05:45 G 8109576.63 8109576.74 8109576.91 0.0088 0.0075 Neptune 17492-03-03 17:45 G 8109944.14 8109944.24 8109944.40 0.0088 0.0077 Saturn 17492-05-20 02:09 G 8110021.39 8110021.59 8110021.79 0.0278 0.0160 Jupiter 17492-06-06 09:21 G 8110038.66 8110038.89 8110039.12 0.0544 0.0117 Neptune 17493-03-06 06:28 G 8110311.66 8110311.77 8110311.90 0.0088 0.0078 Neptune 17494-03-08 18:14 G 8110679.18 8110679.26 8110679.40 0.0089 0.0080

Neptune 17495-03-11 06:57 G 8111046.70 8111046.79 8111046.90 0.0089 0.0081 Neptune 17496-03-12 18:57 G 8111414.22 8111414.29 8111414.41 0.0089 0.0083 Neptune 17497-03-15 07:26 G 8111781.75 8111781.81 8111781.91 0.0089 0.0084 Jupiter 17497-11-24 16:19 G 8112035.95 8112036.18 8112036.41 0.0486 0.0122 Neptune 17498-03-17 19:55 G 8112149.27 8112149.33 8112149.42 0.0089 0.0085 Neptune 17499-03-20 08:24 G 8112516.80 8112516.85 8112516.92 0.0089 0.0086 Neptune 17500-03-22 20:52 G 8112884.34 8112884.37 8112884.44 0.0089 0.0087 Pluto 17500-08-10 07:12 G 8113024.57 8113024.80 8113025.06 0.0064 0.0021 Neptune 17501-03-25 09:21 G 8113251.88 8113251.89 8113251.95 0.0089 0.0088 Pluto 17501-08-11 19:12 G 8113391.27 8113391.30 8113391.33 0.0064 0.0064 Neptune 17502-03-27 22:04 G 8113619.42 8113619.42 8113619.47 0.0089 0.0089 Jupiter 17504-06-12 20:24 G 8114427.15 8114427.35 8114427.56 0.0544 0.0257 Mars 17506-09-03 21:07 G 8115240.21 8115240.38 8115240.55 0.1776 0.0785 Uranus 17506-09-25 12:00 G 8115261.81 8115262.00 8115262.21 0.0144 0.0086 Saturn 17506-11-11 17:45 G 8115309.01 8115309.24 8115309.47 0.0280 0.0103 Uranus 17507-09-30 10:04 G 8115631.68 8115631.92 8115632.18 0.0144 0.0026 Uranus 17508-10-04 08:38 G 8116001.62 8116001.86 8116002.11 0.0144 0.0037 Uranus 17509-10-09 07:12 G 8116371.63 8116371.80 8116372.00 0.0145 0.0099 Jupiter 17509-11-29 21:21 G 8116423.16 8116423.39 8116423.62 0.0485 0.0028 Neptune 17510-04-15 04:48 G 8116559.70 8116559.70 8116559.72 0.0089 0.0089 Neptune 17511-04-17 17:45 G 8116927.23 8116927.24 8116927.28 0.0089 0.0089 Neptune 17512-04-19 06:14 G 8117294.75 8117294.76 8117294.84 0.0089 0.0088 Neptune 17513-04-21 19:26 G 8117662.29 8117662.31 8117662.40 0.0089 0.0087 Neptune 17514-04-24 08:38 G 8118029.82 8118029.86 8118029.95 0.0089 0.0086 Neptune 17515-04-26 21:50 G 8118397.36 8118397.41 8118397.52 0.0089 0.0085 Neptune 17516-04-28 11:31 G 8118764.91 8118764.98 8118765.08 0.0089 0.0084 Jupiter 17516-06-18 00:57 G 8118815.38 8118815.54 8118815.70 0.0544 0.0385 Neptune 17517-05-01 00:28 G 8119132.44 8119132.52 8119132.64 0.0089 0.0082 Neptune 17518-05-03 13:55 G 8119499.98 8119500.08 8119500.20 0.0089 0.0081 Neptune 17519-05-06 02:38 G 8119867.52 8119867.61 8119867.75 0.0089 0.0080

Neptune 17520-05-07 15:50 G 8120235.06 8120235.16 8120235.31 0.0089 0.0078 Neptune 17521-05-10 05:02 G 8120602.59 8120602.71 8120602.86 0.0089 0.0076 Saturn 17521-05-15 19:40 G 8120608.08 8120608.32 8120608.57 0.0279 0.0036 Jupiter 17521-12-04 02:09 G 8120810.36 8120810.59 8120810.82 0.0485 0.0065 Neptune 17522-05-12 18:14 G 8120970.13 8120970.26 8120970.42 0.0089 0.0074 Neptune 17523-05-15 07:26 G 8121337.67 8121337.81 8121337.98 0.0089 0.0072 Neptune 17524-05-16 20:24 G 8121705.21 8121705.35 8121705.54 0.0089 0.0070 Neptune 17525-05-19 09:36 G 8122072.75 8122072.90 8122073.09 0.0089 0.0068 Neptune 17526-05-21 23:02 G 8122440.30 8122440.46 8122440.65 0.0089 0.0065 Jupiter 17527-05-16 18:14 G 8122800.14 8122800.26 8122800.39 0.0539 0.0448 Neptune 17527-05-24 12:14 G 8122807.85 8122808.01 8122808.22 0.0089 0.0063 Neptune 17528-05-26 01:40 G 8123175.39 8123175.57 8123175.78 0.0089 0.0060 Jupiter 17528-06-23 09:50 G 8123203.84 8123203.91 8123203.98 0.0545 0.0518 Neptune 17529-05-28 15:21 G 8123542.94 8123543.14 8123543.34 0.0089 0.0057 Neptune 17530-05-31 04:33 G 8123910.48 8123910.69 8123910.90 0.0089 0.0054 Neptune 17531-06-02 17:16 G 8124278.03 8124278.22 8124278.45 0.0089 0.0052 Neptune 17532-06-04 06:14 G 8124645.57 8124645.76 8124646.00 0.0090 0.0049 Neptune 17533-06-06 19:12 G 8125013.10 8125013.30 8125013.55 0.0090 0.0046 Jupiter 17533-12-08 06:00 G 8125197.53 8125197.75 8125197.97 0.0484 0.0156 Neptune 17534-06-09 08:24 G 8125380.64 8125380.85 8125381.10 0.0090 0.0043 Neptune 17535-06-11 21:21 G 8125748.18 8125748.39 8125748.64 0.0090 0.0040 Neptune 17536-06-13 10:33 G 8126115.71 8126115.94 8126116.18 0.0090 0.0036 Saturn 17536-11-18 11:02 G 8126273.77 8126273.96 8126274.16 0.0281 0.0165 Neptune 17537-06-15 23:31 G 8126483.24 8126483.48 8126483.73 0.0090 0.0033 Neptune 17538-06-18 12:28 G 8126850.79 8126851.02 8126851.28 0.0090 0.0030 Jupiter 17539-05-22 03:07 G 8127188.44 8127188.63 8127188.82 0.0541 0.0318 Neptune 17539-06-21 01:26 G 8127218.32 8127218.56 8127218.82 0.0090 0.0026 Neptune 17540-06-22 14:38 G 8127585.87 8127586.11 8127586.37 0.0090 0.0023 Neptune 17541-06-25 03:36 G 8127953.40 8127953.65 8127953.91 0.0090 0.0019 Neptune 17542-06-27 16:33 G 8128320.94 8128321.19 8128321.45 0.0090 0.0016

Neptune 17543-06-30 05:31 G 8128688.48 8128688.73 8128688.99 0.0090 0.0013 Neptune 17544-07-01 18:00 G 8129056.00 8129056.25 8129056.51 0.0090 0.0009 Jupiter 17544-11-12 12:57 G 8129189.92 8129190.04 8129190.17 0.0489 0.0412 Neptune 17545-07-04 06:57 G 8129423.53 8129423.79 8129424.05 0.0090 0.0006 Jupiter 17545-12-12 10:04 G 8129584.72 8129584.92 8129585.12 0.0484 0.0249 Neptune 17546-07-06 19:26 G 8129791.06 8129791.31 8129791.57 0.0090 0.0002 Uranus 17547-03-26 05:45 G 8130053.57 8130053.74 8130053.95 0.0134 0.0090 Neptune 17547-07-09 08:09 G 8130158.58 8130158.84 8130159.10 0.0090 0.0001 Uranus 17548-03-29 16:19 G 8130422.95 8130423.18 8130423.44 0.0134 0.0040 Neptune 17548-07-10 20:38 G 8130526.10 8130526.36 8130526.62 0.0089 0.0005 Uranus 17549-04-03 02:24 G 8130792.34 8130792.60 8130792.86 0.0134 0.0010 Neptune 17549-07-13 09:07 G 8130893.63 8130893.88 8130894.14 0.0089 0.0008 Uranus 17550-04-07 12:00 G 8131161.78 8131162.00 8131162.24 0.0134 0.0060 Saturn 17550-05-10 01:40 G 8131194.48 8131194.57 8131194.68 0.0279 0.0252 Neptune 17550-07-15 21:36 G 8131261.15 8131261.40 8131261.66 0.0089 0.0012 Uranus 17551-04-11 21:07 G 8131531.26 8131531.38 8131531.55 0.0134 0.0110 Saturn 17551-05-23 05:16 G 8131572.58 8131572.72 8131572.89 0.0278 0.0212 Jupiter 17551-05-27 15:36 G 8131576.93 8131577.15 8131577.37 0.0542 0.0180 Neptune 17551-07-18 10:04 G 8131628.67 8131628.92 8131629.18 0.0089 0.0015 Neptune 17552-07-19 22:33 G 8131996.19 8131996.44 8131996.70 0.0089 0.0019 Neptune 17553-07-22 11:02 G 8132363.72 8132363.96 8132364.22 0.0089 0.0022 Neptune 17554-07-24 23:31 G 8132731.24 8132731.48 8132731.74 0.0089 0.0025 Neptune 17555-07-27 11:45 G 8133098.75 8133098.99 8133099.24 0.0089 0.0028 Neptune 17556-07-29 00:14 G 8133466.27 8133466.51 8133466.75 0.0089 0.0032 Jupiter 17556-11-16 17:31 G 8133577.06 8133577.23 8133577.41 0.0488 0.0318 Neptune 17557-07-31 12:14 G 8133833.78 8133834.01 8133834.25 0.0089 0.0035 Jupiter 17557-12-16 13:12 G 8133971.89 8133972.05 8133972.22 0.0484 0.0338 Neptune 17558-08-03 00:28 G 8134201.29 8134201.52 8134201.75 0.0089 0.0038 Neptune 17559-08-05 12:28 G 8134568.79 8134569.02 8134569.24 0.0089 0.0041 Neptune 17560-08-07 00:14 G 8134936.29 8134936.51 8134936.73 0.0089 0.0044

Neptune 17561-08-09 12:00 G 8135303.79 8135304.00 8135304.23 0.0089 0.0047 Neptune 17562-08-11 23:45 G 8135671.29 8135671.49 8135671.72 0.0089 0.0050 Jupiter 17563-06-02 02:52 G 8135965.39 8135965.62 8135965.85 0.0543 0.0039 Neptune 17563-08-14 11:31 G 8136038.79 8136038.98 8136039.20 0.0089 0.0052 Neptune 17564-08-15 23:02 G 8136406.29 8136406.46 8136406.69 0.0089 0.0056 Neptune 17565-08-18 11:16 G 8136773.79 8136773.97 8136774.18 0.0089 0.0057 Saturn 17565-11-12 17:31 G 8136860.00 8136860.23 8136860.47 0.0280 0.0056 Neptune 17566-08-20 22:48 G 8137141.28 8137141.45 8137141.66 0.0089 0.0060 Neptune 17567-08-23 10:33 G 8137508.78 8137508.94 8137509.14 0.0089 0.0062 Neptune 17568-08-24 22:04 G 8137876.26 8137876.42 8137876.61 0.0089 0.0064 Jupiter 17568-11-20 23:02 G 8137964.25 8137964.46 8137964.67 0.0487 0.0224 Neptune 17569-08-27 09:36 G 8138243.74 8138243.90 8138244.08 0.0089 0.0066 Jupiter 17569-12-20 18:14 G 8138359.15 8138359.26 8138359.37 0.0484 0.0428 Neptune 17570-08-29 21:07 G 8138611.23 8138611.38 8138611.55 0.0089 0.0068 Neptune 17571-09-01 08:09 G 8138978.70 8138978.84 8138979.01 0.0089 0.0070 Neptune 17572-09-02 19:26 G 8139346.18 8139346.31 8139346.47 0.0089 0.0072 Neptune 17573-09-05 06:28 G 8139713.65 8139713.77 8139713.93 0.0089 0.0074 Neptune 17574-09-07 17:31 G 8140081.12 8140081.23 8140081.39 0.0089 0.0076 Jupiter 17575-06-07 07:55 G 8140353.60 8140353.83 8140354.06 0.0543 0.0091 Neptune 17575-09-10 04:48 G 8140448.59 8140448.70 8140448.84 0.0089 0.0077 Neptune 17576-09-11 16:19 G 8140816.06 8140816.18 8140816.30 0.0089 0.0078 Neptune 17577-09-14 02:38 G 8141183.53 8141183.61 8141183.75 0.0089 0.0080 Neptune 17578-09-16 13:55 G 8141551.00 8141551.08 8141551.21 0.0089 0.0081 Neptune 17579-09-19 00:57 G 8141918.46 8141918.54 8141918.66 0.0089 0.0082 Saturn 17580-05-16 22:19 G 8142159.18 8142159.43 8142159.68 0.0279 0.0015 Neptune 17580-09-20 11:45 G 8142285.93 8142285.99 8142286.11 0.0089 0.0083 Jupiter 17580-11-25 03:36 G 8142351.43 8142351.65 8142351.88 0.0487 0.0133 Neptune 17581-09-22 22:33 G 8142653.39 8142653.44 8142653.56 0.0089 0.0084 Neptune 17582-09-25 09:36 G 8143020.84 8143020.90 8143021.00 0.0089 0.0084 Neptune 17583-09-27 20:09 G 8143388.29 8143388.34 8143388.44 0.0089 0.0085

Neptune 17584-09-29 06:57 G 8143755.74 8143755.79 8143755.88 0.0089 0.0085 Neptune 17585-10-01 18:00 G 8144123.18 8144123.25 8144123.32 0.0089 0.0085 Neptune 17586-10-04 03:50 G 8144490.63 8144490.66 8144490.76 0.0088 0.0086 Jupiter 17587-06-12 16:33 G 8144741.98 8144742.19 8144742.40 0.0544 0.0228 Neptune 17587-10-06 14:24 G 8144858.06 8144858.10 8144858.20 0.0088 0.0086 Neptune 17588-10-08 00:57 G 8145225.51 8145225.54 8145225.64 0.0088 0.0086 Neptune 17589-10-10 12:14 G 8145592.95 8145593.01 8145593.08 0.0088 0.0085 Pluto 17590-02-09 11:16 G 8145714.93 8145714.97 8145715.05 0.0080 0.0077 Uranus 17590-09-25 19:55 G 8145943.15 8145943.33 8145943.55 0.0144 0.0085 Neptune 17590-10-12 22:33 G 8145960.39 8145960.44 8145960.53 0.0088 0.0085 Uranus 17591-09-30 18:28 G 8146313.03 8146313.27 8146313.52 0.0144 0.0024 Neptune 17591-10-15 08:52 G 8146327.82 8146327.87 8146327.97 0.0088 0.0084 Uranus 17592-10-04 16:48 G 8146682.96 8146683.20 8146683.45 0.0144 0.0039 Neptune 17592-10-16 19:40 G 8146695.26 8146695.32 8146695.42 0.0088 0.0083 Jupiter 17592-11-29 08:09 G 8146738.61 8146738.84 8146739.07 0.0486 0.0041 Uranus 17593-10-09 15:36 G 8147052.98 8147053.15 8147053.33 0.0145 0.0101 Neptune 17593-10-19 06:14 G 8147062.68 8147062.76 8147062.86 0.0088 0.0083 Neptune 17594-10-21 16:48 G 8147430.11 8147430.20 8147430.30 0.0088 0.0082 Saturn 17594-11-07 12:57 G 8147446.95 8147447.04 8147447.16 0.0279 0.0250 Neptune 17595-10-24 03:07 G 8147797.53 8147797.63 8147797.74 0.0088 0.0081 Saturn 17595-11-20 12:57 G 8147824.88 8147825.04 8147825.19 0.0281 0.0215 Neptune 17596-10-25 13:26 G 8148164.96 8148165.06 8148165.17 0.0088 0.0080 Neptune 17597-10-27 23:31 G 8148532.38 8148532.48 8148532.61 0.0088 0.0079 Neptune 17598-10-30 09:36 G 8148899.80 8148899.90 8148900.04 0.0088 0.0077 Jupiter 17599-06-18 03:21 G 8149130.48 8149130.64 8149130.82 0.0545 0.0365 Neptune 17599-11-01 19:40 G 8149267.22 8149267.32 8149267.48 0.0088 0.0076 Neptune 17600-11-03 06:14 G 8149634.64 8149634.76 8149634.91 0.0088 0.0074 Neptune 17601-11-05 16:04 G 8150002.06 8150002.17 8150002.35 0.0088 0.0073 Neptune 17602-11-08 02:38 G 8150369.48 8150369.61 8150369.78 0.0088 0.0071 Neptune 17603-11-10 12:57 G 8150736.91 8150737.04 8150737.22 0.0088 0.0069

Neptune 17604-11-11 23:31 G 8151104.33 8151104.48 8151104.66 0.0088 0.0067 Jupiter 17604-12-03 12:57 G 8151125.81 8151126.04 8151126.27 0.0485 0.0054 Neptune 17605-11-14 09:50 G 8151471.75 8151471.91 8151472.09 0.0088 0.0065 Neptune 17606-11-16 19:55 G 8151839.17 8151839.33 8151839.53 0.0088 0.0063 Neptune 17607-11-19 06:00 G 8152206.59 8152206.75 8152206.96 0.0088 0.0061 Neptune 17608-11-20 16:19 G 8152574.01 8152574.18 8152574.39 0.0088 0.0059 Saturn 17609-05-11 05:02 G 8152745.55 8152745.71 8152745.89 0.0279 0.0199 Neptune 17609-11-23 02:38 G 8152941.42 8152941.61 8152941.82 0.0088 0.0056 Jupiter 17610-05-15 23:31 G 8153115.37 8153115.48 8153115.61 0.0539 0.0461 Saturn 17610-05-24 08:52 G 8153123.81 8153123.87 8153123.95 0.0278 0.0264 Neptune 17610-11-25 12:43 G 8153308.85 8153309.03 8153309.25 0.0088 0.0054 Jupiter 17611-06-23 16:48 G 8153519.12 8153519.20 8153519.29 0.0545 0.0502 Neptune 17611-11-27 23:16 G 8153676.26 8153676.47 8153676.68 0.0088 0.0051 Neptune 17612-11-29 09:07 G 8154043.68 8154043.88 8154044.11 0.0088 0.0049 Neptune 17613-12-01 19:40 G 8154411.11 8154411.32 8154411.54 0.0088 0.0046 Neptune 17614-12-04 05:31 G 8154778.52 8154778.73 8154778.97 0.0088 0.0044 Neptune 17615-12-06 16:04 G 8155145.96 8155146.17 8155146.41 0.0088 0.0041 Jupiter 17616-12-07 15:50 G 8155512.94 8155513.16 8155513.39 0.0484 0.0147 Neptune 17616-12-08 02:24 G 8155513.39 8155513.60 8155513.85 0.0088 0.0038 \* Neptune 17617-12-10 12:57 G 8155880.82 8155881.04 8155881.29 0.0088 0.0035 Neptune 17618-12-12 23:31 G 8156248.25 8156248.48 8156248.72 0.0088 0.0032 Neptune 17619-12-15 10:04 G 8156615.68 8156615.92 8156616.17 0.0088 0.0029 Neptune 17620-12-16 20:24 G 8156983.11 8156983.35 8156983.60 0.0088 0.0026 Neptune 17621-12-19 06:43 G 8157350.54 8157350.78 8157351.04 0.0088 0.0023 Jupiter 17622-05-21 10:04 G 8157503.74 8157503.92 8157504.11 0.0540 0.0330 Neptune 17622-12-21 17:16 G 8157717.97 8157718.22 8157718.47 0.0088 0.0020 Neptune 17623-12-24 03:36 G 8158085.41 8158085.65 8158085.91 0.0088 0.0017 Saturn 17624-11-13 19:12 G 8158411.06 8158411.30 8158411.55 0.0280 0.0006 Neptune 17624-12-25 14:24 G 8158452.85 8158453.10 8158453.36 0.0088 0.0014 Neptune 17625-12-28 00:43 G 8158820.28 8158820.53 8158820.79 0.0088 0.0011

Neptune 17626-12-30 11:31 G 8159187.72 8159187.98 8159188.24 0.0088 0.0007 Jupiter 17627-11-12 22:19 G 8159505.31 8159505.43 8159505.55 0.0490 0.0419 Neptune 17628-01-01 22:04 G 8159555.17 8159555.42 8159555.68 0.0088 0.0005 Jupiter 17628-12-11 20:38 G 8159900.16 8159900.36 8159900.56 0.0484 0.0240 Neptune 17629-01-03 09:07 G 8159922.62 8159922.88 8159923.14 0.0088 0.0001 Neptune 17630-01-05 19:55 G 8160290.07 8160290.33 8160290.59 0.0088 0.0002 Neptune 17631-01-08 06:43 G 8160657.52 8160657.78 8160658.04 0.0088 0.0005 Uranus 17631-03-26 13:40 G 8160734.90 8160735.07 8160735.28 0.0134 0.0089 Neptune 17632-01-10 17:31 G 8161024.98 8161025.23 8161025.50 0.0088 0.0009 Uranus 17632-03-30 00:14 G 8161104.27 8161104.51 8161104.77 0.0134 0.0038 Neptune 17633-01-12 04:33 G 8161392.44 8161392.69 8161392.95 0.0088 0.0012 Uranus 17633-04-03 10:19 G 8161473.68 8161473.93 8161474.19 0.0134 0.0013 Neptune 17634-01-14 15:21 G 8161759.89 8161760.14 8161760.40 0.0088 0.0015 Uranus 17634-04-07 19:55 G 8161843.12 8161843.33 8161843.57 0.0134 0.0063 Jupiter 17634-05-26 15:36 G 8161891.93 8161892.15 8161892.37 0.0541 0.0202 Neptune 17635-01-17 02:09 G 8162127.35 8162127.59 8162127.85 0.0088 0.0018 Uranus 17635-04-12 05:16 G 8162212.59 8162212.72 8162212.87 0.0134 0.0112 Neptune 17636-01-19 13:26 G 8162494.81 8162495.06 8162495.31 0.0088 0.0021 Neptune 17637-01-21 00:14 G 8162862.27 8162862.51 8162862.76 0.0088 0.0024 Neptune 17638-01-23 11:16 G 8163229.73 8163229.97 8163230.23 0.0088 0.0027 Neptune 17639-01-25 22:19 G 8163597.20 8163597.43 8163597.68 0.0088 0.0030 Saturn 17639-05-19 00:57 G 8163710.30 8163710.54 8163710.78 0.0279 0.0067 Jupiter 17639-11-17 02:52 G 8163892.46 8163892.62 8163892.80 0.0489 0.0331 Neptune 17640-01-28 09:36 G 8163964.67 8163964.90 8163965.15 0.0088 0.0033 Jupiter 17640-12-16 00:43 G 8164287.37 8164287.53 8164287.71 0.0484 0.0328 Neptune 17641-01-29 20:52 G 8164332.15 8164332.37 8164332.62 0.0088 0.0036 Neptune 17642-02-01 07:55 G 8164699.62 8164699.83 8164700.08 0.0088 0.0039 Neptune 17643-02-03 19:26 G 8165067.11 8165067.31 8165067.56 0.0088 0.0042 Neptune 17644-02-06 07:12 G 8165434.59 8165434.80 8165435.04 0.0088 0.0045 Neptune 17645-02-07 18:43 G 8165802.07 8165802.28 8165802.51 0.0088 0.0047

Neptune 17646-02-10 06:28 G 8166169.56 8166169.77 8166169.98 0.0088 0.0050 Jupiter 17646-05-31 23:16 G 8166280.24 8166280.47 8166280.70 0.0542 0.0066 Neptune 17647-02-12 17:45 G 8166537.05 8166537.24 8166537.46 0.0088 0.0052 Neptune 17648-02-15 05:31 G 8166904.53 8166904.73 8166904.94 0.0088 0.0055 Neptune 17649-02-16 16:48 G 8167272.03 8167272.20 8167272.42 0.0088 0.0058 Neptune 17650-02-19 04:33 G 8167639.52 8167639.69 8167639.90 0.0088 0.0060 Neptune 17651-02-21 16:33 G 8168007.01 8168007.19 8168007.38 0.0088 0.0062 Jupiter 17651-11-21 08:24 G 8168279.65 8168279.85 8168280.06 0.0488 0.0237 Neptune 17652-02-24 04:33 G 8168374.52 8168374.69 8168374.87 0.0088 0.0064 Jupiter 17652-12-20 03:50 G 8168674.55 8168674.66 8168674.79 0.0484 0.0414 Neptune 17653-02-25 15:50 G 8168742.01 8168742.16 8168742.35 0.0088 0.0066 Saturn 17653-11-08 16:33 G 8168998.02 8168998.19 8168998.36 0.0279 0.0197 Neptune 17654-02-28 04:33 G 8169109.53 8169109.69 8169109.85 0.0088 0.0068 Saturn 17654-11-21 16:04 G 8169376.10 8169376.17 8169376.25 0.0280 0.0267 Neptune 17655-03-02 16:33 G 8169477.04 8169477.19 8169477.35 0.0088 0.0070 Neptune 17656-03-04 04:33 G 8169844.56 8169844.69 8169844.86 0.0088 0.0072 Neptune 17657-03-06 16:33 G 8170212.07 8170212.19 8170212.36 0.0088 0.0074 Neptune 17658-03-09 05:02 G 8170579.59 8170579.71 8170579.86 0.0088 0.0075 Jupiter 17658-06-06 08:38 G 8170668.63 8170668.86 8170669.09 0.0544 0.0069 Neptune 17659-03-11 17:02 G 8170947.11 8170947.21 8170947.37 0.0089 0.0077 Neptune 17660-03-13 05:31 G 8171314.63 8171314.73 8171314.87 0.0089 0.0078 Neptune 17661-03-15 18:00 G 8171682.14 8171682.25 8171682.38 0.0089 0.0079 Neptune 17662-03-18 06:14 G 8172049.66 8172049.76 8172049.88 0.0089 0.0080 Neptune 17663-03-20 18:43 G 8172417.19 8172417.28 8172417.40 0.0089 0.0081 Jupiter 17663-11-25 13:55 G 8172666.86 8172667.08 8172667.30 0.0487 0.0143 Neptune 17664-03-22 06:57 G 8172784.71 8172784.79 8172784.91 0.0089 0.0082 Neptune 17665-03-24 19:26 G 8173152.25 8173152.31 8173152.43 0.0089 0.0083 Neptune 17666-03-27 08:24 G 8173519.78 8173519.85 8173519.95 0.0089 0.0083 Neptune 17667-03-29 20:52 G 8173887.31 8173887.37 8173887.48 0.0089 0.0084 Neptune 17668-03-31 09:50 G 8174254.85 8174254.91 8174255.02 0.0089 0.0084

Saturn 17668-05-12 09:50 G 8174296.70 8174296.91 8174297.13 0.0279 0.0144 Neptune 17669-04-02 22:48 G 8174622.38 8174622.45 8174622.54 0.0089 0.0084 Neptune 17670-04-05 11:45 G 8174989.93 8174989.99 8174990.09 0.0089 0.0084 Jupiter 17670-06-11 21:21 G 8175057.18 8175057.39 8175057.61 0.0544 0.0210 Neptune 17671-04-08 00:43 G 8175357.46 8175357.53 8175357.62 0.0089 0.0084 Neptune 17672-04-09 13:26 G 8175725.00 8175725.06 8175725.16 0.0089 0.0084 Neptune 17673-04-12 01:55 G 8176092.53 8176092.58 8176092.69 0.0089 0.0084 Uranus 17673-09-21 06:57 G 8176254.78 8176254.79 8176254.83 0.0144 0.0143 Neptune 17674-04-14 15:21 G 8176460.06 8176460.14 8176460.24 0.0089 0.0083 Uranus 17674-09-26 04:33 G 8176624.50 8176624.69 8176624.91 0.0144 0.0083 Neptune 17675-04-17 03:50 G 8176827.59 8176827.66 8176827.78 0.0089 0.0083 Uranus 17675-10-01 02:52 G 8176994.37 8176994.62 8176994.87 0.0144 0.0021 Jupiter 17675-11-29 17:31 G 8177054.00 8177054.23 8177054.47 0.0486 0.0050 Neptune 17676-04-18 16:48 G 8177195.13 8177195.20 8177195.32 0.0089 0.0083 Uranus 17676-10-05 00:57 G 8177364.31 8177364.54 8177364.79 0.0144 0.0042 Neptune 17677-04-21 06:00 G 8177562.66 8177562.75 8177562.86 0.0089 0.0082 Uranus 17677-10-09 23:31 G 8177734.33 8177734.48 8177734.68 0.0145 0.0104 Neptune 17678-04-23 18:57 G 8177930.19 8177930.29 8177930.41 0.0089 0.0081 Neptune 17679-04-26 08:24 G 8178297.74 8178297.85 8178297.97 0.0089 0.0080 Neptune 17680-04-27 21:07 G 8178665.27 8178665.38 8178665.51 0.0089 0.0078 Neptune 17681-04-30 10:19 G 8179032.82 8179032.93 8179033.08 0.0089 0.0077 Neptune 17682-05-02 23:45 G 8179400.36 8179400.49 8179400.63 0.0089 0.0076 Jupiter 17682-06-17 09:21 G 8179445.71 8179445.89 8179446.07 0.0545 0.0348 Neptune 17683-05-05 12:43 G 8179767.91 8179768.03 8179768.19 0.0089 0.0075 Saturn 17683-11-15 22:48 G 8179962.22 8179962.45 8179962.70 0.0280 0.0049 Neptune 17684-05-07 01:55 G 8180135.45 8180135.58 8180135.74 0.0089 0.0073 Neptune 17685-05-09 14:38 G 8180502.98 8180503.11 8180503.30 0.0089 0.0072 Neptune 17686-05-12 03:50 G 8180870.53 8180870.66 8180870.85 0.0089 0.0070 Neptune 17687-05-14 17:02 G 8181238.07 8181238.21 8181238.41 0.0089 0.0068 Jupiter 17687-12-03 22:04 G 8181441.19 8181441.42 8181441.66 0.0485 0.0045

Neptune 17688-05-16 06:00 G 8181605.60 8181605.75 8181605.95 0.0089 0.0066 Neptune 17689-05-18 19:12 G 8181973.14 8181973.30 8181973.51 0.0089 0.0064 Mars 17690-03-02 16:48 G 8182261.01 8182261.20 8182261.39 0.1750 0.0282 Neptune 17690-05-21 08:52 G 8182340.69 8182340.87 8182341.07 0.0089 0.0061 Neptune 17691-05-23 21:36 G 8182708.23 8182708.40 8182708.62 0.0089 0.0059 Neptune 17692-05-25 11:16 G 8183075.78 8183075.97 8183076.18 0.0089 0.0056 Jupiter 17693-05-15 01:12 G 8183430.45 8183430.55 8183430.66 0.0538 0.0479 Neptune 17693-05-28 00:14 G 8183443.32 8183443.51 8183443.73 0.0089 0.0054 Neptune 17694-05-30 13:40 G 8183810.87 8183811.07 8183811.30 0.0089 0.0051 Jupiter 17694-06-22 14:38 G 8183834.00 8183834.11 8183834.23 0.0544 0.0474 Neptune 17695-06-02 02:38 G 8184178.42 8184178.61 8184178.86 0.0089 0.0049 Neptune 17696-06-03 15:50 G 8184545.96 8184546.16 8184546.40 0.0089 0.0046 Neptune 17697-06-06 05:16 G 8184913.50 8184913.72 8184913.96 0.0089 0.0043 Saturn 17698-05-20 04:19 G 8185261.47 8185261.68 8185261.91 0.0279 0.0121 Neptune 17698-06-08 18:14 G 8185281.05 8185281.26 8185281.51 0.0090 0.0040 Neptune 17699-06-11 07:26 G 8185648.59 8185648.81 8185649.06 0.0090 0.0037 Jupiter 17699-12-08 01:55 G 8185828.35 8185828.58 8185828.80 0.0485 0.0134 Neptune 17700-06-13 20:24 G 8186016.12 8186016.35 8186016.60 0.0090 0.0034 Neptune 17701-06-16 09:21 G 8186383.66 8186383.89 8186384.15 0.0090 0.0031 Neptune 17702-06-18 22:19 G 8186751.20 8186751.43 8186751.69 0.0090 0.0028 Neptune 17703-06-21 11:31 G 8187118.74 8187118.98 8187119.24 0.0090 0.0024 Neptune 17704-06-23 00:14 G 8187486.27 8187486.51 8187486.78 0.0090 0.0022 Jupiter 17705-05-21 07:26 G 8187818.64 8187818.81 8187818.99 0.0539 0.0354 Neptune 17705-06-25 13:40 G 8187853.82 8187854.07 8187854.32 0.0090 0.0018 Neptune 17706-06-28 02:38 G 8188221.36 8188221.61 8188221.87 0.0090 0.0015 Neptune 17707-06-30 15:36 G 8188588.90 8188589.15 8188589.41 0.0090 0.0011 Neptune 17708-07-02 04:33 G 8188956.43 8188956.69 8188956.95 0.0090 0.0008 Neptune 17709-07-04 17:16 G 8189323.96 8189324.22 8189324.48 0.0090 0.0005 Neptune 17710-07-07 06:00 G 8189691.50 8189691.75 8189692.01 0.0090 0.0002 Jupiter 17710-11-13 05:45 G 8189820.63 8189820.74 8189820.84 0.0491 0.0434

Neptune 17711-07-09 18:43 G 8190059.02 8190059.28 8190059.54 0.0090 0.0002 17711-09-02 14:09 G 8190113.93 8190114.09 8190114.25 0.1792 0.0994 Mars Jupiter 17711-12-13 05:16 G 8190215.52 8190215.72 8190215.93 0.0484 0.0224 Neptune 17712-07-11 07:12 G 8190426.54 8190426.80 8190427.06 0.0090 0.0005 Saturn 17712-11-10 22:19 G 8190549.22 8190549.43 8190549.64 0.0279 0.0142 Neptune 17713-07-13 19:40 G 8190794.07 8190794.32 8190794.58 0.0089 0.0008 Neptune 17714-07-16 08:09 G 8191161.59 8191161.84 8191162.10 0.0089 0.0011 Uranus 17715-03-27 22:33 G 8191416.25 8191416.44 8191416.64 0.0134 0.0086 Neptune 17715-07-18 20:24 G 8191529.11 8191529.35 8191529.62 0.0089 0.0015 Uranus 17716-03-31 09:07 G 8191785.63 8191785.88 8191786.13 0.0134 0.0035 Neptune 17716-07-20 08:52 G 8191896.62 8191896.87 8191897.13 0.0089 0.0018 Uranus 17717-04-04 18:57 G 8192155.04 8192155.29 8192155.55 0.0134 0.0015 Jupiter 17717-05-26 14:09 G 8192206.89 8192207.09 8192207.31 0.0541 0.0224 Neptune 17717-07-22 21:36 G 8192264.15 8192264.40 8192264.65 0.0089 0.0021 Uranus 17718-04-09 04:33 G 8192524.47 8192524.69 8192524.92 0.0134 0.0065 Neptune 17718-07-25 09:50 G 8192631.67 8192631.91 8192632.16 0.0089 0.0024 Uranus 17719-04-13 13:40 G 8192893.96 8192894.07 8192894.22 0.0134 0.0115 Neptune 17719-07-27 22:04 G 8192999.19 8192999.42 8192999.68 0.0089 0.0027 Neptune 17720-07-29 10:33 G 8193366.70 8193366.94 8193367.19 0.0089 0.0030 Neptune 17721-07-31 23:02 G 8193734.22 8193734.46 8193734.70 0.0089 0.0033 Neptune 17722-08-03 11:02 G 8194101.73 8194101.96 8194102.20 0.0089 0.0036 Jupiter 17722-11-17 12:28 G 8194207.86 8194208.02 8194208.19 0.0489 0.0340 Neptune 17723-08-05 22:48 G 8194469.23 8194469.45 8194469.69 0.0089 0.0039 Jupiter 17723-12-17 09:21 G 8194602.72 8194602.89 8194603.08 0.0484 0.0314 Neptune 17724-08-07 10:48 G 8194836.73 8194836.95 8194837.19 0.0089 0.0041 Neptune 17725-08-09 22:33 G 8195204.23 8195204.44 8195204.68 0.0089 0.0044 Neptune 17726-08-12 10:33 G 8195571.73 8195571.94 8195572.17 0.0089 0.0047 Saturn 17727-05-15 15:36 G 8195847.92 8195848.15 8195848.39 0.0279 0.0088 Neptune 17727-08-14 22:04 G 8195939.23 8195939.42 8195939.65 0.0089 0.0050 Neptune 17728-08-16 10:19 G 8196306.72 8196306.93 8196307.14 0.0089 0.0052 Jupiter 17729-06-01 01:40 G 8196595.34 8196595.57 8196595.80 0.0542 0.0086 Neptune 17729-08-18 21:36 G 8196674.22 8196674.40 8196674.62 0.0089 0.0055 Neptune 17730-08-21 09:36 G 8197041.72 8197041.90 8197042.11 0.0089 0.0056 Neptune 17731-08-23 21:36 G 8197409.21 8197409.40 8197409.59 0.0089 0.0059 Neptune 17732-08-25 09:21 G 8197776.70 8197776.89 8197777.08 0.0089 0.0061 Neptune 17733-08-27 20:24 G 8198144.20 8198144.35 8198144.56 0.0089 0.0063 Neptune 17734-08-30 08:24 G 8198511.68 8198511.85 8198512.03 0.0089 0.0064 Jupiter 17734-11-21 16:48 G 8198595.01 8198595.20 8198595.41 0.0488 0.0247 Neptune 17735-09-01 19:55 G 8198879.16 8198879.33 8198879.50 0.0089 0.0066 Jupiter 17735-12-21 12:28 G 8198989.90 8198990.02 8198990.15 0.0484 0.0401 Neptune 17736-09-03 06:43 G 8199246.64 8199246.78 8199246.96 0.0089 0.0068 Neptune 17737-09-05 18:00 G 8199614.12 8199614.25 8199614.43 0.0089 0.0070 Neptune 17738-09-08 05:16 G 8199981.59 8199981.72 8199981.89 0.0089 0.0071 Neptune 17739-09-10 16:04 G 8200349.06 8200349.17 8200349.35 0.0089 0.0073 Neptune 17740-09-12 03:21 G 8200716.52 8200716.64 8200716.81 0.0089 0.0074 Jupiter 17741-06-06 13:26 G 8200983.83 8200984.06 8200984.29 0.0543 0.0053 Neptune 17741-09-14 14:38 G 8201083.99 8201084.11 8201084.26 0.0089 0.0075 Neptune 17742-09-17 01:40 G 8201451.46 8201451.57 8201451.72 0.0089 0.0076 Saturn 17742-11-18 04:48 G 8201513.48 8201513.70 8201513.93 0.0280 0.0105 Neptune 17743-09-19 12:43 G 8201818.92 8201819.03 8201819.17 0.0089 0.0077 Neptune 17744-09-20 23:45 G 8202186.39 8202186.49 8202186.63 0.0089 0.0078 Neptune 17745-09-23 10:33 G 8202553.85 8202553.94 8202554.08 0.0089 0.0079 Pluto 17746-08-13 02:09 G 8202877.42 8202877.59 8202877.83 0.0064 0.0039 Neptune 17746-09-25 21:50 G 8202921.31 8202921.41 8202921.54 0.0089 0.0079 Jupiter 17746-11-25 22:04 G 8202982.20 8202982.42 8202982.64 0.0487 0.0153 Pluto 17747-08-14 13:40 G 8203243.93 8203244.07 8203244.29 0.0064 0.0047 Neptune 17747-09-28 08:09 G 8203288.76 8203288.84 8203288.98 0.0089 0.0080 Neptune 17748-09-29 19:12 G 8203656.21 8203656.30 8203656.43 0.0089 0.0080 Neptune 17749-10-02 06:00 G 8204023.66 8204023.75 8204023.87 0.0089 0.0080 Neptune 17750-10-04 16:33 G 8204391.09 8204391.19 8204391.31 0.0089 0.0080

Neptune 17751-10-07 03:36 G 8204758.54 8204758.65 8204758.75 0.0088 0.0080 Neptune 17752-10-08 13:40 G 8205125.98 8205126.07 8205126.19 0.0088 0.0080 Jupiter 17753-06-11 20:24 G 8205372.13 8205372.35 8205372.57 0.0543 0.0183 Neptune 17753-10-11 00:14 G 8205493.41 8205493.51 8205493.63 0.0088 0.0080 Neptune 17754-10-13 10:19 G 8205860.85 8205860.93 8205861.07 0.0088 0.0080 Neptune 17755-10-15 21:21 G 8206228.28 8206228.39 8206228.51 0.0088 0.0079 Neptune 17756-10-17 07:26 G 8206595.72 8206595.81 8206595.95 0.0088 0.0078 Saturn 17757-05-22 09:36 G 8206812.72 8206812.90 8206813.10 0.0279 0.0177 Uranus 17757-09-22 15:50 G 8206936.13 8206936.16 8206936.22 0.0144 0.0141 Neptune 17757-10-19 18:14 G 8206963.16 8206963.26 8206963.40 0.0088 0.0078 Uranus 17758-09-27 13:26 G 8207305.86 8207306.06 8207306.28 0.0144 0.0080 Neptune 17758-10-22 04:48 G 8207330.58 8207330.70 8207330.83 0.0088 0.0077 Jupiter 17758-11-30 01:12 G 8207369.32 8207369.55 8207369.78 0.0486 0.0065 Uranus 17759-10-02 11:45 G 8207675.74 8207675.99 8207676.24 0.0144 0.0019 Neptune 17759-10-24 14:38 G 8207698.02 8207698.11 8207698.27 0.0088 0.0077 Uranus 17760-10-06 09:50 G 8208045.67 8208045.91 8208046.15 0.0144 0.0044 Neptune 17760-10-26 01:55 G 8208065.45 8208065.58 8208065.71 0.0088 0.0075 Uranus 17761-10-11 07:55 G 8208415.68 8208415.83 8208416.02 0.0145 0.0107 Neptune 17761-10-28 12:00 G 8208432.86 8208433.00 8208433.14 0.0088 0.0074 Neptune 17762-10-30 22:04 G 8208800.29 8208800.42 8208800.58 0.0088 0.0072 Neptune 17763-11-02 07:55 G 8209167.71 8209167.83 8209168.01 0.0088 0.0072 Neptune 17764-11-03 18:43 G 8209535.13 8209535.28 8209535.44 0.0088 0.0070 Jupiter 17765-06-17 03:50 G 8209760.48 8209760.66 8209760.85 0.0544 0.0318 Neptune 17765-11-06 04:33 G 8209902.55 8209902.69 8209902.87 0.0088 0.0068 Neptune 17766-11-08 15:07 G 8210269.97 8210270.13 8210270.30 0.0088 0.0066 Neptune 17767-11-11 00:57 G 8210637.39 8210637.54 8210637.74 0.0088 0.0065 Neptune 17768-11-12 11:16 G 8211004.82 8211004.97 8211005.18 0.0088 0.0063 Mars 17769-03-06 08:52 G 8211118.85 8211118.87 8211118.90 0.1757 0.1733 Neptune 17769-11-14 21:50 G 8211372.24 8211372.41 8211372.61 0.0088 0.0061 Neptune 17770-11-17 08:09 G 8211739.67 8211739.84 8211740.05 0.0088 0.0059

Jupiter 17770-12-04 05:16 G 8211756.49 8211756.72 8211756.96 0.0486 0.0028 Saturn 17771-11-13 05:31 G 8212100.50 8212100.73 8212100.96 0.0279 0.0083 Neptune 17771-11-19 18:28 G 8212107.10 8212107.27 8212107.49 0.0088 0.0057 Neptune 17772-11-21 04:33 G 8212474.51 8212474.69 8212474.92 0.0088 0.0055 Neptune 17773-11-23 14:52 G 8212841.94 8212842.12 8212842.35 0.0088 0.0053 Neptune 17774-11-26 01:12 G 8213209.36 8213209.55 8213209.78 0.0088 0.0050 Neptune 17775-11-28 11:31 G 8213576.78 8213576.98 8213577.21 0.0088 0.0048 Jupiter 17776-05-14 22:04 G 8213745.34 8213745.42 8213745.50 0.0537 0.0500 Neptune 17776-11-29 22:04 G 8213944.21 8213944.42 8213944.64 0.0088 0.0045 Jupiter 17777-06-22 12:14 G 8214148.89 8214149.01 8214149.15 0.0545 0.0449 Neptune 17777-12-02 07:55 G 8214311.62 8214311.83 8214312.07 0.0088 0.0043 Neptune 17778-12-04 18:43 G 8214679.05 8214679.28 8214679.50 0.0088 0.0040 Neptune 17779-12-07 04:33 G 8215046.47 8215046.69 8215046.93 0.0088 0.0038 Neptune 17780-12-08 14:52 G 8215413.90 8215414.12 8215414.37 0.0088 0.0035 Neptune 17781-12-11 01:12 G 8215781.33 8215781.55 8215781.80 0.0088 0.0033 Jupiter 17782-12-08 09:50 G 8216143.68 8216143.91 8216144.14 0.0485 0.0121 Neptune 17782-12-13 11:45 G 8216148.76 8216148.99 8216149.24 0.0088 0.0030 Neptune 17783-12-15 22:19 G 8216516.19 8216516.43 8216516.68 0.0088 0.0027 Neptune 17784-12-17 08:52 G 8216883.63 8216883.87 8216884.12 0.0088 0.0024 Neptune 17785-12-19 19:12 G 8217251.06 8217251.30 8217251.56 0.0088 0.0021 Saturn 17786-05-16 23:02 G 8217399.22 8217399.46 8217399.71 0.0279 0.0030 Neptune 17786-12-22 05:45 G 8217618.49 8217618.74 8217618.99 0.0088 0.0018 Neptune 17787-12-24 16:04 G 8217985.93 8217986.17 8217986.43 0.0088 0.0016 Jupiter 17788-05-20 07:26 G 8218133.64 8218133.81 8218133.98 0.0539 0.0373 Neptune 17788-12-26 02:24 G 8218353.35 8218353.60 8218353.86 0.0088 0.0013 Neptune 17789-12-28 12:57 G 8218720.79 8218721.04 8218721.31 0.0088 0.0010 17790-09-05 06:43 G 8218971.63 8218971.78 8218971.93 0.1785 0.1128 Mars Neptune 17790-12-30 23:31 G 8219088.23 8219088.48 8219088.74 0.0088 0.0007 Neptune 17792-01-02 10:19 G 8219455.67 8219455.93 8219456.19 0.0088 0.0004 Neptune 17793-01-03 20:52 G 8219823.11 8219823.37 8219823.63 0.0088 0.0001

Jupiter 17793-11-12 13:26 G 8220135.97 8220136.06 8220136.16 0.0491 0.0443 Neptune 17794-01-06 07:26 G 8220190.56 8220190.81 8220191.07 0.0088 0.0003 Jupiter 17794-12-12 12:43 G 8220530.83 8220531.03 8220531.25 0.0484 0.0211 Neptune 17795-01-08 18:14 G 8220558.01 8220558.26 8220558.53 0.0088 0.0006 Neptune 17796-01-11 05:16 G 8220925.46 8220925.72 8220925.98 0.0088 0.0008 Neptune 17797-01-12 15:50 G 8221292.92 8221293.16 8221293.43 0.0088 0.0012 Neptune 17798-01-15 02:52 G 8221660.37 8221660.62 8221660.88 0.0088 0.0014 Uranus 17798-03-23 19:55 G 8221728.33 8221728.33 8221728.36 0.0135 0.0134 Neptune 17799-01-17 14:09 G 8222027.83 8222028.09 8222028.34 0.0088 0.0017 Uranus 17799-03-28 06:43 G 8222097.59 8222097.78 8222097.99 0.0134 0.0084 Neptune 17800-01-20 00:43 G 8222395.29 8222395.53 8222395.79 0.0088 0.0020 Uranus 17800-04-01 17:02 G 8222466.97 8222467.21 8222467.46 0.0134 0.0033 Jupiter 17800-05-26 18:00 G 8222522.05 8222522.25 8222522.46 0.0541 0.0239 Neptune 17801-01-22 11:45 G 8222762.75 8222762.99 8222763.25 0.0088 0.0023 Uranus 17801-04-06 02:52 G 8222836.37 8222836.62 8222836.88 0.0134 0.0018 Saturn 17801-11-20 13:26 G 8223064.87 8223065.06 8223065.26 0.0280 0.0165 Neptune 17802-01-24 22:33 G 8223130.21 8223130.44 8223130.70 0.0088 0.0026 Uranus 17802-04-10 12:14 G 8223205.81 8223206.01 8223206.25 0.0134 0.0068 Neptune 17803-01-27 09:36 G 8223497.68 8223497.90 8223498.17 0.0088 0.0029 Uranus 17803-04-14 21:36 G 8223575.29 8223575.40 8223575.53 0.0134 0.0117 Neptune 17804-01-29 21:07 G 8223865.15 8223865.38 8223865.63 0.0088 0.0031 Neptune 17805-01-31 08:09 G 8224232.61 8224232.84 8224233.08 0.0088 0.0034 Jupiter 17805-11-17 19:12 G 8224523.14 8224523.30 8224523.47 0.0489 0.0350 Neptune 17806-02-02 19:12 G 8224600.09 8224600.30 8224600.56 0.0088 0.0037 Jupiter 17806-12-17 17:02 G 8224918.03 8224918.21 8224918.40 0.0484 0.0301 Neptune 17807-02-05 06:57 G 8224967.56 8224967.79 8224968.03 0.0088 0.0040 Neptune 17808-02-07 18:14 G 8225335.05 8225335.26 8225335.50 0.0088 0.0042 Neptune 17809-02-09 05:31 G 8225702.53 8225702.73 8225702.98 0.0088 0.0045 Neptune 17810-02-11 17:16 G 8226070.02 8226070.22 8226070.46 0.0088 0.0047 Neptune 17811-02-14 05:16 G 8226437.51 8226437.72 8226437.94 0.0088 0.0049

Neptune 17812-02-16 17:02 G 8226805.00 8226805.21 8226805.42 0.0088 0.0052 Jupiter 17812-06-01 01:40 G 8226910.35 8226910.57 8226910.80 0.0541 0.0110 Neptune 17813-02-18 04:04 G 8227172.49 8227172.67 8227172.90 0.0088 0.0055 Neptune 17814-02-20 15:50 G 8227539.98 8227540.16 8227540.38 0.0088 0.0056 Neptune 17815-02-23 03:36 G 8227907.48 8227907.65 8227907.87 0.0088 0.0059 Saturn 17815-05-12 09:36 G 8227985.78 8227985.90 8227986.04 0.0280 0.0236 Neptune 17816-02-25 15:21 G 8228274.97 8228275.14 8228275.35 0.0088 0.0060 Saturn 17816-05-24 16:19 G 8228364.05 8228364.18 8228364.32 0.0279 0.0233 Neptune 17817-02-27 03:07 G 8228642.47 8228642.63 8228642.84 0.0088 0.0063 Jupiter 17817-11-21 22:19 G 8228910.24 8228910.43 8228910.63 0.0489 0.0263 Neptune 17818-03-01 14:52 G 8229009.97 8229010.12 8229010.33 0.0088 0.0065 Jupiter 17818-12-21 20:09 G 8229305.20 8229305.34 8229305.48 0.0484 0.0386 Neptune 17819-03-04 03:21 G 8229377.48 8229377.64 8229377.82 0.0088 0.0066 Neptune 17820-03-05 15:07 G 8229744.99 8229745.13 8229745.32 0.0088 0.0068 Neptune 17821-03-08 03:36 G 8230112.50 8230112.65 8230112.82 0.0088 0.0069 Neptune 17822-03-10 15:21 G 8230480.02 8230480.14 8230480.33 0.0088 0.0071 Neptune 17823-03-13 04:04 G 8230847.53 8230847.67 8230847.84 0.0089 0.0072 Neptune 17824-03-14 16:19 G 8231215.05 8231215.18 8231215.34 0.0089 0.0073 Jupiter 17824-06-06 08:52 G 8231298.63 8231298.87 8231299.10 0.0542 0.0025 Neptune 17825-03-17 04:48 G 8231582.56 8231582.70 8231582.85 0.0089 0.0074 Neptune 17826-03-19 17:02 G 8231950.09 8231950.21 8231950.36 0.0089 0.0075 Neptune 17827-03-22 05:16 G 8232317.60 8232317.72 8232317.87 0.0089 0.0076 Neptune 17828-03-23 17:31 G 8232685.13 8232685.23 8232685.38 0.0089 0.0077 Neptune 17829-03-26 05:45 G 8233052.64 8233052.74 8233052.89 0.0089 0.0078 Jupiter 17829-11-26 03:07 G 8233297.42 8233297.63 8233297.85 0.0488 0.0171 Neptune 17830-03-28 18:28 G 8233420.17 8233420.27 8233420.41 0.0089 0.0078 Saturn 17830-11-15 14:24 G 8233651.86 8233652.10 8233652.35 0.0279 0.0023 Jupiter 17830-12-25 23:16 G 8233692.42 8233692.47 8233692.53 0.0484 0.0471 Neptune 17831-03-31 06:57 G 8233787.70 8233787.79 8233787.94 0.0089 0.0079 Neptune 17832-04-01 19:40 G 8234155.22 8234155.32 8234155.46 0.0089 0.0079

Neptune 17833-04-04 08:38 G 8234522.76 8234522.86 8234522.99 0.0089 0.0079 Neptune 17834-04-06 21:21 G 8234890.29 8234890.39 8234890.52 0.0089 0.0079 Neptune 17835-04-09 10:19 G 8235257.83 8235257.93 8235258.06 0.0089 0.0079 Pluto 17836-02-13 01:55 G 8235567.36 8235567.58 8235567.82 0.0080 0.0037 Neptune 17836-04-10 23:02 G 8235625.37 8235625.46 8235625.60 0.0089 0.0079 Jupiter 17836-06-11 15:21 G 8235686.92 8235687.14 8235687.36 0.0544 0.0156 Neptune 17837-04-13 11:45 G 8235992.90 8235992.99 8235993.14 0.0089 0.0079 Neptune 17838-04-16 00:57 G 8236360.44 8236360.54 8236360.68 0.0089 0.0078 Neptune 17839-04-18 13:40 G 8236727.97 8236728.07 8236728.22 0.0089 0.0078 Neptune 17840-04-20 02:38 G 8237095.50 8237095.61 8237095.76 0.0089 0.0077 Neptune 17841-04-22 15:50 G 8237463.04 8237463.16 8237463.30 0.0089 0.0076 Uranus 17841-09-24 01:26 G 8237617.50 8237617.56 8237617.64 0.0144 0.0138 Jupiter 17841-11-30 08:38 G 8237684.63 8237684.86 8237685.09 0.0486 0.0077 Neptune 17842-04-25 05:02 G 8237830.58 8237830.71 8237830.85 0.0089 0.0076 Uranus 17842-09-28 23:02 G 8237987.25 8237987.46 8237987.68 0.0144 0.0077 Neptune 17843-04-27 17:45 G 8238198.11 8238198.24 8238198.40 0.0089 0.0075 Uranus 17843-10-03 21:07 G 8238357.13 8238357.38 8238357.63 0.0144 0.0015 Neptune 17844-04-29 06:57 G 8238565.66 8238565.79 8238565.95 0.0089 0.0074 Uranus 17844-10-07 18:57 G 8238727.07 8238727.29 8238727.54 0.0144 0.0048 Neptune 17845-05-01 19:40 G 8238933.20 8238933.32 8238933.50 0.0089 0.0073 Saturn 17845-05-19 08:24 G 8238950.61 8238950.85 8238951.10 0.0279 0.0032 Uranus 17845-10-12 17:31 G 8239097.08 8239097.23 8239097.41 0.0145 0.0110 Neptune 17846-05-04 08:52 G 8239300.75 8239300.87 8239301.06 0.0089 0.0072 Neptune 17847-05-06 22:33 G 8239668.29 8239668.44 8239668.62 0.0089 0.0069 Neptune 17848-05-08 11:16 G 8240035.84 8240035.97 8240036.17 0.0089 0.0069 Jupiter 17848-06-17 02:52 G 8240075.43 8240075.62 8240075.82 0.0544 0.0295 Neptune 17849-05-11 00:43 G 8240403.39 8240403.53 8240403.73 0.0089 0.0067 Neptune 17850-05-13 14:09 G 8240770.93 8240771.09 8240771.29 0.0089 0.0065 Neptune 17851-05-16 03:21 G 8241138.47 8241138.64 8241138.84 0.0089 0.0063 Neptune 17852-05-17 16:33 G 8241506.01 8241506.19 8241506.39 0.0089 0.0061

Neptune 17853-05-20 05:31 G 8241873.55 8241873.73 8241873.94 0.0089 0.0059 Jupiter 17853-12-04 12:14 G 8242071.77 8242072.01 8242072.24 0.0485 0.0016 Neptune 17854-05-22 18:43 G 8242241.09 8242241.28 8242241.49 0.0089 0.0057 Neptune 17855-05-25 07:40 G 8242608.64 8242608.82 8242609.05 0.0089 0.0055 Neptune 17856-05-26 20:38 G 8242976.17 8242976.36 8242976.59 0.0089 0.0053 Neptune 17857-05-29 10:04 G 8243343.72 8243343.92 8243344.15 0.0089 0.0050 Neptune 17858-05-31 23:16 G 8243711.27 8243711.47 8243711.71 0.0089 0.0048 Jupiter 17859-05-16 00:57 G 8244060.47 8244060.54 8244060.60 0.0537 0.0514 Neptune 17859-06-03 12:28 G 8244078.81 8244079.02 8244079.26 0.0089 0.0045 Saturn 17859-11-10 01:40 G 8244238.44 8244238.57 8244238.71 0.0279 0.0232 Neptune 17860-06-05 01:40 G 8244446.36 8244446.57 8244446.82 0.0089 0.0043 Jupiter 17860-06-22 14:52 G 8244463.98 8244464.12 8244464.27 0.0545 0.0429 Saturn 17860-11-21 23:31 G 8244616.35 8244616.48 8244616.63 0.0280 0.0227 Neptune 17861-06-07 15:07 G 8244813.91 8244814.13 8244814.37 0.0089 0.0040 Neptune 17862-06-10 04:19 G 8245181.46 8245181.68 8245181.93 0.0090 0.0037 Neptune 17863-06-12 17:31 G 8245549.00 8245549.23 8245549.47 0.0090 0.0034 Neptune 17864-06-14 06:14 G 8245916.54 8245916.76 8245917.02 0.0090 0.0032 Neptune 17865-06-16 19:12 G 8246284.07 8246284.30 8246284.56 0.0090 0.0029 Jupiter 17865-12-08 16:19 G 8246458.95 8246459.18 8246459.41 0.0485 0.0108 Neptune 17866-06-19 08:24 G 8246651.61 8246651.85 8246652.11 0.0090 0.0026 Neptune 17867-06-21 21:07 G 8247019.14 8247019.38 8247019.64 0.0090 0.0023 Neptune 17868-06-23 10:04 G 8247386.68 8247386.92 8247387.18 0.0090 0.0020 Neptune 17869-06-25 23:02 G 8247754.22 8247754.46 8247754.73 0.0090 0.0017 Neptune 17870-06-28 12:00 G 8248121.75 8248122.00 8248122.26 0.0090 0.0014 Jupiter 17871-05-21 08:38 G 8248448.70 8248448.86 8248449.02 0.0538 0.0392 Neptune 17871-07-01 00:57 G 8248489.29 8248489.54 8248489.81 0.0090 0.0011 Neptune 17872-07-02 13:55 G 8248856.83 8248857.08 8248857.34 0.0090 0.0008 Neptune 17873-07-05 03:07 G 8249224.37 8249224.63 8249224.89 0.0089 0.0004 Saturn 17874-05-13 18:14 G 8249537.08 8249537.26 8249537.46 0.0280 0.0176 Neptune 17874-07-07 16:04 G 8249591.91 8249592.17 8249592.42 0.0089 0.0002

Neptune 17875-07-10 04:33 G 8249959.44 8249959.69 8249959.95 0.0089 0.0003 Neptune 17876-07-11 17:16 G 8250326.97 8250327.22 8250327.48 0.0089 0.0005 Jupiter 17876-11-12 16:48 G 8250451.12 8250451.20 8250451.28 0.0492 0.0459 Neptune 17877-07-14 06:00 G 8250694.50 8250694.75 8250695.01 0.0089 0.0008 Jupiter 17877-12-12 18:43 G 8250846.07 8250846.28 8250846.49 0.0485 0.0194 Neptune 17878-07-16 18:14 G 8251062.02 8251062.26 8251062.53 0.0089 0.0012 Neptune 17879-07-19 06:43 G 8251429.54 8251429.78 8251430.05 0.0089 0.0015 Neptune 17880-07-20 19:12 G 8251797.06 8251797.30 8251797.57 0.0089 0.0018 Neptune 17881-07-23 07:40 G 8252164.58 8252164.82 8252165.08 0.0089 0.0020 Uranus 17882-03-25 05:02 G 8252409.67 8252409.71 8252409.76 0.0135 0.0132 Neptune 17882-07-25 20:24 G 8252532.10 8252532.35 8252532.60 0.0089 0.0023 Uranus 17883-03-29 15:21 G 8252778.95 8252779.14 8252779.36 0.0134 0.0082 Jupiter 17883-05-26 14:38 G 8252836.91 8252837.11 8252837.31 0.0540 0.0264 Neptune 17883-07-28 08:38 G 8252899.61 8252899.86 8252900.11 0.0089 0.0026 Uranus 17884-04-02 01:40 G 8253148.33 8253148.57 8253148.83 0.0134 0.0031 Neptune 17884-07-29 20:52 G 8253267.14 8253267.37 8253267.62 0.0089 0.0029 Uranus 17885-04-06 11:31 G 8253517.73 8253517.98 8253518.24 0.0134 0.0020 Neptune 17885-08-01 09:07 G 8253634.66 8253634.88 8253635.14 0.0089 0.0032 Uranus 17886-04-10 21:07 G 8253887.16 8253887.38 8253887.60 0.0134 0.0070 Neptune 17886-08-03 21:21 G 8254002.17 8254002.39 8254002.64 0.0089 0.0034 Uranus 17887-04-15 06:00 G 8254256.65 8254256.75 8254256.87 0.0134 0.0120 Neptune 17887-08-06 09:50 G 8254369.68 8254369.91 8254370.15 0.0089 0.0037 Neptune 17888-08-07 21:36 G 8254737.19 8254737.40 8254737.65 0.0089 0.0040 Jupiter 17888-11-16 22:48 G 8254838.30 8254838.45 8254838.61 0.0490 0.0367 Neptune 17889-08-10 10:04 G 8255104.70 8255104.92 8255105.15 0.0089 0.0042 Saturn 17889-11-17 00:57 G 8255203.30 8255203.54 8255203.78 0.0279 0.0040 Jupiter 17889-12-16 22:04 G 8255233.23 8255233.42 8255233.61 0.0484 0.0283 Neptune 17890-08-12 21:36 G 8255472.19 8255472.40 8255472.64 0.0089 0.0044 Neptune 17891-08-15 09:36 G 8255839.69 8255839.90 8255840.13 0.0089 0.0047 Neptune 17892-08-16 21:21 G 8256207.18 8256207.39 8256207.61 0.0089 0.0049

Neptune 17893-08-19 08:52 G 8256574.68 8256574.87 8256575.10 0.0089 0.0051 Neptune 17894-08-21 20:24 G 8256942.17 8256942.35 8256942.58 0.0089 0.0054 Jupiter 17895-05-31 18:57 G 8257225.07 8257225.29 8257225.52 0.0541 0.0137 Neptune 17895-08-24 08:09 G 8257309.66 8257309.84 8257310.06 0.0089 0.0056 Neptune 17896-08-25 19:55 G 8257677.15 8257677.33 8257677.55 0.0089 0.0057 Neptune 17897-08-28 07:26 G 8258044.64 8258044.81 8258045.02 0.0089 0.0059 Neptune 17898-08-30 18:57 G 8258412.13 8258412.29 8258412.51 0.0089 0.0061 Neptune 17899-09-02 06:57 G 8258779.61 8258779.79 8258779.98 0.0089 0.0062 Neptune 17900-09-04 18:00 G 8259147.10 8259147.25 8259147.45 0.0089 0.0064 Jupiter 17900-11-22 05:16 G 8259225.53 8259225.72 8259225.91 0.0489 0.0273 Neptune 17901-09-07 05:45 G 8259514.57 8259514.74 8259514.92 0.0089 0.0065 Jupiter 17901-12-22 02:09 G 8259620.45 8259620.59 8259620.75 0.0484 0.0371 Neptune 17902-09-09 16:33 G 8259882.04 8259882.19 8259882.38 0.0089 0.0067 Neptune 17903-09-12 03:50 G 8260249.51 8260249.66 8260249.84 0.0089 0.0068 Saturn 17904-05-21 18:43 G 8260502.05 8260502.28 8260502.51 0.0279 0.0094 Neptune 17904-09-13 15:07 G 8260616.98 8260617.13 8260617.30 0.0089 0.0069 Neptune 17905-09-16 01:40 G 8260984.45 8260984.57 8260984.76 0.0089 0.0071 Neptune 17906-09-18 13:26 G 8261351.91 8261352.06 8261352.21 0.0089 0.0071 Jupiter 17907-06-07 05:02 G 8261613.48 8261613.71 8261613.94 0.0543 0.0001 Neptune 17907-09-21 00:28 G 8261719.37 8261719.52 8261719.67 0.0089 0.0072 Neptune 17908-09-22 11:02 G 8262086.83 8262086.96 8262087.12 0.0089 0.0073 Neptune 17909-09-24 22:04 G 8262454.30 8262454.42 8262454.58 0.0089 0.0074 Neptune 17910-09-27 09:07 G 8262821.75 8262821.88 8262822.03 0.0089 0.0074 Neptune 17911-09-29 19:55 G 8263189.22 8263189.33 8263189.49 0.0089 0.0075 Neptune 17912-10-01 06:57 G 8263556.67 8263556.79 8263556.95 0.0089 0.0075 Jupiter 17912-11-26 10:04 G 8263612.70 8263612.92 8263613.13 0.0487 0.0182 Neptune 17913-10-03 17:45 G 8263924.12 8263924.24 8263924.39 0.0089 0.0075 Jupiter 17913-12-26 05:02 G 8264007.64 8264007.71 8264007.79 0.0484 0.0456 Neptune 17914-10-06 04:48 G 8264291.57 8264291.70 8264291.84 0.0089 0.0075 Neptune 17915-10-08 15:21 G 8264659.01 8264659.14 8264659.28 0.0088 0.0075

Neptune 17916-10-10 01:40 G 8265026.45 8265026.57 8265026.72 0.0088 0.0075 Neptune 17917-10-12 12:14 G 8265393.89 8265394.01 8265394.16 0.0088 0.0075 Neptune 17918-10-14 22:33 G 8265761.33 8265761.44 8265761.60 0.0088 0.0075 Saturn 17918-11-12 12:43 G 8265789.85 8265790.23 0.0279 0.0169 8265790.03 Jupiter 17919-06-12 17:02 G 8266001.99 8266002.21 8266002.44 0.0544 0.0137 Neptune 17919-10-17 09:21 G 8266128.76 8266128.89 8266129.04 0.0088 0.0074 Neptune 17920-10-18 19:40 G 8266496.20 8266496.32 8266496.48 0.0088 0.0073 Neptune 17921-10-21 06:14 G 8266863.63 8266863.76 8266863.92 0.0088 0.0073 Neptune 17922-10-23 16:48 G 8267231.07 8267231.20 8267231.36 0.0088 0.0072 8267598.65 8267598.81 0.0088 0.0071 Neptune 17923-10-26 03:36 G 8267598.51 Neptune 17924-10-27 13:55 G 8267965.93 8267966.08 8267966.25 0.0088 0.0070 Jupiter 17924-11-30 14:24 G 8267999.87 8268000.10 8268000.33 0.0487 0.0090 Uranus 17925-09-25 10:48 G 8268298.89 8268298.95 8268299.05 0.0144 0.0136 Neptune 17925-10-30 00:28 G 8268333.37 8268333.52 8268333.69 0.0088 0.0069 Uranus 17926-09-30 08:38 G 8268668.64 8268668.86 8268669.07 0.0144 0.0074 Neptune 17926-11-01 10:33 G 8268700.79 8268700.94 8268701.12 0.0088 0.0067 Uranus 17927-10-05 06:28 G 8269038.52 8269038.77 8269039.03 0.0144 0.0013 Neptune 17927-11-03 20:38 G 8269068.22 8269068.36 8269068.55 0.0088 0.0067 Uranus 17928-10-09 04:33 G 8269408.46 8269408.69 8269408.94 0.0144 0.0050 Neptune 17928-11-05 06:43 G 8269435.64 8269435.78 8269435.98 0.0088 0.0066 Uranus 17929-10-14 02:52 G 8269778.48 8269778.62 8269778.79 0.0145 0.0113 Neptune 17929-11-07 17:16 G 8269803.06 8269803.22 8269803.41 0.0088 0.0063 Neptune 17930-11-10 03:21 G 8270170.48 8270170.64 8270170.84 0.0088 0.0062 Jupiter 17931-06-18 01:55 G 8270390.38 8270390.58 8270390.79 0.0543 0.0269 Neptune 17931-11-12 13:40 G 8270537.90 8270538.07 8270538.27 0.0088 0.0060 Neptune 17932-11-14 00:14 G 8270905.32 8270905.51 8270905.70 0.0088 0.0058 Saturn 17933-05-16 04:19 G 8271088.46 8271088.68 8271088.91 0.0280 0.0115 Neptune 17933-11-16 09:50 G 8271272.74 8271272.91 8271273.13 0.0088 0.0057 Neptune 17934-11-18 20:09 G 8271640.17 8271640.34 8271640.57 0.0088 0.0055 Neptune 17935-11-21 06:28 G 8272007.59 8272007.77 8272008.00 0.0088 0.0053

Neptune 17936-11-22 17:02 G 8272375.02 8272375.21 8272375.43 0.0088 0.0051 Jupiter 17936-12-04 16:33 G 8272386.96 8272387.19 8272387.42 0.0486 0.0003 Neptune 17937-11-25 03:07 G 8272742.44 8272742.63 8272742.86 0.0088 0.0049 Neptune 17938-11-27 13:26 G 8273109.86 8273110.06 8273110.30 0.0088 0.0047 Neptune 17939-11-30 00:00 G 8273477.29 8273477.50 8273477.73 0.0088 0.0044 Neptune 17940-12-01 10:04 G 8273844.70 8273844.92 8273845.15 0.0088 0.0042 Neptune 17941-12-03 20:09 G 8274212.13 8274212.34 8274212.59 0.0088 0.0040 Jupiter 17942-05-15 22:48 G 8274375.43 8274375.45 8274375.48 0.0536 0.0532 Neptune 17942-12-06 06:43 G 8274579.55 8274579.78 8274580.01 0.0088 0.0037 Jupiter 17943-06-23 09:36 G 8274778.74 8274778.90 8274779.06 0.0544 0.0398 Neptune 17943-12-08 16:48 G 8274946.97 8274947.20 8274947.45 0.0088 0.0035 Neptune 17944-12-10 02:52 G 8275314.40 8275314.62 8275314.87 0.0088 0.0033 Neptune 17945-12-12 13:12 G 8275681.82 8275682.05 8275682.30 0.0088 0.0030 Neptune 17946-12-14 23:45 G 8276049.25 8276049.49 8276049.74 0.0088 0.0027 Neptune 17947-12-17 10:04 G 8276416.69 8276416.92 8276417.18 0.0088 0.0025 Saturn 17948-11-19 11:45 G 8276754.76 8276754.99 8276755.22 0.0279 0.0102 Jupiter 17948-12-08 20:24 G 8276774.12 8276774.35 8276774.58 0.0485 0.0090 Neptune 17948-12-18 20:38 G 8276784.12 8276784.36 8276784.62 0.0088 0.0022 Neptune 17949-12-21 07:12 G 8277151.55 8277151.80 8277152.06 0.0088 0.0019 Neptune 17950-12-23 17:45 G 8277518.99 8277519.24 8277519.50 0.0088 0.0017 Neptune 17951-12-26 04:04 G 8277886.43 8277886.67 8277886.93 0.0088 0.0014 Neptune 17952-12-27 14:52 G 8278253.87 8278254.12 8278254.38 0.0088 0.0011 Neptune 17953-12-30 01:12 G 8278621.30 8278621.55 8278621.81 0.0088 0.0008 Jupiter 17954-05-21 00:43 G 8278763.39 8278763.53 8278763.68 0.0538 0.0416 Neptune 17955-01-01 11:45 G 8278988.74 8278988.99 8278989.26 0.0088 0.0006 Jupiter 17955-06-28 15:07 G 8279167.07 8279167.13 8279167.20 0.0544 0.0522 Neptune 17956-01-03 22:33 G 8279356.18 8279356.44 8279356.70 0.0088 0.0003 Neptune 17957-01-05 08:52 G 8279723.62 8279723.87 8279724.13 0.0088 0.0002 Neptune 17958-01-07 19:40 G 8280091.06 8280091.32 8280091.58 0.0088 0.0003 Neptune 17959-01-10 06:14 G 8280458.51 8280458.76 8280459.02 0.0088 0.0006

Jupiter 17959-11-13 23:16 G 8280766.41 8280766.47 8280766.55 0.0492 0.0468 Neptune 17960-01-12 17:02 G 8280825.96 8280826.21 8280826.47 0.0088 0.0009 Jupiter 17960-12-13 00:57 G 8281161.33 8281161.54 8281161.76 0.0485 0.0182 Neptune 17961-01-14 03:50 G 8281193.41 8281193.66 8281193.92 0.0088 0.0011 Neptune 17962-01-16 14:52 G 8281560.87 8281561.12 8281561.38 0.0088 0.0014 Neptune 17963-01-19 01:40 G 8281928.32 8281928.57 8281928.83 0.0088 0.0017 Saturn 17963-05-24 06:14 G 8282053.56 8282053.76 8282053.96 0.0279 0.0157 Neptune 17964-01-21 12:43 G 8282295.79 8282296.03 8282296.29 0.0088 0.0020 Neptune 17965-01-22 23:45 G 8282663.24 8282663.49 8282663.74 0.0088 0.0022 Neptune 17966-01-25 10:33 G 8283030.70 8283030.94 8283031.20 0.0088 0.0025 Uranus 17966-03-26 13:12 G 8283091.01 8283091.05 8283091.13 0.0135 0.0131 Jupiter 17966-05-26 08:52 G 8283151.68 8283151.87 8283152.07 0.0540 0.0287 Neptune 17967-01-27 21:50 G 8283398.17 8283398.41 8283398.66 0.0088 0.0027 Uranus 17967-03-31 00:00 G 8283460.30 8283460.50 8283460.72 0.0134 0.0079 Neptune 17968-01-30 08:38 G 8283765.63 8283765.86 8283766.11 0.0088 0.0030 Uranus 17968-04-03 10:04 G 8283829.67 8283829.92 8283830.17 0.0134 0.0029 Neptune 17969-01-31 19:55 G 8284133.10 8284133.33 8284133.58 0.0088 0.0032 Uranus 17969-04-07 19:55 G 8284199.08 8284199.33 8284199.58 0.0134 0.0022 Neptune 17970-02-03 06:43 G 8284500.56 8284500.78 8284501.04 0.0088 0.0035 Uranus 17970-04-12 05:02 G 8284568.51 8284568.71 8284568.94 0.0134 0.0073 Neptune 17971-02-05 18:14 G 8284868.03 8284868.26 8284868.50 0.0088 0.0037 Uranus 17971-04-16 13:40 G 8284938.00 8284938.07 8284938.20 0.0134 0.0123 Jupiter 17971-11-18 05:16 G 8285153.58 8285153.72 8285153.88 0.0490 0.0378 Neptune 17972-02-08 05:16 G 8285235.51 8285235.72 8285235.97 0.0088 0.0040 Jupiter 17972-12-17 04:04 G 8285548.48 8285548.67 8285548.87 0.0484 0.0268 Neptune 17973-02-09 16:48 G 8285602.98 8285603.20 8285603.44 0.0088 0.0042 Neptune 17974-02-12 04:19 G 8285970.47 8285970.68 8285970.92 0.0088 0.0045 Mars 17974-03-06 05:02 G 8285992.52 8285992.71 8285992.90 0.1742 0.0133 Neptune 17975-02-14 16:04 G 8286337.96 8286338.17 8286338.40 0.0088 0.0047 Neptune 17976-02-17 03:21 G 8286705.44 8286705.64 8286705.87 0.0088 0.0049

Neptune 17977-02-18 14:52 G 8287072.93 8287073.12 8287073.35 0.0088 0.0051 Saturn 17977-11-14 00:14 G 8287341.29 8287341.51 8287341.74 0.0279 0.0105 Neptune 17978-02-21 02:38 G 8287440.43 8287440.61 8287440.84 0.0088 0.0054 Jupiter 17978-05-31 19:55 G 8287540.10 8287540.33 8287540.55 0.0541 0.0155 Neptune 17979-02-23 14:09 G 8287807.92 8287808.09 8287808.32 0.0088 0.0056 Neptune 17980-02-26 02:38 G 8288175.41 8288175.61 8288175.81 0.0088 0.0057 Neptune 17981-02-27 13:55 G 8288542.90 8288543.08 8288543.29 0.0088 0.0059 Neptune 17982-03-02 01:40 G 8288910.41 8288910.57 8288910.78 0.0088 0.0061 Neptune 17983-03-04 13:55 G 8289277.91 8289278.08 8289278.28 0.0088 0.0062 Jupiter 17983-11-22 10:48 G 8289540.77 8289540.95 8289541.14 0.0489 0.0285 Neptune 17984-03-06 01:26 G 8289645.41 8289645.56 8289645.77 0.0088 0.0064 Jupiter 17984-12-21 07:55 G 8289935.67 8289935.83 8289935.99 0.0484 0.0356 Neptune 17985-03-08 13:55 G 8290012.92 8290013.08 8290013.27 0.0088 0.0065 Neptune 17986-03-11 01:40 G 8290380.43 8290380.57 8290380.77 0.0088 0.0067 Neptune 17987-03-13 14:09 G 8290747.95 8290748.09 8290748.28 0.0088 0.0068 Neptune 17988-03-15 02:24 G 8291115.46 8291115.60 8291115.79 0.0089 0.0069 Neptune 17989-03-17 14:52 G 8291482.98 8291483.12 8291483.30 0.0089 0.0070 Neptune 17990-03-20 03:07 G 8291850.50 8291850.63 8291850.82 0.0089 0.0071 Jupiter 17990-06-06 05:45 G 8291928.51 8291928.74 8291928.98 0.0542 0.0025 Neptune 17991-03-22 16:04 G 8292218.03 8292218.17 8292218.33 0.0089 0.0071 Neptune 17992-03-24 04:04 G 8292585.54 8292585.67 8292585.84 0.0089 0.0072 Saturn 17992-05-17 15:07 G 8292639.89 8292640.13 8292640.37 0.0280 0.0052 Pluto 17992-08-15 19:26 G 8292730.27 8292730.31 8292730.38 0.0064 0.0062 Neptune 17993-03-26 16:19 G 8292953.06 8292953.18 8292953.36 0.0089 0.0073 Pluto 17993-08-17 06:57 G 8293096.57 8293096.79 8293097.05 0.0064 0.0022 Neptune 17994-03-29 05:16 G 8293320.59 8293320.72 8293320.88 0.0089 0.0073 Neptune 17995-03-31 17:45 G 8293688.10 8293688.24 8293688.39 0.0089 0.0073 Mars 17995-09-04 22:19 G 8293845.26 8293845.43 8293845.61 0.1800 0.0733 Jupiter 17995-11-26 13:12 G 8293927.84 8293928.05 8293928.27 0.0488 0.0198 Neptune 17996-04-02 06:00 G 8294055.63 8294055.75 8294055.92 0.0089 0.0074

 Jupiter
 17996-12-25 10:04 G
 8294322.83
 8294322.92
 8294323.02 0.0484 0.0440

 Neptune
 17997-04-04 18:43 G
 8294423.16
 8294423.28
 8294423.44 0.0089 0.0074

 Neptune
 17998-04-07 07:26 G
 8294790.69
 8294790.81
 8294790.98 0.0089 0.0074

 Neptune
 17999-04-09 20:09 G
 8295158.22
 8295158.34
 8295158.51 0.0089 0.0074

 Neptune
 18000-04-11 08:52 G
 8295525.76
 8295525.87
 8295526.04 0.0089 0.0074

## 19TH MILLENNIUM CE

## This is a list of transits of Earth in the 19th millennium CE.

FROM MAX- C START MAX END SUNRAD DEPTH S

TRANSIT

TIME

Neptune 18001-04-13 22:19 G 8295893.30 8295893.43 8295893.59 0.0089 0.0073 Neptune 18002-04-16 11:02 G 8296260.84 8296260.96 8296261.13 0.0089 0.0073 Jupiter 18002-06-11 13:12 G 8296316.82 8296317.05 8296317.28 0.0543 0.0110 Neptune 18003-04-19 00:14 G 8296628.37 8296628.51 8296628.67 0.0089 0.0072 Neptune 18004-04-20 12:43 G 8296995.90 8296996.03 8296996.21 0.0089 0.0072 Neptune 18005-04-23 01:40 G 8297363.44 8297363.57 8297363.75 0.0089 0.0072 Neptune 18006-04-25 14:38 G 8297730.97 8297731.11 8297731.29 0.0089 0.0071 Neptune 18007-04-28 03:36 G 8298098.51 8298098.65 8298098.83 0.0089 0.0070 Saturn 18007-11-21 21:50 G 8298306.23 8298306.41 8298306.62 0.0280 0.0164 Jupiter 18007-11-30 17:45 G 8298315.02 8298315.24 8298315.47 0.0487 0.0106 Neptune 18008-04-29 16:33 G 8298466.04 8298466.19 8298466.37 0.0089 0.0068 Neptune 18009-05-02 05:31 G 8298833.58 8298833.73 8298833.92 0.0089 0.0067 18009-09-25 19:40 G 8298980.25 8298980.32 8298980.43 0.0144 0.0134 Neptune 18010-05-04 18:28 G 8299201.12 8299201.27 8299201.47 0.0089 0.0066 Uranus 18010-09-30 17:31 G 8299350.02 8299350.23 8299350.45 0.0144 0.0072 Neptune 18011-05-07 07:40 G 8299568.66 8299568.82 8299569.01 0.0089 0.0065 Uranus 18011-10-05 15:36 G 8299719.90 8299720.15 8299720.40 0.0144 0.0010 Neptune 18012-05-08 20:52 G 8299936.21 8299936.37 8299936.57 0.0089 0.0063 Uranus 18012-10-09 13:40 G 8300089.84 8300090.07 8300090.31 0.0144 0.0053 Neptune 18013-05-11 10:19 G 8300303.76 8300303.93 8300304.13 0.0089 0.0062 Uranus 18013-10-14 12:00 G 8300459.87 8300460.00 8300460.17 0.0145 0.0116 Neptune 18014-05-13 23:16 G 8300671.31 8300671.47 8300671.69 0.0089 0.0061 Jupiter 18014-06-16 17:31 G 8300705.02 8300705.23 8300705.44 0.0544 0.0239 Neptune 18015-05-16 12:28 G 8301038.85 8301039.02 8301039.24 0.0089 0.0059 Neptune 18016-05-18 01:55 G 8301406.40 8301406.58 8301406.80 0.0089 0.0057 Neptune 18017-05-20 15:07 G 8301773.94 8301774.13 8301774.35 0.0089 0.0055 Neptune 18018-05-23 04:19 G 8302141.49 8302141.68 8302141.91 0.0089 0.0053 Neptune 18019-05-25 17:16 G 8302509.02 8302509.22 8302509.45 0.0089 0.0051 Jupiter 18019-12-04 23:31 G 8302702.25 8302702.48 8302702.71 0.0486 0.0013 Neptune 18020-05-27 06:28 G 8302876.57 8302876.77 8302877.01 0.0089 0.0048 Saturn 18021-05-12 11:16 G 8303226.87 8303226.97 8303227.10 0.0280 0.0246 Neptune 18021-05-29 19:55 G 8303244.12 8303244.33 8303244.56 0.0089 0.0046 Saturn 18022-05-25 17:45 G 8303605.10 8303605.24 8303605.40 0.0279 0.0220 Neptune 18022-06-01 08:52 G 8303611.66 8303611.87 8303612.11 0.0089 0.0044 Neptune 18023-06-03 21:50 G 8303979.20 8303979.41 8303979.66 0.0089 0.0042 Neptune 18024-06-05 11:16 G 8304346.75 8304346.97 8304347.21 0.0089 0.0039 Neptune 18025-06-08 00:28 G 8304714.30 8304714.52 8304714.77 0.0089 0.0037 Neptune 18026-06-10 13:55 G 8305081.85 8305082.08 8305082.33 0.0089 0.0034 Jupiter 18026-06-22 04:04 G 8305093.50 8305093.67 8305093.84 0.0544 0.0373 Neptune 18027-06-13 03:21 G 8305449.40 8305449.64 8305449.88 0.0089 0.0031 Neptune 18028-06-14 16:04 G 8305816.94 8305817.17 8305817.43 0.0089 0.0029 Neptune 18029-06-17 05:31 G 8306184.49 8306184.73 8306184.98 0.0090 0.0026 Neptune 18030-06-19 18:28 G 8306552.03 8306552.27 8306552.53 0.0090 0.0023 Neptune 18031-06-22 07:12 G 8306919.56 8306919.80 8306920.07 0.0090 0.0021

Jupiter 18031-12-09 02:52 G 8307089.39 8307089.62 8307089.86 0.0485 0.0078 Neptune 18032-06-23 20:24 G 8307287.10 8307287.35 8307287.61 0.0090 0.0018 Neptune 18033-06-26 09:21 G 8307654.64 8307654.89 8307655.15 0.0090 0.0015 Neptune 18034-06-28 22:19 G 8308022.18 8308022.43 8308022.69 0.0090 0.0012 Neptune 18035-07-01 11:02 G 8308389.71 8308389.96 8308390.22 0.0090 0.0009 Neptune 18036-07-03 00:00 G 8308757.25 8308757.50 8308757.76 0.0090 0.0006 Saturn 18036-11-15 11:02 G 8308892.72 8308892.96 8308893.20 0.0279 0.0044 Jupiter 18037-05-20 01:12 G 8309078.42 8309078.55 8309078.69 0.0538 0.0432 Neptune 18037-07-05 12:57 G 8309124.78 8309125.04 8309125.30 0.0090 0.0003 Jupiter 18038-06-27 16:19 G 8309482.09 8309482.18 8309482.27 0.0545 0.0502 Neptune 18038-07-08 01:40 G 8309492.32 8309492.57 8309492.83 0.0089 0.0002 Neptune 18039-07-10 14:38 G 8309859.85 8309860.11 8309860.37 0.0089 0.0003 Neptune 18040-07-12 03:21 G 8310227.39 8310227.64 8310227.90 0.0089 0.0006 Neptune 18041-07-14 16:04 G 8310594.92 8310595.17 8310595.43 0.0089 0.0008 Neptune 18042-07-17 04:33 G 8310962.44 8310962.69 8310962.95 0.0089 0.0011 Jupiter 18042-11-13 05:16 G 8311081.67 8311081.72 8311081.77 0.0492 0.0477 Neptune 18043-07-19 17:16 G 8311329.96 8311330.22 8311330.47 0.0089 0.0014 Jupiter 18043-12-13 06:57 G 8311476.58 8311476.79 8311477.01 0.0485 0.0168 Neptune 18044-07-21 05:31 G 8311697.48 8311697.73 8311697.99 0.0089 0.0017 Neptune 18045-07-23 18:00 G 8312065.01 8312065.25 8312065.51 0.0089 0.0019 Neptune 18046-07-26 06:00 G 8312432.52 8312432.75 8312433.01 0.0089 0.0022 Neptune 18047-07-28 18:28 G 8312800.03 8312800.27 8312800.53 0.0089 0.0025 Neptune 18048-07-30 06:43 G 8313167.55 8313167.78 8313168.04 0.0089 0.0028 Jupiter 18049-05-25 11:02 G 8313466.77 8313466.96 8313467.15 0.0539 0.0305 Neptune 18049-08-01 19:12 G 8313535.06 8313535.30 8313535.55 0.0089 0.0030 Uranus 18050-03-26 22:04 G 8313772.37 8313772.42 8313772.52 0.0135 0.0129 Neptune 18050-08-04 07:26 G 8313902.58 8313902.81 8313903.06 0.0089 0.0033 Uranus 18051-03-31 08:52 G 8314141.67 8314141.87 8314142.08 0.0134 0.0077 Saturn 18051-05-20 02:09 G 8314191.34 8314191.59 8314191.84 0.0280 0.0010 Neptune 18051-08-06 19:55 G 8314270.10 8314270.33 8314270.57 0.0089 0.0035

Uranus 18052-04-03 18:57 G 8314511.04 8314511.29 8314511.54 0.0134 0.0026 Neptune 18052-08-08 07:55 G 8314637.62 8314637.83 8314638.08 0.0089 0.0038 Uranus 18053-04-08 04:33 G 8314880.44 8314880.69 8314880.95 0.0134 0.0025 Neptune 18053-08-10 20:09 G 8315005.12 8315005.34 8315005.58 0.0089 0.0040 Uranus 18054-04-12 13:40 G 8315249.87 8315250.07 8315250.30 0.0134 0.0075 Neptune 18054-08-13 07:55 G 8315372.63 8315372.83 8315373.08 0.0089 0.0043 Jupiter 18054-11-17 08:24 G 8315468.72 8315468.85 8315469.00 0.0491 0.0391 Uranus 18055-04-16 22:33 G 8315619.37 8315619.44 8315619.55 0.0134 0.0125 Neptune 18055-08-15 19:55 G 8315740.13 8315740.33 8315740.57 0.0089 0.0044 Jupiter 18055-12-17 08:38 G 8315863.67 8315863.86 8315864.07 0.0485 0.0254 Neptune 18056-08-17 07:55 G 8316107.63 8316107.83 8316108.07 0.0089 0.0046 Neptune 18057-08-19 19:40 G 8316475.12 8316475.32 8316475.55 0.0089 0.0048 Neptune 18058-08-22 07:26 G 8316842.61 8316842.81 8316843.03 0.0089 0.0050 Neptune 18059-08-24 18:57 G 8317210.11 8317210.29 8317210.52 0.0089 0.0053 Neptune 18060-08-26 06:28 G 8317577.59 8317577.77 8317578.00 0.0089 0.0055 Jupiter 18061-05-30 18:14 G 8317855.04 8317855.26 8317855.48 0.0540 0.0176 Neptune 18061-08-28 18:43 G 8317945.09 8317945.28 8317945.48 0.0089 0.0056 Neptune 18062-08-31 06:00 G 8318312.57 8318312.75 8318312.96 0.0089 0.0057 Neptune 18063-09-02 17:31 G 8318680.06 8318680.23 8318680.44 0.0089 0.0059 Neptune 18064-09-04 05:16 G 8319047.55 8319047.72 8319047.92 0.0089 0.0060 Neptune 18065-09-06 17:02 G 8319415.03 8319415.21 8319415.39 0.0089 0.0061 Saturn 18065-11-10 08:38 G 8319479.75 8319479.86 8319480.01 0.0279 0.0236 Neptune 18066-09-09 03:50 G 8319782.51 8319782.66 8319782.87 0.0089 0.0063 Jupiter 18066-11-21 14:09 G 8319855.91 8319856.09 8319856.27 0.0490 0.0299 Saturn 18066-11-23 07:12 G 8319857.65 8319857.80 8319857.95 0.0280 0.0222 Neptune 18067-09-11 15:21 G 8320149.98 8320150.14 8320150.34 0.0089 0.0064 Jupiter 18067-12-21 12:43 G 8320250.87 8320251.03 8320251.20 0.0484 0.0341 Neptune 18068-09-13 02:38 G 8320517.45 8320517.61 8320517.80 0.0089 0.0065 Neptune 18069-09-15 13:40 G 8320884.92 8320885.07 8320885.26 0.0089 0.0066 Neptune 18070-09-18 00:43 G 8321252.38 8321252.53 8321252.72 0.0089 0.0067

Neptune 18071-09-20 11:31 G 8321619.84 8321619.98 8321620.17 0.0089 0.0068 Neptune 18072-09-21 23:02 G 8321987.30 8321987.46 8321987.63 0.0089 0.0068 Jupiter 18073-06-04 20:52 G 8322243.14 8322243.37 8322243.61 0.0542 0.0051 Neptune 18073-09-24 09:21 G 8322354.75 8322354.89 8322355.08 0.0089 0.0069 Mars 18074-09-07 16:48 G 8322703.10 8322703.20 8322703.31 0.1793 0.1484 Neptune 18074-09-26 20:52 G 8322722.21 8322722.37 8322722.53 0.0089 0.0069 Neptune 18075-09-29 07:26 G 8323089.67 8323089.81 8323089.99 0.0089 0.0070 Neptune 18076-09-30 18:28 G 8323457.13 8323457.27 8323457.44 0.0089 0.0070 Neptune 18077-10-03 05:31 G 8323824.58 8323824.73 8323824.89 0.0089 0.0070 Neptune 18078-10-05 16:19 G 8324192.03 8324192.18 8324192.34 0.0089 0.0070 Jupiter 18078-11-25 20:38 G 8324243.16 8324243.36 8324243.58 0.0488 0.0208 Neptune 18079-10-08 02:52 G 8324559.48 8324559.62 8324559.79 0.0089 0.0070 Jupiter 18079-12-25 17:16 G 8324638.11 8324638.22 8324638.33 0.0484 0.0427 Saturn 18080-05-13 23:02 G 8324778.28 8324778.46 8324778.66 0.0280 0.0182 Neptune 18080-10-09 13:26 G 8324926.92 8324927.06 8324927.23 0.0088 0.0070 Neptune 18081-10-11 23:45 G 8325294.36 8325294.49 8325294.67 0.0088 0.0070 Pluto 18082-02-14 15:36 G 8325419.89 8325420.15 8325420.41 0.0080 0.0008 Neptune 18082-10-14 10:19 G 8325661.80 8325661.93 8325662.11 0.0088 0.0070 Neptune 18083-10-16 21:07 G 8326029.23 8326029.38 8326029.55 0.0088 0.0069 Neptune 18084-10-18 07:12 G 8326396.67 8326396.80 8326396.99 0.0088 0.0069 Jupiter 18085-06-10 06:28 G 8326631.54 8326631.77 8326632.00 0.0543 0.0084 Neptune 18085-10-20 17:45 G 8326764.10 8326764.24 8326764.43 0.0088 0.0068 Neptune 18086-10-23 04:33 G 8327131.53 8327131.69 8327131.87 0.0088 0.0067 Neptune 18087-10-25 15:07 G 8327498.96 8327499.13 8327499.30 0.0088 0.0066 Neptune 18088-10-27 01:12 G 8327866.40 8327866.55 8327866.75 0.0088 0.0065 Neptune 18089-10-29 12:00 G 8328233.83 8328234.00 8328234.18 0.0088 0.0064 Neptune 18090-10-31 22:33 G 8328601.27 8328601.44 8328601.63 0.0088 0.0063 Jupiter 18090-11-30 01:26 G 8328630.34 8328630.56 8328630.79 0.0487 0.0117 Neptune 18091-11-03 08:52 G 8328968.70 8328968.87 8328969.06 0.0088 0.0061 Neptune 18092-11-04 18:57 G 8329336.12 8329336.29 8329336.50 0.0088 0.0060 Uranus 18093-09-26 03:36 G 8329661.58 8329661.65 8329661.77 0.0144 0.0133 Neptune 18093-11-07 05:45 G 8329703.55 8329703.74 8329703.93 0.0088 0.0059 Uranus 18094-10-01 01:26 G 8330031.35 8330031.56 8330031.79 0.0144 0.0071 Neptune 18094-11-09 15:36 G 8330070.97 8330071.15 8330071.36 0.0088 0.0057 Uranus 18095-10-05 23:45 G 8330401.24 8330401.49 8330401.74 0.0144 0.0008 Neptune 18095-11-12 02:09 G 8330438.40 8330438.59 8330438.79 0.0088 0.0055 Saturn 18095-11-17 20:24 G 8330444.11 8330444.35 8330444.59 0.0279 0.0016 Uranus 18096-10-09 21:50 G 8330771.19 8330771.41 8330771.65 0.0144 0.0055 Neptune 18096-11-13 12:00 G 8330805.82 8330806.00 8330806.22 0.0088 0.0054 Jupiter 18097-06-15 18:28 G 8331020.06 8331020.27 8331020.49 0.0544 0.0220 Uranus 18097-10-14 20:24 G 8331141.22 8331141.35 8331141.51 0.0145 0.0118 Neptune 18097-11-15 22:19 G 8331173.24 8331173.43 8331173.65 0.0088 0.0052 Neptune 18098-11-18 08:52 G 8331540.66 8331540.87 8331541.08 0.0088 0.0050 Neptune 18099-11-20 18:43 G 8331908.09 8331908.28 8331908.51 0.0088 0.0049 Neptune 18100-11-23 04:48 G 8332275.51 8332275.70 8332275.94 0.0088 0.0047 Neptune 18101-11-25 15:21 G 8332642.94 8332643.14 8332643.38 0.0088 0.0045 Neptune 18102-11-28 01:40 G 8333010.37 8333010.57 8333010.81 0.0088 0.0043 Jupiter 18102-12-05 06:00 G 8333017.52 8333017.75 8333017.98 0.0486 0.0025 Neptune 18103-11-30 11:45 G 8333377.79 8333377.99 8333378.24 0.0088 0.0041 Neptune 18104-12-01 22:19 G 8333745.22 8333745.43 8333745.68 0.0088 0.0039 Neptune 18105-12-04 08:38 G 8334112.64 8334112.86 8334113.11 0.0088 0.0036 Neptune 18106-12-06 18:57 G 8334480.07 8334480.29 8334480.54 0.0088 0.0034 Neptune 18107-12-09 05:02 G 8334847.49 8334847.71 8334847.97 0.0088 0.0032 Neptune 18108-12-10 15:36 G 8335214.91 8335215.15 8335215.39 0.0088 0.0029 Jupiter 18109-06-22 06:00 G 8335408.58 8335408.75 8335408.93 0.0544 0.0351 Neptune 18109-12-13 01:40 G 8335582.33 8335582.57 8335582.82 0.0088 0.0027 Saturn 18110-05-22 12:00 G 8335742.77 8335743.00 8335743.25 0.0279 0.0071 Neptune 18110-12-15 11:45 G 8335949.76 8335949.99 8335950.25 0.0088 0.0025 Neptune 18111-12-17 22:19 G 8336317.18 8336317.43 8336317.68 0.0088 0.0022 Neptune 18112-12-19 08:24 G 8336684.61 8336684.85 8336685.11 0.0088 0.0020

Neptune 18113-12-21 18:57 G 8337052.05 8337052.29 8337052.55 0.0088 0.0017 Jupiter 18114-12-09 08:09 G 8337404.61 8337404.84 8337405.07 0.0486 0.0064 Neptune 18114-12-24 05:16 G 8337419.48 8337419.72 8337419.98 0.0088 0.0015 Neptune 18115-12-26 16:04 G 8337786.92 8337787.17 8337787.43 0.0088 0.0012 Neptune 18116-12-28 02:24 G 8338154.35 8338154.60 8338154.86 0.0088 0.0010 Neptune 18117-12-30 13:12 G 8338521.79 8338522.05 8338522.31 0.0088 0.0007 Neptune 18119-01-01 23:31 G 8338889.23 8338889.48 8338889.74 0.0088 0.0005 Neptune 18120-01-04 10:04 G 8339256.66 8339256.92 8339257.18 0.0088 0.0002 Jupiter 18120-05-20 01:40 G 8339393.45 8339393.57 8339393.70 0.0537 0.0447 Neptune 18121-01-05 20:38 G 8339624.11 8339624.36 8339624.62 0.0088 0.0001 Jupiter 18121-06-27 14:24 G 8339796.99 8339797.10 8339797.21 0.0544 0.0478 Neptune 18122-01-08 07:12 G 8339991.55 8339991.80 8339992.06 0.0088 0.0004 Neptune 18123-01-10 18:00 G 8340358.99 8340359.25 8340359.50 0.0088 0.0006 Neptune 18124-01-13 04:19 G 8340726.43 8340726.68 8340726.95 0.0088 0.0009 Saturn 18124-11-12 15:50 G 8341030.98 8341031.16 8341031.35 0.0279 0.0180 Neptune 18125-01-14 15:21 G 8341093.88 8341094.14 8341094.39 0.0088 0.0011 Jupiter 18125-11-13 08:38 G 8341396.84 8341396.86 8341396.89 0.0493 0.0490 Saturn 18125-11-25 14:09 G 8341409.07 8341409.09 8341409.13 0.0280 0.0278 Neptune 18126-01-17 01:55 G 8341461.33 8341461.58 8341461.84 0.0088 0.0014 Jupiter 18126-12-13 12:14 G 8341791.79 8341792.01 8341792.23 0.0485 0.0154 Neptune 18127-01-19 12:43 G 8341828.79 8341829.03 8341829.30 0.0088 0.0017 Neptune 18128-01-21 23:45 G 8342196.25 8342196.49 8342196.75 0.0088 0.0019 Neptune 18129-01-23 11:02 G 8342563.71 8342563.96 8342564.21 0.0088 0.0021 Neptune 18130-01-25 22:04 G 8342931.18 8342931.42 8342931.67 0.0088 0.0024 Neptune 18131-01-28 09:07 G 8343298.63 8343298.88 8343299.13 0.0088 0.0026 Neptune 18132-01-30 19:55 G 8343666.10 8343666.33 8343666.59 0.0088 0.0029 Jupiter 18132-05-25 03:21 G 8343781.45 8343781.64 8343781.82 0.0539 0.0329 Neptune 18133-02-01 07:12 G 8344033.56 8344033.80 8344034.05 0.0088 0.0031 Neptune 18134-02-03 18:28 G 8344401.04 8344401.27 8344401.52 0.0088 0.0033 Uranus 18134-03-28 06:57 G 8344453.73 8344453.79 8344453.90 0.0135 0.0127

Neptune 18135-02-06 05:16 G 8344768.51 8344768.72 8344768.98 0.0088 0.0036 Uranus 18135-04-01 17:16 G 8344823.03 8344823.22 8344823.45 0.0134 0.0076 Neptune 18136-02-08 16:33 G 8345135.97 8345136.19 8345136.44 0.0088 0.0038 Uranus 18136-04-05 03:21 G 8345192.40 8345192.64 8345192.90 0.0134 0.0024 Neptune 18137-02-10 03:50 G 8345503.45 8345503.66 8345503.91 0.0088 0.0040 Uranus 18137-04-09 13:12 G 8345561.80 8345562.05 8345562.30 0.0134 0.0027 Jupiter 18137-11-17 16:33 G 8345784.06 8345784.19 8345784.32 0.0491 0.0398 Neptune 18138-02-12 15:21 G 8345870.93 8345871.14 8345871.38 0.0088 0.0042 Uranus 18138-04-13 22:04 G 8345931.23 8345931.42 8345931.64 0.0134 0.0078 Jupiter 18138-12-17 17:16 G 8346179.03 8346179.22 8346179.43 0.0484 0.0243 Neptune 18139-02-15 02:38 G 8346238.41 8346238.61 8346238.85 0.0088 0.0045 Uranus 18139-04-18 07:12 G 8346300.73 8346300.80 8346300.89 0.0134 0.0127 Saturn 18139-05-17 09:21 G 8346329.68 8346329.89 8346330.12 0.0280 0.0121 Neptune 18140-02-17 14:24 G 8346605.89 8346606.10 8346606.33 0.0088 0.0046 Neptune 18141-02-19 01:55 G 8346973.38 8346973.58 8346973.82 0.0088 0.0048 Neptune 18142-02-21 13:26 G 8347340.87 8347341.06 8347341.30 0.0088 0.0051 Neptune 18143-02-24 01:40 G 8347708.37 8347708.57 8347708.79 0.0088 0.0052 Neptune 18144-02-26 13:12 G 8348075.86 8348076.05 8348076.27 0.0088 0.0053 Jupiter 18144-05-30 11:02 G 8348169.75 8348169.96 8348170.18 0.0540 0.0200 Neptune 18145-02-28 00:43 G 8348443.35 8348443.53 8348443.76 0.0088 0.0056 Neptune 18146-03-02 12:43 G 8348810.85 8348811.03 8348811.25 0.0088 0.0057 Neptune 18147-03-05 00:43 G 8349178.34 8349178.53 8349178.73 0.0088 0.0058 Neptune 18148-03-06 12:14 G 8349545.84 8349546.01 8349546.23 0.0088 0.0060 Neptune 18149-03-09 00:14 G 8349913.34 8349913.51 8349913.72 0.0088 0.0061 Jupiter 18149-11-21 22:48 G 8350171.27 8350171.45 8350171.63 0.0490 0.0309 Neptune 18150-03-11 12:28 G 8350280.85 8350281.02 8350281.22 0.0088 0.0062 Jupiter 18150-12-21 20:38 G 8350566.19 8350566.36 8350566.53 0.0484 0.0328 Neptune 18151-03-14 00:28 G 8350648.35 8350648.52 8350648.71 0.0088 0.0063 Neptune 18152-03-15 12:43 G 8351015.86 8351016.03 8351016.22 0.0089 0.0064 Neptune 18153-03-18 00:57 G 8351383.38 8351383.54 8351383.73 0.0089 0.0065

Neptune 18154-03-20 13:12 G 8351750.90 8351751.05 8351751.24 0.0089 0.0066 Saturn 18154-11-20 03:36 G 8351995.42 8351995.65 8351995.89 0.0279 0.0073 Neptune 18155-03-23 01:26 G 8352118.41 8352118.56 8352118.75 0.0089 0.0067 Neptune 18156-03-24 14:24 G 8352485.94 8352486.10 8352486.27 0.0089 0.0067 Jupiter 18156-06-04 22:04 G 8352558.19 8352558.42 8352558.66 0.0542 0.0069 Neptune 18157-03-27 02:38 G 8352853.46 8352853.61 8352853.79 0.0089 0.0068 Neptune 18158-03-29 15:07 G 8353220.98 8353221.13 8353221.31 0.0089 0.0068 Neptune 18159-04-01 03:21 G 8353588.50 8353588.64 8353588.83 0.0089 0.0069 Neptune 18160-04-02 15:50 G 8353956.02 8353956.16 8353956.35 0.0089 0.0069 Neptune 18161-04-05 04:33 G 8354323.55 8354323.69 8354323.87 0.0089 0.0069 Jupiter 18161-11-26 04:19 G 8354558.48 8354558.68 8354558.89 0.0488 0.0217 Neptune 18162-04-07 17:02 G 8354691.07 8354691.21 8354691.40 0.0089 0.0069 Jupiter 18162-12-26 00:28 G 8354953.41 8354953.52 8354953.64 0.0484 0.0415 Neptune 18163-04-10 05:45 G 8355058.60 8355058.74 8355058.92 0.0089 0.0069 Neptune 18164-04-11 18:28 G 8355426.13 8355426.27 8355426.46 0.0089 0.0069 Neptune 18165-04-14 07:40 G 8355793.67 8355793.82 8355794.00 0.0089 0.0068 Neptune 18166-04-16 20:09 G 8356161.20 8356161.34 8356161.54 0.0089 0.0068 Neptune 18167-04-19 09:36 G 8356528.74 8356528.90 8356529.08 0.0089 0.0067 Neptune 18168-04-20 22:19 G 8356896.28 8356896.43 8356896.63 0.0089 0.0067 Jupiter 18168-06-10 10:04 G 8356946.69 8356946.92 8356947.15 0.0543 0.0066 Neptune 18169-04-23 11:16 G 8357263.82 8357263.97 8357264.17 0.0089 0.0066 Saturn 18169-05-23 21:21 G 8357294.17 8357294.39 8357294.61 0.0279 0.0129 Neptune 18170-04-26 00:28 G 8357631.36 8357631.52 8357631.72 0.0089 0.0065 Neptune 18171-04-28 13:12 G 8357998.90 8357999.05 8357999.25 0.0089 0.0065 Neptune 18172-04-30 02:24 G 8358366.44 8358366.60 8358366.80 0.0089 0.0063 Neptune 18173-05-02 15:21 G 8358733.98 8358734.14 8358734.35 0.0089 0.0062 Jupiter 18173-11-30 07:12 G 8358945.57 8358945.80 8358946.02 0.0487 0.0129 Neptune 18174-05-05 04:04 G 8359101.51 8359101.67 8359101.89 0.0089 0.0062 Neptune 18175-05-07 17:45 G 8359469.05 8359469.24 8359469.44 0.0089 0.0060 Neptune 18176-05-09 06:28 G 8359836.59 8359836.77 8359836.99 0.0089 0.0058

Neptune 18177-05-11 19:55 G 8360204.14 8360204.33 8360204.54 0.0089 0.0057 Uranus 18177-09-27 11:31 G 8360342.90 8360342.98 8360343.11 0.0144 0.0131 Neptune 18178-05-14 08:38 G 8360571.68 8360571.86 8360572.09 0.0089 0.0056 Uranus 18178-10-02 09:36 G 8360712.69 8360712.90 8360713.13 0.0144 0.0069 Mars 18179-03-05 04:48 G 8360866.58 8360866.70 8360866.83 0.1728 0.1319 Neptune 18179-05-16 22:04 G 8360939.23 8360939.42 8360939.65 0.0089 0.0054 Uranus 18179-10-07 07:55 G 8361082.58 8361082.83 8361083.08 0.0144 0.0006 Neptune 18180-05-18 11:31 G 8361306.78 8361306.98 8361307.20 0.0089 0.0052 Jupiter 18180-06-15 19:12 G 8361335.08 8361335.30 8361335.52 0.0543 0.0199 Uranus 18180-10-11 06:14 G 8361452.53 8361452.76 8361452.99 0.0144 0.0057 Neptune 18181-05-21 00:28 G 8361674.33 8361674.52 8361674.76 0.0089 0.0051 Uranus 18181-10-16 05:02 G 8361822.58 8361822.71 8361822.86 0.0145 0.0120 Neptune 18182-05-23 13:40 G 8362041.87 8362042.07 8362042.31 0.0089 0.0048 Neptune 18183-05-26 02:52 G 8362409.42 8362409.62 8362409.86 0.0089 0.0046 Saturn 18183-11-14 20:24 G 8362582.14 8362582.35 8362582.57 0.0279 0.0128 Neptune 18184-05-27 16:04 G 8362776.96 8362777.17 8362777.41 0.0089 0.0044 Neptune 18185-05-30 05:31 G 8363144.50 8363144.73 8363144.96 0.0089 0.0042 Jupiter 18185-12-04 12:00 G 8363332.77 8363333.00 8363333.24 0.0487 0.0037 Neptune 18186-06-01 18:28 G 8363512.05 8363512.27 8363512.51 0.0089 0.0040 Neptune 18187-06-04 07:26 G 8363879.58 8363879.81 8363880.05 0.0089 0.0038 Neptune 18188-06-05 20:24 G 8364247.13 8364247.35 8364247.61 0.0089 0.0036 Neptune 18189-06-08 09:36 G 8364614.68 8364614.90 8364615.16 0.0089 0.0033 Neptune 18190-06-10 22:48 G 8364982.22 8364982.45 8364982.70 0.0089 0.0031 Neptune 18191-06-13 12:00 G 8365349.77 8365350.00 8365350.26 0.0089 0.0028 Neptune 18192-06-15 01:26 G 8365717.32 8365717.56 8365717.81 0.0089 0.0026 Jupiter 18192-06-20 22:48 G 8365723.26 8365723.45 8365723.64 0.0544 0.0324 Neptune 18193-06-17 14:24 G 8366084.87 8366085.10 8366085.37 0.0089 0.0024 Neptune 18194-06-20 03:36 G 8366452.41 8366452.65 8366452.91 0.0089 0.0021 Neptune 18195-06-22 17:02 G 8366819.96 8366820.21 8366820.46 0.0090 0.0018 Neptune 18196-06-24 05:45 G 8367187.49 8367187.74 8367188.00 0.0090 0.0016

Neptune 18197-06-26 18:57 G 8367555.04 8367555.29 8367555.55 0.0090 0.0013 Jupiter 18197-12-08 17:45 G 8367720.01 8367720.24 8367720.47 0.0486 0.0055 Saturn 18198-05-18 18:00 G 8367881.01 8367881.25 8367881.49 0.0280 0.0062 Neptune 18198-06-29 07:40 G 8367922.56 8367922.82 8367923.08 0.0090 0.0010 Neptune 18199-07-01 20:38 G 8368290.10 8368290.36 8368290.62 0.0090 0.0008 Neptune 18200-07-04 09:36 G 8368657.64 8368657.90 8368658.16 0.0090 0.0005 Neptune 18201-07-06 22:19 G 8369025.17 8369025.43 8369025.69 0.0090 0.0002 Neptune 18202-07-09 11:16 G 8369392.71 8369392.97 8369393.22 0.0089 0.0002 Jupiter 18203-05-20 19:40 G 8369708.21 8369708.32 8369708.44 0.0537 0.0468 Neptune 18203-07-12 00:00 G 8369760.24 8369760.50 8369760.76 0.0089 0.0003 Jupiter 18204-06-27 08:24 G 8370111.73 8370111.85 8370111.98 0.0544 0.0453 Neptune 18204-07-13 12:57 G 8370127.78 8370128.04 8370128.30 0.0089 0.0006 Neptune 18205-07-16 01:40 G 8370495.32 8370495.57 8370495.83 0.0089 0.0009 Neptune 18206-07-18 14:24 G 8370862.85 8370863.10 8370863.36 0.0089 0.0012 Neptune 18207-07-21 03:07 G 8371230.38 8371230.63 8371230.89 0.0089 0.0014 Neptune 18208-07-22 15:50 G 8371597.91 8371598.16 8371598.42 0.0089 0.0016 Neptune 18209-07-25 04:19 G 8371965.43 8371965.68 8371965.93 0.0089 0.0019 Jupiter 18209-12-13 21:50 G 8372107.18 8372107.41 8372107.63 0.0485 0.0143 Neptune 18210-07-27 16:33 G 8372332.95 8372333.19 8372333.45 0.0089 0.0022 Neptune 18211-07-30 05:02 G 8372700.47 8372700.71 8372700.96 0.0089 0.0024 Neptune 18212-07-31 17:02 G 8373067.98 8373068.21 8373068.47 0.0089 0.0027 Neptune 18213-08-03 05:31 G 8373435.50 8373435.73 8373435.98 0.0089 0.0029 Saturn 18213-11-22 08:52 G 8373546.66 8373546.87 8373547.09 0.0280 0.0126 Neptune 18214-08-05 17:31 G 8373803.00 8373803.23 8373803.49 0.0089 0.0031 Jupiter 18215-05-26 04:33 G 8374096.52 8374096.69 8374096.87 0.0539 0.0345 Neptune 18215-08-08 05:45 G 8374170.52 8374170.74 8374171.00 0.0089 0.0034 Neptune 18216-08-09 18:00 G 8374538.03 8374538.25 8374538.50 0.0089 0.0036 Neptune 18217-08-12 06:14 G 8374905.54 8374905.76 8374906.01 0.0089 0.0038 Uranus 18218-03-29 16:19 G 8375135.10 8375135.18 8375135.29 0.0135 0.0124 Neptune 18218-08-14 18:28 G 8375273.05 8375273.27 8375273.51 0.0089 0.0040

Uranus 18219-04-03 02:38 G 8375504.40 8375504.61 8375504.83 0.0134 0.0073 Neptune 18219-08-17 06:43 G 8375640.56 8375640.78 8375641.01 0.0089 0.0042 Uranus 18220-04-06 12:43 G 8375873.78 8375874.03 8375874.28 0.0134 0.0021 Neptune 18220-08-18 18:43 G 8376008.06 8376008.28 8376008.50 0.0089 0.0044 Jupiter 18220-11-18 01:12 G 8376099.43 8376099.55 8376099.68 0.0491 0.0407 Uranus 18221-04-10 22:19 G 8376243.18 8376243.43 8376243.68 0.0134 0.0030 Neptune 18221-08-21 06:14 G 8376375.55 8376375.76 8376375.99 0.0089 0.0046 Jupiter 18221-12-18 01:40 G 8376494.37 8376494.57 8376494.78 0.0484 0.0232 Uranus 18222-04-15 07:26 G 8376612.61 8376612.81 8376613.02 0.0134 0.0080 Neptune 18222-08-23 18:00 G 8376743.05 8376743.25 8376743.48 0.0089 0.0048 Uranus 18223-04-19 16:33 G 8376982.14 8376982.19 8376982.25 0.0133 0.0130 Neptune 18223-08-26 05:31 G 8377110.54 8377110.73 8377110.96 0.0089 0.0049 Neptune 18224-08-27 17:45 G 8377478.03 8377478.24 8377478.45 0.0089 0.0051 Neptune 18225-08-30 04:48 G 8377845.51 8377845.70 8377845.92 0.0089 0.0052 Neptune 18226-09-01 16:19 G 8378213.00 8378213.18 8378213.41 0.0089 0.0054 Saturn 18227-05-13 21:50 G 8378467.40 8378467.41 8378467.44 0.0280 0.0278 Jupiter 18227-05-31 16:04 G 8378484.96 8378485.17 8378485.39 0.0540 0.0215 Neptune 18227-09-04 04:04 G 8378580.48 8378580.67 8378580.88 0.0089 0.0055 Saturn 18228-05-26 04:48 G 8378845.53 8378845.70 8378845.89 0.0279 0.0186 Neptune 18228-09-05 15:50 G 8378947.96 8378948.16 8378948.36 0.0089 0.0056 Neptune 18229-09-08 02:52 G 8379315.45 8379315.62 8379315.84 0.0089 0.0058 Neptune 18230-09-10 14:24 G 8379682.93 8379683.10 8379683.31 0.0089 0.0059 Neptune 18231-09-13 01:55 G 8380050.41 8380050.58 8380050.79 0.0089 0.0060 Neptune 18232-09-14 13:12 G 8380417.88 8380418.05 8380418.25 0.0089 0.0061 Jupiter 18232-11-22 05:16 G 8380486.55 8380486.72 8380486.90 0.0490 0.0318 Neptune 18233-09-17 00:14 G 8380785.35 8380785.51 8380785.72 0.0089 0.0062 Jupiter 18233-12-22 04:04 G 8380881.50 8380881.67 8380881.85 0.0484 0.0317 Neptune 18234-09-19 11:16 G 8381152.82 8381152.97 8381153.18 0.0089 0.0063 Neptune 18235-09-21 22:48 G 8381520.29 8381520.45 8381520.65 0.0089 0.0063 Neptune 18236-09-23 09:36 G 8381887.74 8381887.90 8381888.10 0.0089 0.0064

Neptune 18237-09-25 20:52 G 8382255.20 8382255.37 8382255.56 0.0089 0.0064 Neptune 18238-09-28 07:40 G 8382622.66 8382622.82 8382623.01 0.0089 0.0065 Jupiter 18239-06-06 01:12 G 8382873.32 8382873.55 8382873.78 0.0541 0.0084 Pluto 18239-08-20 22:48 G 8382949.20 8382949.45 8382949.72 0.0064 0.0007 Neptune 18239-09-30 18:28 G 8382990.12 8382990.27 8382990.46 0.0089 0.0065 Neptune 18240-10-02 05:45 G 8383357.57 8383357.74 8383357.92 0.0089 0.0065 Neptune 18241-10-04 16:33 G 8383725.02 8383725.19 8383725.37 0.0089 0.0065 Neptune 18242-10-07 03:36 G 8384092.48 8384092.65 8384092.83 0.0089 0.0065 Saturn 18242-11-16 22:48 G 8384133.21 8384133.45 8384133.68 0.0279 0.0079 Neptune 18243-10-09 14:24 G 8384459.93 8384460.10 8384460.28 0.0089 0.0065 Neptune 18244-10-11 00:57 G 8384827.38 8384827.54 8384827.73 0.0088 0.0065 Jupiter 18244-11-26 11:02 G 8384873.76 8384873.96 8384874.17 0.0489 0.0227 Neptune 18245-10-13 11:31 G 8385194.83 8385194.98 8385195.18 0.0088 0.0065 Jupiter 18245-12-26 08:38 G 8385268.74 8385268.86 8385268.99 0.0484 0.0404 Neptune 18246-10-15 22:04 G 8385562.27 8385562.42 8385562.62 0.0088 0.0065 Neptune 18247-10-18 08:52 G 8385929.71 8385929.87 8385930.06 0.0088 0.0064 Neptune 18248-10-19 18:57 G 8386297.14 8386297.29 8386297.50 0.0088 0.0064 Neptune 18249-10-22 05:45 G 8386664.58 8386664.74 8386664.94 0.0088 0.0062 Neptune 18250-10-24 16:04 G 8387032.01 8387032.17 8387032.37 0.0088 0.0062 Jupiter 18251-06-11 04:19 G 8387261.44 8387261.68 8387261.91 0.0542 0.0042 Neptune 18251-10-27 02:52 G 8387399.44 8387399.62 8387399.81 0.0088 0.0061 Neptune 18252-10-28 13:12 G 8387766.87 8387767.05 8387767.24 0.0088 0.0060 Neptune 18253-10-30 23:45 G 8388134.30 8388134.49 8388134.68 0.0088 0.0059 Neptune 18254-11-02 10:04 G 8388501.73 8388501.92 8388502.12 0.0088 0.0058 Neptune 18255-11-04 20:24 G 8388869.16 8388869.35 8388869.55 0.0088 0.0057 Neptune 18256-11-06 06:43 G 8389236.60 8389236.78 8389236.99 0.0088 0.0055 Jupiter 18256-11-30 17:31 G 8389261.01 8389261.23 8389261.46 0.0488 0.0137 Saturn 18257-05-21 00:57 G 8389432.29 8389432.54 8389432.79 0.0280 0.0005 Neptune 18257-11-08 16:48 G 8389604.02 8389604.20 8389604.43 0.0088 0.0054 18258-03-08 18:43 G 8389724.10 8389724.28 8389724.46 0.1734 0.0574 Mars

Neptune 18258-11-11 03:36 G 8389971.45 8389971.65 8389971.86 0.0088 0.0052 Neptune 18259-11-13 13:26 G 8390338.87 8390339.06 8390339.29 0.0088 0.0051 Neptune 18260-11-15 00:00 G 8390706.30 8390706.50 8390706.72 0.0088 0.0050 Uranus 18261-09-28 19:55 G 8391024.24 8391024.33 8391024.46 0.0144 0.0129 Neptune 18261-11-17 09:50 G 8391073.72 8391073.91 8391074.15 0.0088 0.0048 Uranus 18262-10-03 17:45 G 8391394.04 8391394.24 8391394.48 0.0144 0.0067 Neptune 18262-11-19 20:24 G 8391441.14 8391441.35 8391441.58 0.0088 0.0046 Jupiter 18263-06-16 13:26 G 8391649.84 8391650.06 8391650.28 0.0543 0.0174 Uranus 18263-10-08 16:19 G 8391763.92 8391764.18 8391764.43 0.0144 0.0004 Neptune 18263-11-22 06:43 G 8391808.56 8391808.78 8391809.00 0.0088 0.0044 Uranus 18264-10-12 14:38 G 8392133.89 8392134.11 8392134.35 0.0144 0.0059 Neptune 18264-11-23 16:33 G 8392175.98 8392176.19 8392176.43 0.0088 0.0043 Uranus 18265-10-17 13:12 G 8392503.94 8392504.05 8392504.20 0.0145 0.0123 Neptune 18265-11-26 02:52 G 8392543.41 8392543.62 8392543.86 0.0088 0.0041 Neptune 18266-11-28 12:57 G 8392910.83 8392911.04 8392911.29 0.0088 0.0039 Neptune 18267-11-30 23:31 G 8393278.26 8393278.48 8393278.72 0.0088 0.0037 Neptune 18268-12-02 09:36 G 8393645.68 8393645.90 8393646.15 0.0088 0.0035 Jupiter 18268-12-04 22:33 G 8393648.21 8393648.44 8393648.67 0.0487 0.0046 Neptune 18269-12-04 20:09 G 8394013.11 8394013.34 8394013.59 0.0088 0.0033 Neptune 18270-12-07 06:28 G 8394380.54 8394380.77 8394381.02 0.0088 0.0031 Saturn 18271-11-11 14:52 G 8394720.10 8394720.12 8394720.16 0.0278 0.0276 Neptune 18271-12-09 16:33 G 8394747.97 8394748.19 8394748.45 0.0088 0.0029 Saturn 18272-11-23 11:45 G 8395097.81 8395097.99 8395098.19 0.0280 0.0176 Neptune 18272-12-11 03:21 G 8395115.39 8395115.64 8395115.88 0.0088 0.0026 Neptune 18273-12-13 13:26 G 8395482.82 8395483.06 8395483.31 0.0088 0.0024 Neptune 18274-12-15 23:31 G 8395850.24 8395850.48 8395850.74 0.0088 0.0022 Jupiter 18275-06-22 01:26 G 8396038.37 8396038.56 8396038.76 0.0544 0.0306 Neptune 18275-12-18 09:50 G 8396217.67 8396217.91 8396218.17 0.0088 0.0020 Neptune 18276-12-19 20:24 G 8396585.10 8396585.35 8396585.60 0.0088 0.0017 Neptune 18277-12-22 06:28 G 8396952.53 8396952.77 8396953.04 0.0088 0.0015

Neptune 18278-12-24 17:02 G 8397319.96 8397320.21 8397320.47 0.0088 0.0013 18279-09-07 05:02 G 8397576.52 8397576.71 8397576.89 0.1809 0.0509 Mars Neptune 18279-12-27 03:36 G 8397687.39 8397687.65 8397687.90 0.0088 0.0010 Jupiter 18280-12-09 03:36 G 8398035.41 8398035.65 8398035.88 0.0486 0.0046 Neptune 18280-12-28 14:09 G 8398054.83 8398055.09 8398055.35 0.0088 0.0008 Neptune 18281-12-31 00:43 G 8398422.28 8398422.53 8398422.79 0.0088 0.0005 Neptune 18283-01-02 11:16 G 8398789.71 8398789.97 8398790.23 0.0088 0.0003 Neptune 18284-01-04 21:50 G 8399157.15 8399157.41 8399157.67 0.0088 0.0001 Neptune 18285-01-06 08:24 G 8399524.59 8399524.85 8399525.11 0.0088 0.0002 Neptune 18286-01-08 18:57 G 8399892.04 8399892.29 8399892.55 0.0088 0.0005 Saturn 18286-05-15 03:50 G 8400018.52 8400018.66 8400018.82 0.0280 0.0223 Jupiter 18286-05-20 01:40 G 8400023.47 8400023.57 8400023.67 0.0537 0.0479 Neptune 18287-01-11 05:31 G 8400259.47 8400259.73 8400259.99 0.0088 0.0007 Saturn 18287-05-28 10:48 G 8400396.82 8400396.95 8400397.07 0.0279 0.0239 Jupiter 18287-06-27 14:38 G 8400426.98 8400427.11 8400427.25 0.0544 0.0437 Neptune 18288-01-13 16:04 G 8400626.92 8400627.17 8400627.43 0.0088 0.0009 Neptune 18289-01-15 02:38 G 8400994.36 8400994.61 8400994.87 0.0088 0.0012 Neptune 18290-01-17 13:26 G 8401361.81 8401362.06 8401362.32 0.0088 0.0014 Neptune 18291-01-20 00:00 G 8401729.25 8401729.50 8401729.76 0.0088 0.0016 Neptune 18292-01-22 10:33 G 8402096.70 8402096.94 8402097.21 0.0088 0.0019 Jupiter 18292-12-13 06:00 G 8402422.53 8402422.75 8402422.98 0.0485 0.0134 Neptune 18293-01-23 21:50 G 8402464.17 8402464.41 8402464.67 0.0088 0.0021 Neptune 18294-01-26 08:38 G 8402831.62 8402831.86 8402832.12 0.0088 0.0023 Neptune 18295-01-28 19:55 G 8403199.09 8403199.33 8403199.58 0.0088 0.0025 Neptune 18296-01-31 06:43 G 8403566.55 8403566.78 8403567.04 0.0088 0.0028 Neptune 18297-02-01 18:00 G 8403934.02 8403934.25 8403934.50 0.0088 0.0030 Neptune 18298-02-04 05:02 G 8404301.48 8404301.71 8404301.96 0.0088 0.0032 Jupiter 18298-05-25 10:04 G 8404411.75 8404411.92 8404412.10 0.0538 0.0355 Neptune 18299-02-06 16:04 G 8404668.94 8404669.17 8404669.42 0.0088 0.0034 Neptune 18300-02-09 03:21 G 8405036.42 8405036.64 8405036.89 0.0088 0.0036

Neptune 18301-02-11 14:24 G 8405403.89 8405404.10 8405404.35 0.0088 0.0039 Saturn 18301-11-18 23:45 G 8405684.24 8405684.49 8405684.73 0.0279 0.0032 Neptune 18302-02-14 01:40 G 8405771.36 8405771.57 8405771.82 0.0088 0.0040 Uranus 18302-03-31 01:26 G 8405816.46 8405816.56 8405816.68 0.0135 0.0121 Neptune 18303-02-16 12:57 G 8406138.83 8406139.04 8406139.29 0.0088 0.0042 Uranus 18303-04-04 11:45 G 8406185.78 8406185.99 8406186.21 0.0134 0.0070 Jupiter 18303-11-19 08:38 G 8406414.75 8406414.86 8406414.99 0.0492 0.0415 Neptune 18304-02-19 00:57 G 8406506.32 8406506.54 8406506.76 0.0088 0.0044 Uranus 18304-04-07 21:36 G 8406555.15 8406555.40 8406555.66 0.0134 0.0019 Jupiter 18304-12-18 10:48 G 8406809.75 8406809.95 8406810.16 0.0485 0.0222 Neptune 18305-02-20 12:14 G 8406873.80 8406874.01 8406874.24 0.0088 0.0045 Uranus 18305-04-12 07:12 G 8406924.56 8406924.80 8406925.05 0.0134 0.0033 Neptune 18306-02-22 23:45 G 8407241.29 8407241.49 8407241.73 0.0088 0.0047 Uranus 18306-04-16 16:04 G 8407293.99 8407294.17 8407294.39 0.0134 0.0084 Neptune 18307-02-25 11:45 G 8407608.77 8407608.99 8407609.21 0.0088 0.0049 Uranus 18307-04-21 01:12 G 8407663.55 8407663.55 8407663.59 0.0133 0.0133 Neptune 18308-02-27 23:16 G 8407976.27 8407976.47 8407976.70 0.0088 0.0050 Neptune 18309-03-01 11:31 G 8408343.77 8408343.98 8408344.19 0.0088 0.0052 Neptune 18310-03-03 22:48 G 8408711.26 8408711.45 8408711.67 0.0088 0.0053 Jupiter 18310-05-31 12:28 G 8408799.81 8408800.02 8408800.23 0.0539 0.0236 Neptune 18311-03-06 10:48 G 8409078.76 8409078.95 8409079.17 0.0088 0.0055 Neptune 18312-03-07 22:48 G 8409446.26 8409446.45 8409446.66 0.0088 0.0056 Neptune 18313-03-10 10:48 G 8409813.76 8409813.95 8409814.16 0.0088 0.0057 Neptune 18314-03-12 22:48 G 8410181.26 8410181.45 8410181.65 0.0088 0.0058 Neptune 18315-03-15 10:48 G 8410548.76 8410548.95 8410549.15 0.0088 0.0059 Jupiter 18315-11-23 15:50 G 8410801.99 8410802.16 8410802.34 0.0491 0.0326 Neptune 18316-03-16 22:48 G 8410916.27 8410916.45 8410916.65 0.0088 0.0060 Saturn 18316-05-23 05:31 G 8410983.48 8410983.73 8410983.97 0.0280 0.0048 Jupiter 18316-12-22 16:04 G 8411196.99 8411197.17 8411197.35 0.0484 0.0309 Neptune 18317-03-19 10:48 G 8411283.78 8411283.95 8411284.16 0.0089 0.0061

Neptune 18318-03-21 22:48 G 8411651.29 8411651.45 8411651.66 0.0089 0.0062 Neptune 18319-03-24 11:31 G 8412018.81 8412018.98 8412019.18 0.0089 0.0062 Neptune 18320-03-25 23:45 G 8412386.33 8412386.49 8412386.70 0.0089 0.0063 Neptune 18321-03-28 12:28 G 8412753.85 8412754.02 8412754.21 0.0089 0.0063 Neptune 18322-03-31 01:12 G 8413121.38 8413121.55 8413121.74 0.0089 0.0063 Jupiter 18322-06-05 20:24 G 8413188.13 8413188.35 8413188.58 0.0541 0.0109 Neptune 18323-04-02 13:12 G 8413488.89 8413489.05 8413489.25 0.0089 0.0064 Neptune 18324-04-04 01:40 G 8413856.42 8413856.57 8413856.78 0.0089 0.0064 Neptune 18325-04-06 14:24 G 8414223.94 8414224.10 8414224.30 0.0089 0.0064 Neptune 18326-04-09 02:38 G 8414591.45 8414591.61 8414591.82 0.0089 0.0064 Neptune 18327-04-11 15:21 G 8414958.98 8414959.14 8414959.34 0.0089 0.0064 Jupiter 18327-11-27 22:19 G 8415189.23 8415189.43 8415189.64 0.0489 0.0237 Pluto 18328-02-18 23:16 G 8415272.35 8415272.47 8415272.61 0.0080 0.0070 Neptune 18328-04-13 04:19 G 8415326.51 8415326.68 8415326.87 0.0089 0.0063 Jupiter 18328-12-26 19:26 G 8415584.19 8415584.31 8415584.46 0.0484 0.0393 Neptune 18329-04-15 16:48 G 8415694.04 8415694.20 8415694.40 0.0089 0.0063 Neptune 18330-04-18 05:16 G 8416061.56 8416061.72 8416061.93 0.0089 0.0063 Saturn 18330-11-13 16:04 G 8416271.04 8416271.17 8416271.32 0.0278 0.0228 Neptune 18331-04-20 18:28 G 8416429.10 8416429.27 8416429.47 0.0089 0.0062 Saturn 18331-11-26 13:12 G 8416648.91 8416649.05 8416649.20 0.0280 0.0224 Neptune 18332-04-22 07:40 G 8416796.64 8416796.82 8416797.01 0.0089 0.0061 Neptune 18333-04-24 20:24 G 8417164.18 8417164.35 8417164.56 0.0089 0.0061 Neptune 18334-04-27 09:21 G 8417531.72 8417531.89 8417532.10 0.0089 0.0060 Jupiter 18334-06-11 07:12 G 8417576.57 8417576.80 8417577.03 0.0542 0.0023 Neptune 18335-04-29 22:33 G 8417899.26 8417899.44 8417899.65 0.0089 0.0059 Neptune 18336-05-01 11:31 G 8418266.80 8418266.98 8418267.19 0.0089 0.0058 Neptune 18337-05-04 00:28 G 8418634.34 8418634.52 8418634.73 0.0089 0.0057 Neptune 18338-05-06 13:12 G 8419001.88 8419002.05 8419002.28 0.0089 0.0057 Neptune 18339-05-09 02:09 G 8419369.41 8419369.59 8419369.82 0.0089 0.0055 Jupiter 18339-12-02 04:19 G 8419576.46 8419576.68 8419576.90 0.0488 0.0144

Neptune 18340-05-10 15:36 G 8419736.96 8419737.15 8419737.37 0.0089 0.0053 Jupiter 18340-12-31 00:00 G 8419971.46 8419971.50 8419971.54 0.0484 0.0476 Neptune 18341-05-13 04:19 G 8420104.49 8420104.68 8420104.91 0.0089 0.0053 Neptune 18342-05-15 17:31 G 8420472.04 8420472.23 8420472.46 0.0089 0.0051 Neptune 18343-05-18 06:43 G 8420839.58 8420839.78 8420840.01 0.0089 0.0049 Neptune 18344-05-19 20:09 G 8421207.13 8421207.34 8421207.57 0.0089 0.0047 Saturn 18345-05-17 08:52 G 8421569.68 8421569.87 8421570.08 0.0280 0.0169 Neptune 18345-05-22 09:21 G 8421574.68 8421574.89 8421575.13 0.0089 0.0046 Uranus 18345-09-30 05:16 G 8421705.61 8421705.72 8421705.85 0.0144 0.0126 Neptune 18346-05-24 22:48 G 8421942.23 8421942.45 8421942.68 0.0089 0.0044 Jupiter 18346-06-16 20:09 G 8421965.12 8421965.34 8421965.57 0.0543 0.0160 Uranus 18346-10-05 03:07 G 8422075.42 8422075.63 8422075.87 0.0144 0.0064 Neptune 18347-05-27 12:14 G 8422309.79 8422310.01 8422310.24 0.0089 0.0042 Uranus 18347-10-10 01:40 G 8422445.31 8422445.57 8422445.82 0.0144 0.0002 Neptune 18348-05-29 01:26 G 8422677.33 8422677.56 8422677.80 0.0089 0.0040 Uranus 18348-10-14 00:00 G 8422815.28 8422815.50 8422815.73 0.0145 0.0063 Neptune 18349-05-31 14:52 G 8423044.88 8423045.12 8423045.35 0.0089 0.0038 Uranus 18349-10-18 23:02 G 8423185.35 8423185.46 8423185.59 0.0145 0.0126 Neptune 18350-06-03 03:36 G 8423412.42 8423412.65 8423412.90 0.0089 0.0036 Neptune 18351-06-05 17:02 G 8423779.97 8423780.21 8423780.45 0.0089 0.0034 Jupiter 18351-12-06 07:55 G 8423963.60 8423963.83 8423964.06 0.0487 0.0054 Neptune 18352-06-07 06:00 G 8424147.52 8424147.75 8424148.00 0.0089 0.0032 Neptune 18353-06-09 18:57 G 8424515.06 8424515.29 8424515.54 0.0089 0.0030 Neptune 18354-06-12 07:55 G 8424882.60 8424882.83 8424883.09 0.0089 0.0028 Neptune 18355-06-14 21:21 G 8425250.14 8425250.39 8425250.64 0.0089 0.0025 Neptune 18356-06-16 10:19 G 8425617.69 8425617.93 8425618.19 0.0089 0.0023 Neptune 18357-06-18 23:31 G 8425985.23 8425985.48 8425985.74 0.0089 0.0020 Neptune 18358-06-21 12:43 G 8426352.78 8426353.03 8426353.29 0.0089 0.0018 Jupiter 18358-06-22 06:57 G 8426353.60 8426353.79 8426353.99 0.0544 0.0292 Neptune 18359-06-24 01:55 G 8426720.33 8426720.58 8426720.84 0.0089 0.0016

Neptune 18360-06-25 15:07 G 8427087.88 8427088.13 8427088.39 0.0090 0.0013 Saturn 18360-11-19 23:02 G 8427235.21 8427235.46 8427235.70 0.0279 0.0013 Neptune 18361-06-28 04:04 G 8427455.42 8427455.67 8427455.93 0.0090 0.0011 Neptune 18362-06-30 17:02 G 8427822.96 8427823.21 8427823.47 0.0090 0.0008 Neptune 18363-07-03 06:00 G 8428190.50 8428190.75 8428191.01 0.0090 0.0006 Jupiter 18363-12-10 12:57 G 8428350.81 8428351.04 8428351.28 0.0486 0.0038 Neptune 18364-07-04 18:43 G 8428558.03 8428558.28 8428558.54 0.0090 0.0004 Neptune 18365-07-07 07:40 G 8428925.56 8428925.82 8428926.08 0.0090 0.0001 Neptune 18366-07-09 20:24 G 8429293.09 8429293.35 8429293.61 0.0090 0.0002 Neptune 18367-07-12 09:07 G 8429660.63 8429660.88 8429661.14 0.0090 0.0005 Neptune 18368-07-13 21:50 G 8430028.16 8430028.41 8430028.67 0.0089 0.0007 Jupiter 18369-05-20 01:12 G 8430338.47 8430338.55 8430338.64 0.0535 0.0496 Neptune 18369-07-16 10:33 G 8430395.69 8430395.94 8430396.20 0.0089 0.0009 Jupiter 18370-06-27 10:48 G 8430741.81 8430741.95 8430742.11 0.0544 0.0412 Neptune 18370-07-18 23:16 G 8430763.22 8430763.47 8430763.73 0.0089 0.0012 Neptune 18371-07-21 12:14 G 8431130.76 8431131.01 8431131.27 0.0089 0.0014 Neptune 18372-07-23 00:43 G 8431498.29 8431498.53 8431498.79 0.0089 0.0017 Neptune 18373-07-25 13:26 G 8431865.81 8431866.06 8431866.32 0.0089 0.0019 Neptune 18374-07-28 02:09 G 8432233.34 8432233.59 8432233.84 0.0089 0.0021 Saturn 18375-05-25 08:38 G 8432534.63 8432534.86 8432535.09 0.0280 0.0100 Neptune 18375-07-30 14:09 G 8432600.86 8432601.09 8432601.35 0.0089 0.0024 Jupiter 18375-12-14 18:14 G 8432738.04 8432738.26 8432738.49 0.0486 0.0125 Neptune 18376-08-01 02:38 G 8432968.38 8432968.61 8432968.87 0.0089 0.0026 Neptune 18377-08-03 14:52 G 8433335.88 8433336.12 8433336.37 0.0089 0.0028 Neptune 18378-08-06 03:21 G 8433703.40 8433703.64 8433703.89 0.0089 0.0030 Neptune 18379-08-08 15:36 G 8434070.91 8434071.15 8434071.40 0.0089 0.0032 Neptune 18380-08-10 03:50 G 8434438.42 8434438.66 8434438.90 0.0089 0.0034 Jupiter 18381-05-25 07:12 G 8434726.64 8434726.80 8434726.97 0.0537 0.0376 Neptune 18381-08-12 16:04 G 8434805.93 8434806.17 8434806.40 0.0089 0.0036 Jupiter 18382-07-02 20:24 G 8435130.32 8435130.35 8435130.38 0.0544 0.0537

Neptune 18382-08-15 04:19 G 8435173.45 8435173.68 8435173.91 0.0089 0.0038 Neptune 18383-08-17 16:19 G 8435540.96 8435541.18 8435541.42 0.0089 0.0040 Neptune 18384-08-19 04:19 G 8435908.46 8435908.68 8435908.92 0.0089 0.0041 Neptune 18385-08-21 16:19 G 8436275.97 8436276.18 8436276.42 0.0089 0.0043 Uranus 18386-03-31 10:48 G 8436497.85 8436497.95 8436498.09 0.0135 0.0119 Neptune 18386-08-24 04:33 G 8436643.47 8436643.69 8436643.91 0.0089 0.0045 Jupiter 18386-11-18 19:40 G 8436730.21 8436730.32 8436730.44 0.0493 0.0425 Uranus 18387-04-04 21:07 G 8436867.17 8436867.38 8436867.62 0.0134 0.0067 Neptune 18387-08-26 16:04 G 8437010.97 8437011.17 8437011.41 0.0089 0.0047 Jupiter 18387-12-18 22:33 G 8437125.23 8437125.44 8437125.65 0.0485 0.0211 Uranus 18388-04-08 07:12 G 8437236.55 8437236.80 8437237.06 0.0134 0.0015 Neptune 18388-08-28 04:04 G 8437378.45 8437378.67 8437378.88 0.0089 0.0048 Uranus 18389-04-12 16:48 G 8437605.96 8437606.20 8437606.45 0.0134 0.0036 Neptune 18389-08-30 15:21 G 8437745.94 8437746.14 8437746.37 0.0089 0.0049 Saturn 18389-11-14 17:02 G 8437822.02 8437822.21 8437822.39 0.0278 0.0181 Uranus 18390-04-17 01:40 G 8437975.39 8437975.57 8437975.78 0.0134 0.0087 Neptune 18390-09-02 03:07 G 8438113.43 8438113.63 8438113.85 0.0089 0.0050 Saturn 18390-11-27 13:40 G 8438200.02 8438200.07 8438200.14 0.0279 0.0271 Neptune 18391-09-04 14:09 G 8438480.91 8438481.09 8438481.33 0.0089 0.0052 Neptune 18392-09-06 01:55 G 8438848.39 8438848.58 8438848.80 0.0089 0.0053 Jupiter 18393-05-30 15:36 G 8439114.94 8439115.15 8439115.36 0.0539 0.0253 Neptune 18393-09-08 13:12 G 8439215.87 8439216.05 8439216.27 0.0089 0.0054 Neptune 18394-09-11 00:43 G 8439583.35 8439583.53 8439583.75 0.0089 0.0055 Neptune 18395-09-13 12:14 G 8439950.83 8439951.01 8439951.23 0.0089 0.0056 Neptune 18396-09-14 23:31 G 8440318.31 8440318.48 8440318.70 0.0089 0.0057 Neptune 18397-09-17 10:48 G 8440685.78 8440685.95 8440686.17 0.0089 0.0058 Neptune 18398-09-19 22:33 G 8441053.26 8441053.44 8441053.64 0.0089 0.0058 Jupiter 18398-11-23 03:21 G 8441117.48 8441117.64 8441117.81 0.0491 0.0333 Neptune 18399-09-22 09:21 G 8441420.72 8441420.89 8441421.10 0.0089 0.0059 Jupiter 18399-12-23 02:52 G 8441512.44 8441512.62 8441512.81 0.0484 0.0299

Neptune 18400-09-23 20:38 G 8441788.18 8441788.36 8441788.56 0.0089 0.0059 Neptune 18401-09-26 07:26 G 8442155.64 8442155.81 8442156.02 0.0089 0.0060 Neptune 18402-09-28 18:14 G 8442523.09 8442523.26 8442523.47 0.0089 0.0060 Neptune 18403-10-01 05:31 G 8442890.55 8442890.73 8442890.93 0.0089 0.0060 Saturn 18404-05-18 12:28 G 8443120.80 8443121.02 8443121.25 0.0280 0.0117 Neptune 18404-10-02 16:19 G 8443258.00 8443258.18 8443258.37 0.0089 0.0060 Jupiter 18405-06-05 03:21 G 8443503.42 8443503.64 8443503.87 0.0541 0.0122 Neptune 18405-10-05 02:38 G 8443625.45 8443625.61 8443625.83 0.0089 0.0061 Neptune 18406-10-07 13:26 G 8443992.90 8443993.06 8443993.28 0.0089 0.0061 Neptune 18407-10-10 00:14 G 8444360.35 8444360.51 8444360.73 0.0089 0.0061 Neptune 18408-10-11 11:31 G 8444727.80 8444727.98 8444728.18 0.0088 0.0060 Neptune 18409-10-13 22:04 G 8445095.25 8445095.42 8445095.63 0.0088 0.0060 Neptune 18410-10-16 08:38 G 8445462.70 8445462.86 8445463.08 0.0088 0.0060 Jupiter 18410-11-27 08:09 G 8445504.64 8445504.84 8445505.04 0.0489 0.0243 Neptune 18411-10-18 19:40 G 8445830.14 8445830.32 8445830.52 0.0088 0.0059 Jupiter 18411-12-27 05:45 G 8445899.61 8445899.74 8445899.89 0.0484 0.0384 Neptune 18412-10-20 06:00 G 8446197.58 8446197.75 8446197.97 0.0088 0.0058 Neptune 18413-10-22 16:33 G 8446565.02 8446565.19 8446565.40 0.0088 0.0058 Neptune 18414-10-25 03:21 G 8446932.46 8446932.64 8446932.85 0.0088 0.0057 Neptune 18415-10-27 13:55 G 8447299.88 8447300.08 8447300.28 0.0088 0.0056 Neptune 18416-10-28 23:45 G 8447667.32 8447667.49 8447667.72 0.0088 0.0056 Jupiter 18417-06-10 14:09 G 8447891.85 8447892.09 8447892.32 0.0542 0.0013 Neptune 18417-10-31 10:19 G 8448034.75 8448034.93 8448035.16 0.0088 0.0055 Neptune 18418-11-02 20:38 G 8448402.18 8448402.36 8448402.59 0.0088 0.0053 Neptune 18419-11-05 06:57 G 8448769.61 8448769.79 8448770.03 0.0088 0.0053 Saturn 18419-11-21 21:50 G 8448786.17 8448786.41 8448786.65 0.0279 0.0058 Neptune 18420-11-06 17:45 G 8449137.04 8449137.24 8449137.46 0.0088 0.0050 Neptune 18421-11-09 04:04 G 8449504.48 8449504.67 8449504.90 0.0088 0.0050 Neptune 18422-11-11 14:24 G 8449871.91 8449872.10 8449872.34 0.0088 0.0048 Jupiter 18422-12-01 14:09 G 8449891.87 8449892.09 8449892.31 0.0488 0.0152

Neptune 18423-11-14 01:12 G 8450239.34 8450239.55 8450239.77 0.0088 0.0046 Jupiter 18423-12-31 10:48 G 8450286.90 8450286.95 8450287.01 0.0484 0.0468 Neptune 18424-11-15 11:02 G 8450606.76 8450606.96 8450607.20 0.0088 0.0046 Neptune 18425-11-17 21:50 G 8450974.19 8450974.41 8450974.64 0.0088 0.0043 Neptune 18426-11-20 07:40 G 8451341.61 8451341.82 8451342.06 0.0088 0.0042 Neptune 18427-11-22 18:00 G 8451709.03 8451709.25 8451709.49 0.0088 0.0040 Neptune 18428-11-24 04:19 G 8452076.46 8452076.68 8452076.92 0.0088 0.0038 Jupiter 18429-06-15 18:43 G 8452280.05 8452280.28 8452280.50 0.0542 0.0136 Uranus 18429-09-30 15:21 G 8452387.03 8452387.14 8452387.28 0.0144 0.0123 Neptune 18429-11-26 14:09 G 8452443.88 8452444.09 8452444.34 0.0088 0.0037 Uranus 18430-10-05 13:40 G 8452756.84 8452757.07 8452757.30 0.0144 0.0060 Neptune 18430-11-29 00:28 G 8452811.30 8452811.52 8452811.77 0.0088 0.0035 Uranus 18431-10-10 11:45 G 8453126.74 8453126.99 8453127.25 0.0144 0.0003 Neptune 18431-12-01 10:48 G 8453178.72 8453178.95 8453179.19 0.0088 0.0033 Uranus 18432-10-14 10:19 G 8453496.72 8453496.93 8453497.17 0.0145 0.0067 Neptune 18432-12-02 21:07 G 8453546.15 8453546.38 8453546.63 0.0088 0.0031 Uranus 18433-10-19 09:21 G 8453866.80 8453866.89 8453867.02 0.0145 0.0130 Neptune 18433-12-05 07:26 G 8453913.57 8453913.81 8453914.06 0.0088 0.0029 Saturn 18434-05-26 10:48 G 8454085.75 8454085.95 8454086.17 0.0280 0.0150 Jupiter 18434-12-05 19:26 G 8454279.08 8454279.31 8454279.55 0.0488 0.0064 Neptune 18434-12-07 17:45 G 8454281.00 8454281.24 8454281.49 0.0088 0.0027 Neptune 18435-12-10 04:04 G 8454648.43 8454648.67 8454648.92 0.0088 0.0025 8455016.10 8455016.35 0.0088 0.0023 Neptune 18436-12-11 14:24 G 8455015.86 Neptune 18437-12-14 00:43 G 8455383.28 8455383.53 8455383.78 0.0088 0.0021 Neptune 18438-12-16 10:48 G 8455750.71 8455750.95 8455751.21 0.0088 0.0019 Neptune 18439-12-18 21:07 G 8456118.13 8456118.38 8456118.64 0.0088 0.0017 Neptune 18440-12-20 07:12 G 8456485.56 8456485.80 8456486.07 0.0088 0.0015 Jupiter 18441-06-21 03:07 G 8456668.43 8456668.63 8456668.84 0.0543 0.0265 Neptune 18441-12-22 17:45 G 8456852.99 8456853.24 8456853.50 0.0088 0.0013 Neptune 18442-12-25 04:04 G 8457220.41 8457220.67 8457220.92 0.0088 0.0010

Neptune 18443-12-27 14:24 G 8457587.84 8457588.10 8457588.36 0.0088 0.0008 Neptune 18444-12-29 00:43 G 8457955.28 8457955.53 8457955.79 0.0088 0.0006 Neptune 18445-12-31 11:16 G 8458322.71 8458322.97 8458323.23 0.0088 0.0004 Jupiter 18446-12-10 00:43 G 8458666.30 8458666.53 8458666.76 0.0486 0.0026 Neptune 18447-01-02 21:50 G 8458690.15 8458690.41 8458690.67 0.0088 0.0001 Neptune 18448-01-05 08:24 G 8459057.59 8459057.85 8459058.11 0.0088 0.0001 Saturn 18448-11-15 17:02 G 8459373.01 8459373.21 8459373.43 0.0278 0.0134 Neptune 18449-01-06 18:57 G 8459425.04 8459425.29 8459425.55 0.0088 0.0004 Neptune 18450-01-09 05:31 G 8459792.48 8459792.73 8459792.99 0.0088 0.0006 Neptune 18451-01-11 16:04 G 8460159.92 8460160.17 8460160.44 0.0088 0.0008 Neptune 18452-01-14 02:52 G 8460527.37 8460527.62 8460527.88 0.0088 0.0010 Jupiter 18452-05-19 03:50 G 8460653.60 8460653.66 8460653.73 0.0535 0.0510 Neptune 18453-01-15 13:26 G 8460894.81 8460895.06 8460895.32 0.0088 0.0012 Jupiter 18453-06-26 14:24 G 8461056.94 8461057.10 8461057.26 0.0544 0.0394 Neptune 18454-01-18 00:14 G 8461262.26 8461262.51 8461262.77 0.0088 0.0014 Neptune 18455-01-20 11:02 G 8461629.70 8461629.96 8461630.21 0.0088 0.0016 Neptune 18456-01-22 21:36 G 8461997.16 8461997.40 8461997.66 0.0088 0.0019 Neptune 18457-01-24 08:09 G 8462364.61 8462364.84 8462365.11 0.0088 0.0021 Neptune 18458-01-26 19:12 G 8462732.07 8462732.30 8462732.56 0.0088 0.0023 Jupiter 18458-12-14 05:45 G 8463053.51 8463053.74 8463053.97 0.0485 0.0115 Neptune 18459-01-29 06:00 G 8463099.52 8463099.75 8463100.01 0.0088 0.0025 Neptune 18460-01-31 17:16 G 8463466.99 8463467.22 8463467.48 0.0088 0.0027 Neptune 18461-02-02 04:19 G 8463834.45 8463834.68 8463834.94 0.0088 0.0029 Neptune 18462-02-04 15:21 G 8464201.92 8464202.14 8464202.40 0.0088 0.0031 Neptune 18463-02-07 02:38 G 8464569.39 8464569.61 8464569.87 0.0088 0.0033 Mars 18463-03-07 21:21 G 8464598.22 8464598.39 8464598.56 0.1721 0.0811 Saturn 18463-05-20 15:36 G 8464671.91 8464672.15 8464672.39 0.0280 0.0065 Neptune 18464-02-09 13:55 G 8464936.85 8464937.08 8464937.33 0.0088 0.0035 Jupiter 18464-05-24 13:40 G 8465041.91 8465042.07 8465042.24 0.0537 0.0388 Neptune 18465-02-11 01:12 G 8465304.33 8465304.55 8465304.80 0.0088 0.0036

Jupiter 18465-07-02 03:50 G 8465445.60 8465445.66 8465445.73 0.0545 0.0523 Neptune 18466-02-13 12:14 G 8465671.79 8465672.01 8465672.26 0.0088 0.0038 Neptune 18467-02-15 23:45 G 8466039.27 8466039.49 8466039.73 0.0088 0.0040 Neptune 18468-02-18 10:48 G 8466406.74 8466406.95 8466407.20 0.0088 0.0041 Neptune 18469-02-19 22:04 G 8466774.22 8466774.42 8466774.67 0.0088 0.0044 Jupiter 18469-11-18 06:00 G 8467045.64 8467045.75 8467045.86 0.0493 0.0430 Neptune 18470-02-22 09:36 G 8467141.69 8467141.90 8467142.14 0.0088 0.0045 Uranus 18470-03-31 20:24 G 8467179.24 8467179.35 8467179.50 0.0135 0.0116 Jupiter 18470-12-18 08:52 G 8467440.66 8467440.87 8467441.08 0.0485 0.0203 Neptune 18471-02-24 21:36 G 8467509.18 8467509.40 8467509.62 0.0088 0.0046 Uranus 18471-04-05 07:12 G 8467548.58 8467548.80 8467549.03 0.0134 0.0064 Neptune 18472-02-27 08:52 G 8467876.67 8467876.87 8467877.11 0.0088 0.0047 Uranus 18472-04-08 17:02 G 8467917.96 8467918.21 8467918.47 0.0134 0.0012 Neptune 18473-02-28 20:38 G 8468244.16 8468244.36 8468244.59 0.0088 0.0049 Uranus 18473-04-13 02:24 G 8468287.36 8468287.60 8468287.85 0.0134 0.0039 Neptune 18474-03-03 08:38 G 8468611.66 8468611.86 8468612.09 0.0088 0.0050 Uranus 18474-04-17 11:31 G 8468656.81 8468656.98 8468657.19 0.0134 0.0090 Neptune 18475-03-05 20:09 G 8468979.15 8468979.34 8468979.57 0.0088 0.0051 Neptune 18476-03-07 08:38 G 8469346.65 8469346.86 8469347.07 0.0088 0.0052 Jupiter 18476-05-29 23:16 G 8469430.27 8469430.47 8469430.68 0.0539 0.0262 Neptune 18477-03-09 19:55 G 8469714.15 8469714.33 8469714.56 0.0088 0.0054 Neptune 18478-03-12 08:09 G 8470081.64 8470081.84 8470082.05 0.0088 0.0054 Saturn 18478-11-22 21:21 G 8470337.17 8470337.39 8470337.62 0.0279 0.0104 Neptune 18479-03-14 20:09 G 8470449.15 8470449.34 8470449.55 0.0088 0.0055 Neptune 18480-03-16 07:55 G 8470816.65 8470816.83 8470817.05 0.0088 0.0056 Neptune 18481-03-18 19:55 G 8471184.15 8471184.33 8471184.55 0.0089 0.0057 Jupiter 18481-11-22 12:57 G 8471432.87 8471433.04 8471433.21 0.0491 0.0340 Neptune 18482-03-21 08:24 G 8471551.66 8471551.85 8471552.05 0.0089 0.0057 Jupiter 18482-12-22 13:55 G 8471827.89 8471828.08 8471828.26 0.0485 0.0291 Neptune 18483-03-23 20:24 G 8471919.17 8471919.35 8471919.56 0.0089 0.0058

Neptune 18484-03-25 08:52 G 8472286.68 8472286.87 8472287.07 0.0089 0.0058 Neptune 18485-03-27 20:52 G 8472654.20 8472654.37 8472654.59 0.0089 0.0059 Pluto 18485-08-22 10:48 G 8472801.79 8472801.95 8472802.16 0.0064 0.0044 Neptune 18486-03-30 09:21 G 8473021.72 8473021.89 8473022.11 0.0089 0.0059 Pluto 18486-08-23 22:33 G 8473168.26 8473168.44 8473168.66 0.0064 0.0041 Neptune 18487-04-01 22:19 G 8473389.25 8473389.43 8473389.64 0.0089 0.0059 Neptune 18488-04-03 10:48 G 8473756.78 8473756.95 8473757.16 0.0089 0.0059 Jupiter 18488-06-04 03:50 G 8473818.44 8473818.66 8473818.89 0.0540 0.0143 Neptune 18489-04-05 23:16 G 8474124.30 8474124.47 8474124.68 0.0089 0.0059 Neptune 18490-04-08 12:00 G 8474491.82 8474492.00 8474492.21 0.0089 0.0059 Neptune 18491-04-11 00:28 G 8474859.35 8474859.52 8474859.74 0.0089 0.0059 Neptune 18492-04-12 13:26 G 8475226.88 8475227.06 8475227.27 0.0089 0.0058 Saturn 18492-05-14 03:36 G 8475258.57 8475258.65 8475258.72 0.0282 0.0267 Neptune 18493-04-15 01:55 G 8475594.40 8475594.58 8475594.79 0.0089 0.0058 Saturn 18493-05-27 12:28 G 8475636.86 8475637.02 8475637.21 0.0280 0.0201 Jupiter 18493-11-26 18:28 G 8475820.08 8475820.27 8475820.47 0.0490 0.0254 Neptune 18494-04-17 14:24 G 8475961.93 8475962.10 8475962.32 0.0089 0.0058 Jupiter 18494-12-26 18:14 G 8476215.12 8476215.26 8476215.41 0.0484 0.0375 Neptune 18495-04-20 03:21 G 8476329.46 8476329.64 8476329.86 0.0089 0.0057 Neptune 18496-04-21 16:33 G 8476697.00 8476697.19 8476697.40 0.0089 0.0056 Neptune 18497-04-24 04:48 G 8477064.52 8477064.70 8477064.93 0.0089 0.0056 Neptune 18498-04-26 18:00 G 8477432.07 8477432.25 8477432.47 0.0089 0.0055 Neptune 18499-04-29 07:12 G 8477799.61 8477799.80 8477800.02 0.0089 0.0054 Neptune 18500-05-01 20:09 G 8478167.15 8478167.34 8478167.57 0.0089 0.0053 Jupiter 18500-06-10 11:31 G 8478206.74 8478206.98 8478207.21 0.0541 0.0017 Neptune 18501-05-04 09:07 G 8478534.69 8478534.88 8478535.12 0.0089 0.0053 Neptune 18502-05-06 22:04 G 8478902.23 8478902.42 8478902.66 0.0089 0.0051 Neptune 18503-05-09 11:45 G 8479269.78 8479269.99 8479270.21 0.0089 0.0050 Neptune 18504-05-11 00:28 G 8479637.31 8479637.52 8479637.75 0.0089 0.0048 Neptune 18505-05-13 13:12 G 8480004.85 8480005.05 8480005.29 0.0089 0.0048

Jupiter 18505-12-02 00:43 G 8480207.32 8480207.53 8480207.76 0.0489 0.0164 Neptune 18506-05-16 02:38 G 8480372.39 8480372.61 8480372.84 0.0089 0.0046 Jupiter 18506-12-31 22:04 G 8480602.34 8480602.42 8480602.50 0.0484 0.0455 Neptune 18507-05-18 15:21 G 8480739.93 8480740.14 8480740.39 0.0089 0.0045 Saturn 18507-11-18 18:00 G 8480924.03 8480924.25 8480924.49 0.0278 0.0086 Neptune 18508-05-20 04:48 G 8481107.48 8481107.70 8481107.93 0.0089 0.0043 Neptune 18509-05-22 17:31 G 8481475.02 8481475.23 8481475.48 0.0089 0.0041 Neptune 18510-05-25 06:57 G 8481842.57 8481842.79 8481843.03 0.0089 0.0039 Neptune 18511-05-27 20:09 G 8482210.12 8482210.34 8482210.59 0.0089 0.0038 Neptune 18512-05-29 09:50 G 8482577.67 8482577.91 8482578.15 0.0089 0.0036 Jupiter 18512-06-15 20:52 G 8482595.14 8482595.37 8482595.59 0.0543 0.0117 Neptune 18513-05-31 22:48 G 8482945.21 8482945.45 8482945.69 0.0089 0.0034 Uranus 18513-10-02 01:40 G 8483068.44 8483068.57 8483068.71 0.0144 0.0120 Neptune 18514-06-03 11:45 G 8483312.77 8483312.99 8483313.25 0.0089 0.0033 Uranus 18514-10-06 23:31 G 8483438.26 8483438.48 8483438.72 0.0144 0.0058 Neptune 18515-06-06 00:57 G 8483680.31 8483680.54 8483680.80 0.0089 0.0031 Uranus 18515-10-11 22:19 G 8483808.18 8483808.43 8483808.68 0.0144 0.0006 Neptune 18516-06-07 14:09 G 8484047.86 8484048.09 8484048.35 0.0089 0.0028 Uranus 18516-10-15 20:52 G 8484178.16 8484178.37 8484178.60 0.0145 0.0070 Neptune 18517-06-10 03:36 G 8484415.40 8484415.65 8484415.90 0.0089 0.0026 Uranus 18517-10-20 19:55 G 8484548.25 8484548.33 8484548.44 0.0145 0.0134 Jupiter 18517-12-06 06:57 G 8484594.56 8484594.79 8484595.02 0.0488 0.0072 Neptune 18518-06-12 16:33 G 8484782.94 8484783.19 8484783.44 0.0089 0.0024 Neptune 18519-06-15 05:45 G 8485150.49 8485150.74 8485150.99 0.0089 0.0022 Neptune 18520-06-16 18:43 G 8485518.03 8485518.28 8485518.54 0.0089 0.0020 Neptune 18521-06-19 07:40 G 8485885.58 8485885.82 8485886.09 0.0089 0.0018 Saturn 18522-05-22 18:43 G 8486223.04 8486223.28 8486223.53 0.0280 0.0013 Neptune 18522-06-21 20:52 G 8486253.12 8486253.37 8486253.63 0.0089 0.0015 Neptune 18523-06-24 10:19 G 8486620.68 8486620.93 8486621.19 0.0089 0.0013 Jupiter 18524-06-21 09:36 G 8486983.69 8486983.90 8486984.11 0.0544 0.0250

Neptune 18524-06-25 23:16 G 8486988.22 8486988.47 8486988.73 0.0089 0.0011 Neptune 18525-06-28 12:28 G 8487355.77 8487356.02 8487356.28 0.0089 0.0009 Neptune 18526-07-01 01:40 G 8487723.32 8487723.57 8487723.83 0.0089 0.0006 Neptune 18527-07-03 14:52 G 8488090.86 8488091.12 8488091.38 0.0089 0.0004 Neptune 18528-07-05 03:50 G 8488458.40 8488458.66 8488458.92 0.0090 0.0002 Neptune 18529-07-07 16:33 G 8488825.93 8488826.19 8488826.45 0.0090 0.0001 Jupiter 18529-12-10 11:02 G 8488981.72 8488981.96 8488982.19 0.0487 0.0019 Neptune 18530-07-10 05:31 G 8489193.47 8489193.73 8489193.99 0.0090 0.0003 Neptune 18531-07-12 18:14 G 8489561.00 8489561.26 8489561.52 0.0090 0.0005 Neptune 18532-07-14 06:43 G 8489928.53 8489928.78 8489929.05 0.0089 0.0008 Neptune 18533-07-16 19:40 G 8490296.06 8490296.32 8490296.57 0.0089 0.0010 Neptune 18534-07-19 08:24 G 8490663.60 8490663.85 8490664.11 0.0089 0.0012 Jupiter 18535-05-20 12:00 G 8490968.94 8490969.00 8490969.06 0.0535 0.0517 Neptune 18535-07-21 20:52 G 8491031.12 8491031.37 8491031.63 0.0089 0.0015 Jupiter 18536-06-26 21:21 G 8491372.23 8491372.39 8491372.56 0.0544 0.0380 Neptune 18536-07-23 09:36 G 8491398.66 8491398.90 8491399.16 0.0089 0.0017 Neptune 18537-07-25 22:19 G 8491766.19 8491766.43 8491766.69 0.0089 0.0019 Saturn 18537-11-24 22:04 G 8491888.22 8491888.42 8491888.63 0.0279 0.0151 Neptune 18538-07-28 11:02 G 8492133.72 8492133.96 8492134.22 0.0089 0.0021 Neptune 18539-07-30 23:45 G 8492501.25 8492501.49 8492501.74 0.0089 0.0023 Neptune 18540-08-01 12:00 G 8492868.76 8492869.00 8492869.25 0.0089 0.0025 Neptune 18541-08-04 00:28 G 8493236.28 8493236.52 8493236.77 0.0089 0.0027 Jupiter 18541-12-14 15:50 G 8493368.93 8493369.16 8493369.39 0.0486 0.0107 18542-03-11 08:52 G 8493455.72 8493455.87 8493456.03 0.1727 0.1024 Mars Neptune 18542-08-06 12:43 G 8493603.79 8493604.03 8493604.28 0.0089 0.0029 Neptune 18543-08-09 00:43 G 8493971.30 8493971.53 8493971.79 0.0089 0.0031 Neptune 18544-08-10 12:57 G 8494338.81 8494339.04 8494339.29 0.0089 0.0032 Neptune 18545-08-13 00:57 G 8494706.32 8494706.54 8494706.79 0.0089 0.0034 Neptune 18546-08-15 13:26 G 8495073.83 8495074.06 8495074.30 0.0089 0.0036 Jupiter 18547-05-25 16:04 G 8495357.03 8495357.17 8495357.33 0.0536 0.0406

Neptune 18547-08-18 01:12 G 8495441.33 8495441.55 8495441.79 0.0089 0.0038 Jupiter 18548-07-02 02:24 G 8495760.51 8495760.60 8495760.70 0.0544 0.0497 Neptune 18548-08-19 12:57 G 8495808.83 8495809.04 8495809.29 0.0089 0.0040 Neptune 18549-08-22 01:26 G 8496176.34 8496176.56 8496176.79 0.0089 0.0041 Neptune 18550-08-24 13:12 G 8496543.85 8496544.05 8496544.30 0.0089 0.0043 Saturn 18551-05-17 05:31 G 8496809.58 8496809.73 8496809.89 0.0282 0.0216 Neptune 18551-08-27 01:26 G 8496911.34 8496911.56 8496911.79 0.0089 0.0044 Saturn 18552-05-29 15:07 G 8497188.03 8497188.13 8497188.24 0.0280 0.0251 Neptune 18552-08-28 12:57 G 8497278.84 8497279.04 8497279.28 0.0089 0.0045 Jupiter 18552-11-18 14:09 G 8497361.00 8497361.09 8497361.20 0.0494 0.0443 Neptune 18553-08-31 00:57 G 8497646.33 8497646.54 8497646.77 0.0089 0.0046 Jupiter 18553-12-18 20:09 G 8497756.13 8497756.34 8497756.56 0.0486 0.0192 Uranus 18554-04-02 07:12 G 8497860.67 8497860.80 8497860.94 0.0135 0.0113 Neptune 18554-09-02 12:28 G 8498013.82 8498014.02 8498014.25 0.0089 0.0048 Uranus 18555-04-06 17:16 G 8498230.01 8498230.22 8498230.46 0.0134 0.0062 Neptune 18555-09-05 00:28 G 8498381.31 8498381.52 8498381.73 0.0089 0.0048 Uranus 18556-04-10 03:21 G 8498599.39 8498599.64 8498599.90 0.0134 0.0009 Neptune 18556-09-06 11:45 G 8498748.78 8498748.99 8498749.21 0.0089 0.0049 Uranus 18557-04-14 12:57 G 8498968.80 8498969.04 8498969.29 0.0134 0.0042 Neptune 18557-09-08 23:16 G 8499116.27 8499116.47 8499116.69 0.0089 0.0050 Uranus 18558-04-18 22:19 G 8499338.25 8499338.43 8499338.62 0.0134 0.0093 Neptune 18558-09-11 10:33 G 8499483.74 8499483.94 8499484.16 0.0089 0.0051 Jupiter 18559-05-30 22:04 G 8499745.22 8499745.42 8499745.62 0.0538 0.0284 Neptune 18559-09-13 22:04 G 8499851.22 8499851.42 8499851.63 0.0089 0.0052 Neptune 18560-09-15 09:07 G 8500218.69 8500218.88 8500219.11 0.0089 0.0053 Neptune 18561-09-17 20:38 G 8500586.18 8500586.36 8500586.58 0.0089 0.0054 Neptune 18562-09-20 08:09 G 8500953.65 8500953.84 8500954.05 0.0089 0.0054 Mars 18563-09-09 10:04 G 8501307.73 8501307.92 8501308.11 0.1817 0.0331 Neptune 18563-09-22 19:12 G 8501321.12 8501321.30 8501321.52 0.0089 0.0055 Neptune 18564-09-24 06:28 G 8501688.59 8501688.77 8501688.99 0.0089 0.0055

Jupiter 18564-11-22 21:50 G 8501748.25 8501748.41 8501748.57 0.0492 0.0354 Neptune 18565-09-26 18:00 G 8502056.05 8502056.25 8502056.45 0.0089 0.0055 Jupiter 18565-12-23 00:00 G 8502143.31 8502143.50 8502143.70 0.0485 0.0278 Neptune 18566-09-29 04:33 G 8502423.52 8502423.69 8502423.92 0.0089 0.0056 Saturn 18566-11-19 20:38 G 8502475.12 8502475.36 8502475.60 0.0278 0.0035 Neptune 18567-10-01 15:36 G 8502790.97 8502791.15 8502791.37 0.0089 0.0056 Neptune 18568-10-03 02:24 G 8503158.43 8503158.60 8503158.82 0.0089 0.0056 Neptune 18569-10-05 13:26 G 8503525.88 8503526.06 8503526.28 0.0089 0.0056 Neptune 18570-10-08 00:00 G 8503893.33 8503893.50 8503893.73 0.0089 0.0056 Jupiter 18571-06-05 04:48 G 8504133.48 8504133.70 8504133.93 0.0540 0.0161 Neptune 18571-10-10 10:48 G 8504260.78 8504260.95 8504261.17 0.0089 0.0056 Neptune 18572-10-11 21:50 G 8504628.22 8504628.41 8504628.62 0.0089 0.0055 Neptune 18573-10-14 08:38 G 8504995.67 8504995.86 8504996.07 0.0088 0.0055 Neptune 18574-10-16 18:57 G 8505363.12 8505363.29 8505363.52 0.0088 0.0055 Pluto 18575-02-22 10:48 G 8505491.72 8505491.95 8505492.21 0.0080 0.0028 Neptune 18575-10-19 06:00 G 8505730.56 8505730.75 8505730.97 0.0088 0.0054 Neptune 18576-10-20 16:19 G 8506098.01 8506098.18 8506098.41 0.0088 0.0054 Jupiter 18576-11-27 05:16 G 8506135.53 8506135.72 8506135.92 0.0490 0.0262 Neptune 18577-10-23 03:21 G 8506465.45 8506465.64 8506465.86 0.0088 0.0053 Jupiter 18577-12-27 04:33 G 8506530.54 8506530.69 8506530.85 0.0484 0.0363 Neptune 18578-10-25 13:55 G 8506832.88 8506833.08 8506833.30 0.0088 0.0052 Neptune 18579-10-28 00:00 G 8507200.32 8507200.50 8507200.73 0.0088 0.0052 Neptune 18580-10-29 10:33 G 8507567.75 8507567.94 8507568.17 0.0088 0.0050 Saturn 18581-05-23 22:48 G 8507774.20 8507774.45 8507774.69 0.0280 0.0040 Neptune 18581-10-31 20:52 G 8507935.18 8507935.37 8507935.60 0.0088 0.0049 Neptune 18582-11-03 07:12 G 8508302.61 8508302.80 8508303.04 0.0088 0.0049 Jupiter 18583-06-10 15:50 G 8508521.93 8508522.16 8508522.39 0.0541 0.0029 Neptune 18583-11-05 17:31 G 8508670.03 8508670.23 8508670.46 0.0088 0.0047 Neptune 18584-11-07 03:50 G 8509037.46 8509037.66 8509037.90 0.0088 0.0046 Neptune 18585-11-09 14:38 G 8509404.89 8509405.11 8509405.33 0.0088 0.0045

Neptune 18586-11-12 00:43 G 8509772.32 8509772.53 8509772.77 0.0088 0.0043 Neptune 18587-11-14 11:02 G 8510139.75 8510139.96 8510140.20 0.0088 0.0042 Neptune 18588-11-15 21:50 G 8510507.18 8510507.41 8510507.64 0.0088 0.0040 Jupiter 18588-12-01 10:33 G 8510522.72 8510522.94 8510523.16 0.0489 0.0172 Neptune 18589-11-18 07:55 G 8510874.61 8510874.83 8510875.07 0.0088 0.0039 Jupiter 18589-12-31 07:26 G 8510917.73 8510917.81 8510917.91 0.0484 0.0445 Neptune 18590-11-20 18:28 G 8511242.04 8511242.27 8511242.50 0.0088 0.0037 Neptune 18591-11-23 04:19 G 8511609.46 8511609.68 8511609.93 0.0088 0.0036 Neptune 18592-11-24 14:38 G 8511976.89 8511977.11 8511977.36 0.0088 0.0034 Neptune 18593-11-27 00:43 G 8512344.31 8512344.53 8512344.79 0.0088 0.0033 Neptune 18594-11-29 11:02 G 8512711.73 8512711.96 8512712.21 0.0088 0.0031 Jupiter 18595-06-16 03:21 G 8512910.41 8512910.64 8512910.87 0.0542 0.0103 Saturn 18595-11-14 05:45 G 8513061.63 8513061.74 8513061.86 0.0277 0.0243 Neptune 18595-12-01 21:21 G 8513079.16 8513079.39 8513079.64 0.0088 0.0029 Saturn 18596-11-26 00:43 G 8513439.37 8513439.53 8513439.71 0.0279 0.0202 Neptune 18596-12-03 07:40 G 8513446.58 8513446.82 8513447.07 0.0088 0.0027 Uranus 18597-10-02 11:16 G 8513749.84 8513749.97 8513750.12 0.0144 0.0118 Neptune 18597-12-05 17:31 G 8513814.00 8513814.23 8513814.49 0.0088 0.0026 Uranus 18598-10-07 09:36 G 8514119.67 8514119.90 8514120.14 0.0144 0.0055 Neptune 18598-12-08 03:50 G 8514181.43 8514181.66 8514181.92 0.0088 0.0024 Uranus 18599-10-12 08:09 G 8514489.59 8514489.84 8514490.09 0.0144 0.0009 Neptune 18599-12-10 14:09 G 8514548.86 8514549.09 8514549.35 0.0088 0.0022 Uranus 18600-10-17 06:57 G 8514859.58 8514859.79 8514860.02 0.0145 0.0073 Jupiter 18600-12-06 16:04 G 8514909.94 8514910.17 8514910.40 0.0488 0.0081 Neptune 18600-12-13 00:43 G 8514916.29 8514916.53 8514916.79 0.0088 0.0020 Uranus 18601-10-22 06:00 G 8515229.68 8515229.75 8515229.85 0.0145 0.0137 Neptune 18601-12-15 11:02 G 8515283.72 8515283.96 8515284.22 0.0088 0.0018 Neptune 18602-12-17 21:36 G 8515651.15 8515651.40 8515651.66 0.0088 0.0016 Neptune 18603-12-20 07:55 G 8516018.58 8516018.83 8516019.09 0.0088 0.0014 Neptune 18604-12-21 18:14 G 8516386.01 8516386.26 8516386.52 0.0088 0.0012

Neptune 18605-12-24 04:19 G 8516753.43 8516753.68 8516753.94 0.0088 0.0010 Neptune 18606-12-26 14:38 G 8517120.86 8517121.11 8517121.37 0.0088 0.0008 Jupiter 18607-06-22 09:36 G 8517298.69 8517298.90 8517299.11 0.0543 0.0226 Neptune 18607-12-29 01:12 G 8517488.29 8517488.55 8517488.81 0.0088 0.0006 Neptune 18608-12-30 11:31 G 8517855.72 8517855.98 8517856.23 0.0088 0.0004 Neptune 18610-01-01 21:50 G 8518223.15 8518223.41 8518223.67 0.0088 0.0002 Saturn 18610-05-19 08:24 G 8518360.65 8518360.85 8518361.05 0.0282 0.0164 Neptune 18611-01-04 08:09 G 8518590.58 8518590.84 8518591.10 0.0088 0.0000 Neptune 18612-01-06 18:43 G 8518958.02 8518958.28 8518958.54 0.0088 0.0002 Jupiter 18612-12-10 20:09 G 8519297.11 8519297.34 8519297.57 0.0487 0.0006 Neptune 18613-01-08 05:16 G 8519325.46 8519325.72 8519325.98 0.0088 0.0004 Neptune 18614-01-10 15:36 G 8519692.90 8519693.15 8519693.42 0.0088 0.0007 Neptune 18615-01-13 02:24 G 8520060.35 8520060.60 8520060.86 0.0088 0.0009 Neptune 18616-01-15 12:57 G 8520427.79 8520428.04 8520428.30 0.0088 0.0011 Neptune 18617-01-16 23:31 G 8520795.23 8520795.48 8520795.75 0.0088 0.0013 Neptune 18618-01-19 10:04 G 8521162.68 8521162.92 8521163.19 0.0088 0.0015 Neptune 18619-01-21 20:52 G 8521530.12 8521530.37 8521530.63 0.0088 0.0017 Jupiter 18619-06-27 17:31 G 8521687.05 8521687.23 8521687.41 0.0543 0.0351 Neptune 18620-01-24 07:40 G 8521897.57 8521897.82 8521898.07 0.0088 0.0018 Neptune 18621-01-25 18:28 G 8522265.02 8522265.27 8522265.52 0.0088 0.0020 Neptune 18622-01-28 05:02 G 8522632.46 8522632.71 8522632.96 0.0088 0.0022 Neptune 18623-01-30 15:50 G 8522999.92 8523000.16 8523000.42 0.0088 0.0024 Neptune 18624-02-02 02:38 G 8523367.38 8523367.61 8523367.87 0.0088 0.0026 Jupiter 18624-12-15 00:43 G 8523684.31 8523684.53 8523684.76 0.0486 0.0093 Neptune 18625-02-03 13:40 G 8523734.83 8523735.07 8523735.33 0.0088 0.0028 Saturn 18625-11-22 00:43 G 8524026.29 8524026.53 8524026.78 0.0278 0.0019 Neptune 18626-02-06 00:43 G 8524102.30 8524102.53 8524102.79 0.0088 0.0030 Neptune 18627-02-08 12:00 G 8524469.77 8524470.00 8524470.25 0.0088 0.0031 Neptune 18628-02-10 23:16 G 8524837.24 8524837.47 8524837.72 0.0088 0.0033 Neptune 18629-02-12 10:48 G 8525204.71 8525204.95 8525205.19 0.0088 0.0034

Neptune 18630-02-14 21:50 G 8525572.18 8525572.41 8525572.65 0.0088 0.0036 Jupiter 18630-05-25 15:36 G 8525672.01 8525672.15 8525672.29 0.0536 0.0422 Neptune 18631-02-17 09:21 G 8525939.66 8525939.89 8525940.12 0.0088 0.0038 Jupiter 18631-07-03 02:24 G 8526075.49 8526075.60 8526075.71 0.0544 0.0476 Neptune 18632-02-19 20:24 G 8526307.13 8526307.35 8526307.60 0.0088 0.0039 Neptune 18633-02-21 07:55 G 8526674.60 8526674.83 8526675.06 0.0088 0.0040 Neptune 18634-02-23 18:57 G 8527042.08 8527042.29 8527042.54 0.0088 0.0042 Neptune 18635-02-26 06:28 G 8527409.57 8527409.77 8527410.02 0.0088 0.0044 Jupiter 18635-11-20 00:00 G 8527676.41 8527676.50 8527676.60 0.0494 0.0450 Neptune 18636-02-28 18:14 G 8527777.05 8527777.26 8527777.49 0.0088 0.0044 Jupiter 18636-12-19 05:45 G 8528071.53 8528071.74 8528071.96 0.0485 0.0181 Neptune 18637-03-02 06:00 G 8528144.54 8528144.75 8528144.98 0.0088 0.0045 Neptune 18638-03-04 17:31 G 8528512.02 8528512.23 8528512.46 0.0088 0.0047 Uranus 18638-04-03 17:45 G 8528542.10 8528542.24 8528542.39 0.0134 0.0110 Neptune 18639-03-07 05:31 G 8528879.52 8528879.73 8528879.96 0.0088 0.0048 Uranus 18639-04-08 03:50 G 8528911.44 8528911.66 8528911.90 0.0134 0.0058 Neptune 18640-03-08 17:16 G 8529247.02 8529247.22 8529247.45 0.0088 0.0049 Uranus 18640-04-11 13:55 G 8529280.82 8529281.08 8529281.34 0.0134 0.0006 Saturn 18640-05-26 04:04 G 8529325.44 8529325.67 8529325.91 0.0281 0.0096 Neptune 18641-03-11 05:02 G 8529614.52 8529614.71 8529614.94 0.0088 0.0050 Uranus 18641-04-15 23:02 G 8529650.24 8529650.46 8529650.72 0.0134 0.0046 Neptune 18642-03-13 17:02 G 8529982.02 8529982.21 8529982.44 0.0088 0.0051 Uranus 18642-04-20 08:09 G 8530019.69 8530019.84 8530020.04 0.0134 0.0097 Jupiter 18642-05-31 00:14 G 8530060.32 8530060.51 8530060.71 0.0538 0.0300 Neptune 18643-03-16 05:31 G 8530349.52 8530349.73 8530349.94 0.0088 0.0051 Neptune 18644-03-17 17:02 G 8530717.02 8530717.21 8530717.44 0.0088 0.0052 Neptune 18645-03-20 04:48 G 8531084.52 8531084.70 8531084.94 0.0088 0.0053 Neptune 18646-03-22 17:16 G 8531452.02 8531452.22 8531452.44 0.0089 0.0053 Neptune 18647-03-25 05:31 G 8531819.53 8531819.73 8531819.94 0.0089 0.0053 Jupiter 18647-11-24 06:43 G 8532063.63 8532063.78 8532063.95 0.0492 0.0362

Neptune 18648-03-26 17:31 G 8532187.04 8532187.23 8532187.45 0.0089 0.0054 Jupiter 18648-12-23 09:07 G 8532458.69 8532458.88 8532459.08 0.0485 0.0267 Neptune 18649-03-29 05:31 G 8532554.54 8532554.73 8532554.96 0.0089 0.0054 Neptune 18650-03-31 18:14 G 8532922.06 8532922.26 8532922.47 0.0089 0.0054 Neptune 18651-04-03 06:43 G 8533289.58 8533289.78 8533289.99 0.0089 0.0054 Neptune 18652-04-04 19:12 G 8533657.10 8533657.30 8533657.51 0.0089 0.0054 Neptune 18653-04-07 07:40 G 8534024.63 8534024.82 8534025.04 0.0089 0.0054 Neptune 18654-04-09 20:09 G 8534392.15 8534392.34 8534392.56 0.0089 0.0054 Jupiter 18654-06-05 10:33 G 8534448.72 8534448.94 8534449.16 0.0539 0.0174 Saturn 18654-11-16 11:02 G 8534612.79 8534612.96 8534613.14 0.0277 0.0188 Neptune 18655-04-12 08:38 G 8534759.68 8534759.86 8534760.09 0.0089 0.0054 Saturn 18655-11-29 05:45 G 8534990.65 8534990.74 8534990.84 0.0279 0.0256 Neptune 18656-04-13 21:50 G 8535127.20 8535127.41 8535127.61 0.0089 0.0053 Neptune 18657-04-16 09:50 G 8535494.72 8535494.91 8535495.14 0.0089 0.0053 Neptune 18658-04-18 22:33 G 8535862.25 8535862.44 8535862.67 0.0089 0.0053 Neptune 18659-04-21 11:31 G 8536229.78 8536229.98 8536230.20 0.0089 0.0052 Jupiter 18659-11-28 13:26 G 8536450.87 8536451.06 8536451.25 0.0491 0.0271 Neptune 18660-04-23 00:14 G 8536597.31 8536597.51 8536597.73 0.0089 0.0051 Jupiter 18660-12-27 13:40 G 8536845.91 8536846.07 8536846.23 0.0484 0.0352 Neptune 18661-04-25 12:43 G 8536964.84 8536965.03 8536965.26 0.0089 0.0051 Neptune 18662-04-28 01:40 G 8537332.38 8537332.57 8537332.81 0.0089 0.0050 Neptune 18663-04-30 14:38 G 8537699.91 8537700.11 8537700.35 0.0089 0.0049 Neptune 18664-05-02 03:50 G 8538067.46 8538067.66 8538067.89 0.0089 0.0048 Neptune 18665-05-04 16:48 G 8538434.99 8538435.20 8538435.43 0.0089 0.0047 Neptune 18666-05-07 06:00 G 8538802.55 8538802.75 8538802.99 0.0089 0.0046 Jupiter 18666-06-10 17:16 G 8538836.99 8538837.22 8538837.46 0.0540 0.0052 Neptune 18667-05-09 18:57 G 8539170.09 8539170.29 8539170.54 0.0089 0.0046 Neptune 18668-05-11 08:24 G 8539537.63 8539537.85 8539538.08 0.0089 0.0044 Neptune 18669-05-13 21:21 G 8539905.18 8539905.39 8539905.63 0.0089 0.0042 Saturn 18669-05-20 12:57 G 8539911.82 8539912.04 8539912.27 0.0282 0.0110

Neptune 18670-05-16 10:19 G 8540272.72 8540272.93 8540273.18 0.0089 0.0041 Neptune 18671-05-18 23:31 G 8540640.26 8540640.48 8540640.73 0.0089 0.0040 Jupiter 18671-12-02 17:16 G 8540838.01 8540838.22 8540838.44 0.0490 0.0186 Neptune 18672-05-20 12:28 G 8541007.80 8541008.02 8541008.27 0.0089 0.0038 Jupiter 18672-12-31 17:02 G 8541233.11 8541233.21 8541233.31 0.0485 0.0432 Neptune 18673-05-23 01:40 G 8541375.34 8541375.57 8541375.82 0.0089 0.0037 Neptune 18674-05-25 14:38 G 8541742.89 8541743.11 8541743.37 0.0089 0.0035 Neptune 18675-05-28 04:04 G 8542110.44 8542110.67 8542110.92 0.0089 0.0033 Neptune 18676-05-29 17:16 G 8542477.98 8542478.22 8542478.47 0.0089 0.0032 Neptune 18677-06-01 06:43 G 8542845.54 8542845.78 8542846.03 0.0089 0.0030 Neptune 18678-06-03 19:40 G 8543213.09 8543213.32 8543213.58 0.0089 0.0029 Jupiter 18678-06-16 00:14 G 8543225.28 8543225.51 8543225.74 0.0541 0.0076 Neptune 18679-06-06 08:52 G 8543580.64 8543580.87 8543581.14 0.0089 0.0027 Neptune 18680-06-07 22:19 G 8543948.19 8543948.43 8543948.69 0.0089 0.0025 Neptune 18681-06-10 11:31 G 8544315.74 8544315.98 8544316.24 0.0089 0.0022 Uranus 18681-10-03 20:09 G 8544431.20 8544431.34 8544431.50 0.0144 0.0116 Neptune 18682-06-13 00:43 G 8544683.29 8544683.53 8544683.79 0.0089 0.0021 Uranus 18682-10-08 18:28 G 8544801.04 8544801.27 8544801.51 0.0144 0.0053 Neptune 18683-06-15 13:40 G 8545050.83 8545051.07 8545051.34 0.0089 0.0019 Uranus 18683-10-13 17:02 G 8545170.97 8545171.21 8545171.47 0.0144 0.0012 Jupiter 18683-12-06 22:48 G 8545225.23 8545225.45 8545225.68 0.0489 0.0097 Neptune 18684-06-17 02:52 G 8545418.37 8545418.62 8545418.88 0.0089 0.0017 Uranus 18684-10-17 15:50 G 8545540.96 8545541.16 8545541.39 0.0145 0.0076 Saturn 18684-11-23 07:12 G 8545577.57 8545577.80 8545578.04 0.0278 0.0074 Neptune 18685-06-19 15:50 G 8545785.91 8545786.16 8545786.42 0.0089 0.0015 Uranus 18685-10-22 14:52 G 8545911.08 8545911.12 8545911.21 0.0145 0.0140 Neptune 18686-06-22 05:02 G 8546153.46 8546153.71 8546153.97 0.0089 0.0013 Neptune 18687-06-24 18:00 G 8546521.00 8546521.25 8546521.51 0.0089 0.0010 Neptune 18688-06-26 06:57 G 8546888.54 8546888.79 8546889.06 0.0089 0.0009 Neptune 18689-06-28 20:09 G 8547256.09 8547256.34 8547256.60 0.0089 0.0006

Jupiter 18690-06-21 06:57 G 8547613.58 8547613.79 8547614.01 0.0543 0.0203 Neptune 18690-07-01 09:21 G 8547623.63 8547623.89 8547624.15 0.0089 0.0004 Neptune 18691-07-03 22:33 G 8547991.18 8547991.44 8547991.70 0.0089 0.0002 Neptune 18692-07-05 11:31 G 8548358.72 8548358.98 8548359.24 0.0089 0.0001 Neptune 18693-07-08 00:28 G 8548726.27 8548726.52 8548726.78 0.0089 0.0003 Neptune 18694-07-10 13:26 G 8549093.80 8549094.06 8549094.32 0.0090 0.0004 Neptune 18695-07-13 02:09 G 8549461.34 8549461.59 8549461.85 0.0090 0.0007 Jupiter 18695-12-11 05:02 G 8549612.47 8549612.71 8549612.94 0.0487 0.0008 Neptune 18696-07-14 14:52 G 8549828.87 8549829.12 8549829.38 0.0089 0.0009 Neptune 18697-07-17 03:36 G 8550196.40 8550196.65 8550196.91 0.0089 0.0011 Neptune 18698-07-19 16:19 G 8550563.93 8550564.18 8550564.44 0.0089 0.0013 Saturn 18699-05-28 10:48 G 8550876.75 8550876.95 8550877.16 0.0281 0.0153 Neptune 18699-07-22 05:02 G 8550931.46 8550931.71 8550931.97 0.0089 0.0015 Neptune 18700-07-24 17:45 G 8551298.99 8551299.24 8551299.50 0.0089 0.0017 Neptune 18701-07-27 06:14 G 8551666.52 8551666.76 8551667.02 0.0089 0.0019 Jupiter 18702-06-27 18:43 G 8552002.10 8552002.28 8552002.47 0.0544 0.0332 Neptune 18702-07-29 19:12 G 8552034.05 8552034.30 8552034.56 0.0089 0.0020 Neptune 18703-08-01 07:26 G 8552401.57 8552401.81 8552402.07 0.0089 0.0023 Neptune 18704-08-02 20:09 G 8552769.11 8552769.34 8552769.60 0.0089 0.0025 Neptune 18705-08-05 08:38 G 8553136.63 8553136.86 8553137.12 0.0089 0.0027 Neptune 18706-08-07 21:21 G 8553504.15 8553504.39 8553504.64 0.0089 0.0028 Neptune 18707-08-10 09:36 G 8553871.67 8553871.90 8553872.15 0.0089 0.0030 Jupiter 18707-12-16 08:52 G 8553999.64 8553999.87 8554000.10 0.0486 0.0082 Neptune 18708-08-11 21:36 G 8554239.17 8554239.40 8554239.66 0.0089 0.0032 Neptune 18709-08-14 10:04 G 8554606.69 8554606.92 8554607.17 0.0089 0.0033 Neptune 18710-08-16 22:04 G 8554974.19 8554974.42 8554974.67 0.0089 0.0034 Neptune 18711-08-19 10:19 G 8555341.70 8555341.93 8555342.17 0.0089 0.0036 Neptune 18712-08-20 22:04 G 8555709.20 8555709.42 8555709.67 0.0089 0.0037 Jupiter 18713-05-25 20:09 G 8555987.21 8555987.34 8555987.48 0.0536 0.0433 Neptune 18713-08-23 10:19 G 8556076.71 8556076.93 8556077.17 0.0089 0.0039

Saturn 18713-11-18 18:43 G 8556164.07 8556164.28 8556164.50 0.0277 0.0131 Jupiter 18714-07-03 06:43 G 8556390.66 8556390.78 8556390.90 0.0544 0.0459 Neptune 18714-08-25 22:04 G 8556444.21 8556444.42 8556444.66 0.0089 0.0040 Neptune 18715-08-28 10:04 G 8556811.71 8556811.92 8556812.17 0.0089 0.0041 Neptune 18716-08-29 22:04 G 8557179.21 8557179.42 8557179.66 0.0089 0.0043 Neptune 18717-09-01 10:04 G 8557546.71 8557546.92 8557547.16 0.0089 0.0043 Neptune 18718-09-03 22:04 G 8557914.20 8557914.42 8557914.65 0.0089 0.0044 Jupiter 18718-11-20 06:57 G 8557991.71 8557991.79 8557991.88 0.0494 0.0459 Neptune 18719-09-06 09:21 G 8558281.68 8558281.89 8558282.12 0.0089 0.0045 Jupiter 18719-12-20 13:40 G 8558386.85 8558387.07 8558387.28 0.0486 0.0170 Neptune 18720-09-07 21:07 G 8558649.17 8558649.38 8558649.61 0.0089 0.0046 Neptune 18721-09-10 08:24 G 8559016.65 8559016.85 8559017.08 0.0089 0.0047 Uranus 18722-04-05 04:33 G 8559223.55 8559223.69 8559223.86 0.0134 0.0107 Neptune 18722-09-12 19:40 G 8559384.13 8559384.32 8559384.56 0.0089 0.0048 Uranus 18723-04-09 14:52 G 8559592.90 8559593.12 8559593.37 0.0134 0.0055 Neptune 18723-09-15 07:26 G 8559751.60 8559751.81 8559752.03 0.0089 0.0048 Uranus 18724-04-13 00:57 G 8559962.28 8559962.54 8559962.80 0.0134 0.0003 Neptune 18724-09-16 18:28 G 8560119.08 8560119.27 8560119.50 0.0089 0.0049 Uranus 18725-04-17 10:19 G 8560331.70 8560331.93 8560332.18 0.0134 0.0049 Jupiter 18725-05-31 02:38 G 8560375.43 8560375.61 8560375.80 0.0537 0.0318 Neptune 18725-09-19 05:45 G 8560486.55 8560486.74 8560486.97 0.0089 0.0050 Uranus 18726-04-21 19:26 G 8560701.16 8560701.31 8560701.49 0.0134 0.0100 Neptune 18726-09-21 17:02 G 8560854.02 8560854.21 8560854.44 0.0089 0.0050 Neptune 18727-09-24 04:48 G 8561221.49 8561221.70 8561221.91 0.0089 0.0050 Saturn 18728-05-22 19:12 G 8561463.07 8561463.30 8561463.55 0.0282 0.0054 Neptune 18728-09-25 15:36 G 8561588.96 8561589.15 8561589.38 0.0089 0.0051 Neptune 18729-09-28 02:52 G 8561956.43 8561956.62 8561956.85 0.0089 0.0051 Neptune 18730-09-30 14:09 G 8562323.89 8562324.09 8562324.31 0.0089 0.0051 Jupiter 18730-11-24 11:02 G 8562378.82 8562378.96 8562379.12 0.0493 0.0376 Neptune 18731-10-03 01:12 G 8562691.35 8562691.55 8562691.77 0.0089 0.0051

Jupiter 18731-12-24 16:19 G 8562773.98 8562774.18 8562774.38 0.0485 0.0253 18732-08-27 09:21 G 8563020.63 8563020.89 8563021.15 0.0064 0.0003 Pluto Neptune 18732-10-04 12:14 G 8563058.81 8563059.01 8563059.23 0.0089 0.0051 Neptune 18733-10-06 23:02 G 8563426.26 8563426.46 8563426.68 0.0089 0.0051 Neptune 18734-10-09 09:50 G 8563793.72 8563793.91 8563794.13 0.0089 0.0051 Neptune 18735-10-11 20:24 G 8564161.16 8564161.35 8564161.58 0.0089 0.0051 Neptune 18736-10-13 07:12 G 8564528.61 8564529.03 0.0089 0.0051 8564528.80 Jupiter 18737-06-05 08:24 G 8564763.63 8564763.85 8564764.07 0.0538 0.0196 Neptune 18737-10-15 18:14 G 8564896.06 8564896.26 8564896.48 0.0088 0.0050 Neptune 18738-10-18 04:33 G 8565263.50 8565263.69 8565263.92 0.0088 0.0050 Neptune 18739-10-20 15:36 G 8565630.94 8565631.15 8565631.37 0.0088 0.0049 Neptune 18740-10-22 02:09 G 8565998.39 8565998.59 8565998.82 0.0088 0.0049 Neptune 18741-10-24 12:57 G 8566365.84 8566366.04 8566366.27 0.0088 0.0048 Neptune 18742-10-26 23:45 G 8566733.28 8566733.49 8566733.71 0.0088 0.0047 Jupiter 18742-11-28 18:00 G 8566766.06 8566766.25 8566766.44 0.0492 0.0287 Neptune 18743-10-29 10:04 G 8567100.72 8567100.92 8567101.16 0.0088 0.0046 Saturn 18743-11-26 15:21 G 8567128.94 8567129.14 8567129.37 0.0278 0.0132 Jupiter 18743-12-28 19:55 G 8567161.17 8567161.33 8567161.50 0.0485 0.0336 Neptune 18744-10-30 20:38 G 8567468.16 8567468.36 8567468.60 0.0088 0.0045 Neptune 18745-11-02 06:57 G 8567835.59 8567835.79 8567836.04 0.0088 0.0045 Neptune 18746-11-04 17:16 G 8568203.02 8568203.22 8568203.46 0.0088 0.0044 18747-03-11 13:40 G 8568329.89 8568330.07 8568330.26 0.1714 0.0315 Mars Neptune 18747-11-07 03:50 G 8568570.45 8568570.66 8568570.90 0.0088 0.0042 Neptune 18748-11-08 14:09 G 8568937.88 8568938.09 8568938.33 0.0088 0.0041 Jupiter 18749-06-10 12:43 G 8569151.80 8569152.03 8569152.26 0.0540 0.0074 Neptune 18749-11-11 00:57 G 8569305.31 8569305.54 8569305.76 0.0088 0.0040 Neptune 18750-11-13 11:02 G 8569672.73 8569672.96 8569673.19 0.0088 0.0039 Neptune 18751-11-15 21:07 G 8570040.16 8570040.38 8570040.63 0.0088 0.0037 Neptune 18752-11-17 07:26 G 8570407.59 8570407.81 8570408.06 0.0088 0.0036 Neptune 18753-11-19 18:00 G 8570775.02 8570775.25 8570775.49 0.0088 0.0034

Neptune 18754-11-22 04:04 G 8571142.45 8571142.67 8571142.92 0.0088 0.0033 Jupiter 18754-12-03 01:12 G 8571153.33 8571153.55 8571153.76 0.0490 0.0195 Neptune 18755-11-24 14:38 G 8571509.87 8571510.11 8571510.35 0.0088 0.0031 Jupiter 18756-01-02 00:28 G 8571548.40 8571548.52 8571548.63 0.0484 0.0419 Neptune 18756-11-26 00:57 G 8571877.31 8571877.54 8571877.79 0.0088 0.0030 Saturn 18757-05-17 08:52 G 8572049.78 8572049.87 8572049.98 0.0282 0.0255 Neptune 18757-11-28 11:02 G 8572244.72 8572244.96 8572245.21 0.0088 0.0028 Saturn 18758-05-30 19:55 G 8572428.17 8572428.33 8572428.49 0.0281 0.0212 Neptune 18758-11-30 21:07 G 8572612.15 8572612.38 8572612.64 0.0088 0.0027 Neptune 18759-12-03 07:26 G 8572979.57 8572979.81 8572980.06 0.0088 0.0025 Neptune 18760-12-04 17:16 G 8573346.99 8573347.22 8573347.48 0.0088 0.0024 Jupiter 18761-06-15 22:33 G 8573540.21 8573540.44 8573540.67 0.0542 0.0056 Neptune 18761-12-07 03:36 G 8573714.41 8573714.65 8573714.91 0.0088 0.0022 Neptune 18762-12-09 13:55 G 8574081.83 8574082.08 8574082.33 0.0088 0.0020 Neptune 18763-12-12 00:14 G 8574449.26 8574449.51 8574449.76 0.0088 0.0018 Neptune 18764-12-13 10:04 G 8574816.68 8574816.92 8574817.19 0.0088 0.0017 Uranus 18765-10-05 05:16 G 8575112.59 8575112.72 8575112.90 0.0144 0.0114 Neptune 18765-12-15 20:24 G 8575184.11 8575184.35 8575184.62 0.0088 0.0015 Uranus 18766-10-10 04:04 G 8575482.44 8575482.67 8575482.91 0.0144 0.0050 Jupiter 18766-12-07 06:28 G 8575540.54 8575540.77 8575541.00 0.0489 0.0107 Neptune 18766-12-18 06:57 G 8575551.54 8575551.79 8575552.05 0.0088 0.0013 Uranus 18767-10-15 02:38 G 8575852.35 8575852.61 8575852.86 0.0144 0.0014 Neptune 18767-12-20 17:16 G 8575918.97 8575919.22 8575919.48 0.0088 0.0011 Uranus 18768-10-19 01:12 G 8576222.35 8576222.55 8576222.77 0.0145 0.0079 Neptune 18768-12-22 03:36 G 8576286.40 8576286.65 8576286.91 0.0088 0.0009 Uranus 18769-10-24 00:00 G 8576592.48 8576592.50 8576592.57 0.0145 0.0143 Neptune 18769-12-24 13:55 G 8576653.83 8576654.08 8576654.34 0.0088 0.0008 Neptune 18770-12-27 00:14 G 8577021.26 8577021.51 8577021.77 0.0088 0.0006 Neptune 18771-12-29 10:33 G 8577388.69 8577388.94 8577389.20 0.0088 0.0004 Saturn 18772-11-20 04:19 G 8577715.45 8577715.68 8577715.92 0.0277 0.0071

Neptune 18772-12-30 21:07 G 8577756.12 8577756.38 8577756.64 0.0088 0.0002 Jupiter 18773-06-21 10:04 G 8577928.70 8577928.92 8577929.14 0.0543 0.0185 Neptune 18774-01-02 07:12 G 8578123.55 8578123.80 8578124.06 0.0088 0.0002 Neptune 18775-01-04 17:45 G 8578490.99 8578491.24 8578491.50 0.0088 0.0002 Neptune 18776-01-07 04:04 G 8578858.42 8578858.67 8578858.93 0.0088 0.0004 Neptune 18777-01-08 14:38 G 8579225.85 8579226.11 8579226.36 0.0088 0.0006 Neptune 18778-01-11 00:57 G 8579593.29 8579593.54 8579593.80 0.0088 0.0008 Jupiter 18778-12-11 11:16 G 8579927.74 8579927.97 8579928.21 0.0488 0.0019 Neptune 18779-01-13 11:31 G 8579960.73 8579960.98 8579961.25 0.0088 0.0010 Neptune 18780-01-15 22:19 G 8580328.18 8580328.43 8580328.69 0.0088 0.0012 Neptune 18781-01-17 09:07 G 8580695.62 8580695.88 8580696.13 0.0088 0.0013 Neptune 18782-01-19 19:55 G 8581063.07 8581063.33 8581063.58 0.0088 0.0015 Neptune 18783-01-22 06:14 G 8581430.52 8581430.76 8581431.03 0.0088 0.0017 Neptune 18784-01-24 17:02 G 8581797.97 8581798.21 8581798.48 0.0088 0.0019 Neptune 18785-01-26 03:50 G 8582165.41 8582165.66 8582165.91 0.0088 0.0020 Jupiter 18785-06-26 18:14 G 8582317.08 8582317.26 8582317.46 0.0543 0.0308 Neptune 18786-01-28 14:38 G 8582532.86 8582533.11 8582533.36 0.0088 0.0022 Neptune 18787-01-31 01:12 G 8582900.32 8582900.55 8582900.81 0.0088 0.0024 Saturn 18787-05-25 03:21 G 8583014.39 8583014.64 8583014.89 0.0282 0.0005 Neptune 18788-02-02 12:14 G 8583267.77 8583268.01 8583268.26 0.0088 0.0025 Neptune 18789-02-03 23:02 G 8583635.22 8583635.46 8583635.72 0.0088 0.0027 Neptune 18790-02-06 09:36 G 8584002.68 8584002.90 8584003.17 0.0088 0.0029 Jupiter 18790-12-15 13:55 G 8584314.85 8584315.08 8584315.31 0.0487 0.0066 Neptune 18791-02-08 20:52 G 8584370.14 8584370.37 8584370.63 0.0088 0.0030 Neptune 18792-02-11 08:24 G 8584737.61 8584737.85 8584738.09 0.0088 0.0031 Neptune 18793-02-12 19:12 G 8585105.07 8585105.30 8585105.55 0.0088 0.0033 Neptune 18794-02-15 06:43 G 8585472.54 8585472.78 8585473.02 0.0088 0.0034 Neptune 18795-02-17 17:45 G 8585840.02 8585840.24 8585840.49 0.0088 0.0036 Neptune 18796-02-20 05:02 G 8586207.49 8586207.71 8586207.96 0.0088 0.0037 Jupiter 18796-05-24 19:12 G 8586302.17 8586302.30 8586302.42 0.0534 0.0451

Neptune 18797-02-21 16:19 G 8586574.96 8586575.18 8586575.43 0.0088 0.0038 Jupiter 18797-07-02 01:40 G 8586705.43 8586705.57 8586705.72 0.0543 0.0431 Neptune 18798-02-24 03:50 G 8586942.44 8586942.66 8586942.90 0.0088 0.0039 Neptune 18799-02-26 15:07 G 8587309.91 8587310.13 8587310.37 0.0088 0.0041 Neptune 18800-02-29 02:38 G 8587677.39 8587677.61 8587677.85 0.0088 0.0042 Neptune 18801-03-02 13:55 G 8588044.87 8588045.08 8588045.32 0.0088 0.0043 Saturn 18801-11-15 07:55 G 8588302.73 8588302.83 8588302.94 0.0277 0.0248 Jupiter 18801-11-19 09:07 G 8588306.83 8588306.88 8588306.95 0.0495 0.0475 Neptune 18802-03-05 01:40 G 8588412.36 8588412.57 8588412.81 0.0088 0.0044 Saturn 18802-11-28 01:26 G 8588680.39 8588680.56 8588680.74 0.0278 0.0192 Jupiter 18802-12-19 18:00 G 8588702.04 8588702.25 8588702.48 0.0486 0.0155 Neptune 18803-03-07 13:12 G 8588779.84 8588780.05 8588780.29 0.0088 0.0045 Neptune 18804-03-09 00:57 G 8589147.33 8589147.54 8589147.78 0.0088 0.0046 Neptune 18805-03-11 12:43 G 8589514.83 8589515.03 8589515.27 0.0088 0.0046 Neptune 18806-03-14 00:57 G 8589882.33 8589882.54 8589882.77 0.0088 0.0047 Uranus 18806-04-05 15:36 G 8589905.01 8589905.15 8589905.33 0.0134 0.0104 Neptune 18807-03-16 12:43 G 8590249.84 8590250.03 8590250.27 0.0088 0.0048 Uranus 18807-04-10 02:09 G 8590274.36 8590274.59 8590274.84 0.0134 0.0051 Neptune 18808-03-18 01:12 G 8590617.34 8590617.55 8590617.77 0.0088 0.0048 Uranus 18808-04-13 12:00 G 8590643.75 8590644.00 8590644.26 0.0134 0.0003 Jupiter 18808-05-29 20:52 G 8590690.19 8590690.37 8590690.55 0.0536 0.0339 Neptune 18809-03-20 12:43 G 8590984.84 8590985.03 8590985.27 0.0088 0.0049 Uranus 18809-04-17 21:21 G 8591013.17 8591013.39 8591013.64 0.0134 0.0053 Neptune 18810-03-23 01:12 G 8591352.34 8591352.55 8591352.77 0.0088 0.0049 Uranus 18810-04-22 06:28 G 8591382.62 8591382.77 8591382.94 0.0134 0.0104 Neptune 18811-03-25 13:26 G 8591719.85 8591720.06 8591720.28 0.0089 0.0049 Neptune 18812-03-27 00:57 G 8592087.35 8592087.54 8592087.78 0.0089 0.0050 Neptune 18813-03-29 13:12 G 8592454.86 8592455.05 8592455.29 0.0089 0.0050 Jupiter 18813-11-23 18:14 G 8592694.12 8592694.26 8592694.40 0.0493 0.0385 Neptune 18814-04-01 01:40 G 8592822.37 8592822.57 8592822.80 0.0089 0.0050

Jupiter 18814-12-23 23:02 G 8593089.26 8593089.46 8593089.67 0.0485 0.0241 Neptune 18815-04-03 13:55 G 8593189.89 8593190.08 8593190.32 0.0089 0.0050 Neptune 18816-04-05 02:24 G 8593557.41 8593557.60 8593557.84 0.0089 0.0050 Saturn 18816-05-18 18:57 G 8593601.13 8593601.29 8593601.48 0.0282 0.0194 Neptune 18817-04-07 15:21 G 8593924.92 8593925.14 8593925.35 0.0089 0.0049 Saturn 18817-06-01 05:31 G 8593979.69 8593979.73 8593979.80 0.0281 0.0273 Neptune 18818-04-10 03:50 G 8594292.45 8594292.66 8594292.89 0.0089 0.0049 Neptune 18819-04-12 16:19 G 8594659.98 8594660.18 8594660.41 0.0089 0.0049 Neptune 18820-04-14 04:48 G 8595027.51 8595027.70 8595027.94 0.0089 0.0049 Jupiter 18820-06-04 04:04 G 8595078.46 8595078.67 8595078.89 0.0538 0.0217 Pluto 18821-02-24 11:16 G 8595343.82 8595343.97 8595344.14 0.0080 0.0063 Neptune 18821-04-16 17:45 G 8595395.03 8595395.24 8595395.47 0.0089 0.0048 Neptune 18822-04-19 06:14 G 8595762.57 8595762.76 8595763.00 0.0089 0.0048 Neptune 18823-04-21 18:57 G 8596130.09 8596130.29 8596130.53 0.0089 0.0047 Neptune 18824-04-23 07:55 G 8596497.62 8596497.83 8596498.06 0.0089 0.0046 Neptune 18825-04-25 20:52 G 8596865.15 8596865.37 8596865.59 0.0089 0.0045 Jupiter 18825-11-28 00:43 G 8597081.35 8597081.53 8597081.72 0.0492 0.0297 18826-03-14 00:28 G 8597187.43 8597187.52 8597187.62 0.1720 0.1484 Mars Neptune 18826-04-28 09:07 G 8597232.68 8597232.88 8597233.13 0.0089 0.0045 Jupiter 18826-12-28 02:09 G 8597476.43 8597476.59 8597476.77 0.0485 0.0324 Neptune 18827-04-30 22:04 G 8597600.21 8597600.42 8597600.67 0.0089 0.0044 Neptune 18828-05-02 10:48 G 8597967.74 8597967.95 8597968.19 0.0089 0.0043 Neptune 18829-05-05 00:00 G 8598335.28 8598335.50 8598335.74 0.0089 0.0042 Neptune 18830-05-07 12:57 G 8598702.82 8598703.04 8598703.28 0.0089 0.0041 Neptune 18831-05-10 01:55 G 8599070.37 8599070.58 8599070.83 0.0089 0.0040 Saturn 18831-11-22 15:21 G 8599266.89 8599267.14 8599267.38 0.0278 0.0009 Neptune 18832-05-11 14:52 G 8599437.91 8599438.12 8599438.38 0.0089 0.0040 Jupiter 18832-06-09 14:24 G 8599466.87 8599467.10 8599467.33 0.0540 0.0091 Neptune 18833-05-14 04:19 G 8599805.46 8599805.68 8599805.93 0.0089 0.0038 Neptune 18834-05-16 17:31 G 8600173.00 8600173.23 8600173.48 0.0089 0.0036

Neptune 18835-05-19 06:43 G 8600540.55 8600540.78 8600541.02 0.0089 0.0035 Neptune 18836-05-20 19:40 G 8600908.09 8600908.32 8600908.57 0.0089 0.0033 Neptune 18837-05-23 08:24 G 8601275.63 8601275.85 8601276.11 0.0089 0.0033 Jupiter 18837-12-02 06:57 G 8601468.58 8601469.00 0.0490 0.0206 8601468.79 Neptune 18838-05-25 21:50 G 8601643.18 8601643.41 8601643.67 0.0089 0.0031 Jupiter 18839-01-01 06:14 G 8601863.64 8601863.76 8601863.89 0.0484 0.0405 Neptune 18839-05-28 10:33 G 8602010.71 8602010.94 8602011.21 0.0089 0.0030 Neptune 18840-05-30 00:00 G 8602378.26 8602378.50 8602378.76 0.0089 0.0027 Neptune 18841-06-01 13:12 G 8602745.81 8602746.05 8602746.31 0.0089 0.0026 Neptune 18842-06-04 02:38 G 8603113.36 8603113.61 8603113.86 0.0089 0.0024 Neptune 18843-06-06 15:36 G 8603480.91 8603481.15 8603481.42 0.0089 0.0023 Neptune 18844-06-08 05:02 G 8603848.46 8603848.71 8603848.97 0.0089 0.0020 Jupiter 18844-06-14 23:16 G 8603855.24 8603855.47 8603855.71 0.0541 0.0036 Neptune 18845-06-10 18:28 G 8604216.02 8604216.27 8604216.53 0.0089 0.0019 Saturn 18846-05-26 13:26 G 8604565.83 8604566.06 8604566.31 0.0282 0.0066 Neptune 18846-06-13 07:40 G 8604583.57 8604583.82 8604584.08 0.0089 0.0017 Neptune 18847-06-15 20:38 G 8604951.12 8604951.36 8604951.63 0.0089 0.0016 18847-09-11 12:14 G 8605038.81 8605039.01 8605039.20 0.1827 0.0243 Mars Neptune 18848-06-17 09:50 G 8605318.66 8605318.91 8605319.18 0.0089 0.0013 Neptune 18849-06-19 23:02 G 8605686.21 8605686.46 8605686.73 0.0089 0.0012 Uranus 18849-10-05 14:38 G 8605793.97 8605794.11 8605794.28 0.0144 0.0111 Jupiter 18849-12-06 09:36 G 8605855.68 8605855.90 8605856.13 0.0489 0.0122 Neptune 18850-06-22 12:14 G 8606053.76 8606054.01 8606054.27 0.0089 0.0009 Uranus 18850-10-10 13:12 G 8606163.81 8606164.05 8606164.29 0.0144 0.0048 Jupiter 18851-01-05 08:38 G 8606250.85 8606250.86 8606250.88 0.0485 0.0483 Neptune 18851-06-25 01:12 G 8606421.30 8606421.55 8606421.82 0.0089 0.0008 Uranus 18851-10-15 11:31 G 8606533.74 8606533.98 8606534.24 0.0144 0.0017 Neptune 18852-06-26 14:24 G 8606788.84 8606789.10 8606789.36 0.0089 0.0005 Uranus 18852-10-19 10:19 G 8606903.74 8606903.93 8606904.15 0.0145 0.0082 Neptune 18853-06-29 03:36 G 8607156.39 8607156.65 8607156.91 0.0089 0.0004

Neptune 18854-07-01 16:48 G 8607523.94 8607524.20 8607524.46 0.0089 0.0002 Neptune 18855-07-04 05:31 G 8607891.47 8607891.99 0.0089 0.0001 8607891.73 Jupiter 18856-06-20 06:14 G 8608243.54 8608243.76 8608243.98 0.0542 0.0159 Neptune 18856-07-05 18:43 G 8608259.03 8608259.28 8608259.54 0.0089 0.0003 Neptune 18857-07-08 07:55 G 8608626.57 8608626.83 8608627.09 0.0089 0.0004 Neptune 18858-07-10 20:52 G 8608994.12 8608994.37 8608994.63 0.0089 0.0006 Neptune 18859-07-13 09:50 G 8609361.66 8609361.91 8609362.17 0.0089 0.0008 Neptune 18860-07-14 22:48 G 8609729.19 8609729.45 8609729.71 0.0089 0.0010 Saturn 18860-11-16 18:00 G 8609854.09 8609854.25 8609854.44 0.0277 0.0189 Neptune 18861-07-17 11:31 G 8610096.73 8610096.98 8610097.24 0.0089 0.0012 Saturn 18861-11-29 12:14 G 8610231.91 8610232.01 8610232.11 0.0278 0.0251 Jupiter 18861-12-10 14:38 G 8610242.88 8610243.11 8610243.35 0.0488 0.0034 Neptune 18862-07-20 00:14 G 8610464.26 8610464.51 8610464.77 0.0089 0.0014 Neptune 18863-07-22 12:43 G 8610831.78 8610832.03 8610832.29 0.0089 0.0015 Neptune 18864-07-24 01:12 G 8611199.31 8611199.55 8611199.81 0.0089 0.0017 Neptune 18865-07-26 14:09 G 8611566.84 8611567.09 8611567.34 0.0089 0.0019 Neptune 18866-07-29 02:24 G 8611934.36 8611934.60 8611934.86 0.0089 0.0021 Neptune 18867-07-31 14:52 G 8612301.89 8612302.12 8612302.39 0.0089 0.0023 Jupiter 18868-06-25 10:48 G 8612631.75 8612631.95 8612632.15 0.0543 0.0281 Neptune 18868-08-02 03:50 G 8612669.41 8612669.66 8612669.91 0.0089 0.0024 Neptune 18869-08-04 16:19 G 8613036.94 8613037.18 8613037.43 0.0089 0.0025 Neptune 18870-08-07 04:48 G 8613404.47 8613404.70 8613404.96 0.0089 0.0027 Neptune 18871-08-09 17:16 G 8613771.98 8613772.22 8613772.47 0.0089 0.0029 Neptune 18872-08-11 05:31 G 8614139.50 8614139.73 8614139.99 0.0089 0.0030 Neptune 18873-08-13 17:45 G 8614507.01 8614507.24 8614507.50 0.0089 0.0032 Jupiter 18873-12-14 20:38 G 8614630.13 8614630.36 8614630.59 0.0487 0.0055 Neptune 18874-08-16 06:14 G 8614874.52 8614874.76 8614875.00 0.0089 0.0033 Saturn 18875-05-21 07:12 G 8615152.58 8615152.80 8615153.02 0.0282 0.0130 Neptune 18875-08-18 18:00 G 8615242.03 8615242.25 8615242.50 0.0089 0.0034 Neptune 18876-08-20 06:14 G 8615609.53 8615609.76 8615610.01 0.0089 0.0035

Neptune 18877-08-22 18:14 G 8615977.03 8615977.26 8615977.50 0.0089 0.0037 Neptune 18878-08-25 06:00 G 8616344.53 8616344.75 8616345.00 0.0089 0.0038 Jupiter 18879-05-24 13:26 G 8616616.95 8616617.06 8616617.17 0.0534 0.0469 Neptune 18879-08-27 17:45 G 8616712.03 8616712.24 8616712.49 0.0089 0.0039 Jupiter 18880-06-30 20:52 G 8617020.22 8617020.37 8617020.52 0.0544 0.0407 Neptune 18880-08-29 05:45 G 8617079.53 8617079.74 8617079.99 0.0089 0.0040 Neptune 18881-08-31 17:45 G 8617447.03 8617447.24 8617447.49 0.0089 0.0041 Neptune 18882-09-03 05:31 G 8617814.52 8617814.73 8617814.98 0.0089 0.0042 Neptune 18883-09-05 17:45 G 8618182.02 8618182.24 8618182.48 0.0089 0.0042 Neptune 18884-09-07 05:31 G 8618549.52 8618549.73 8618549.96 0.0089 0.0043 Jupiter 18884-11-18 16:04 G 8618622.12 8618622.17 8618622.22 0.0495 0.0483 Neptune 18885-09-09 17:02 G 8618917.00 8618917.21 8618917.45 0.0089 0.0044 Jupiter 18885-12-19 00:28 G 8619017.30 8619017.52 8619017.75 0.0486 0.0141 Neptune 18886-09-12 04:48 G 8619284.48 8619284.70 8619284.93 0.0089 0.0044 Neptune 18887-09-14 15:50 G 8619651.96 8619652.16 8619652.40 0.0089 0.0045 Neptune 18888-09-16 03:36 G 8620019.44 8620019.65 8620019.88 0.0089 0.0045 Neptune 18889-09-18 14:38 G 8620386.91 8620387.11 8620387.35 0.0089 0.0046 Uranus 18890-04-06 03:21 G 8620586.49 8620586.64 8620586.83 0.0134 0.0100 Neptune 18890-09-21 02:09 G 8620754.38 8620754.59 8620754.82 0.0089 0.0046 Saturn 18890-11-24 02:52 G 8620818.38 8620818.62 8620818.86 0.0278 0.0053 Uranus 18891-04-10 13:55 G 8620955.85 8620956.08 8620956.33 0.0134 0.0047 Jupiter 18891-05-29 21:21 G 8621005.22 8621005.39 8621005.57 0.0536 0.0354 Neptune 18891-09-23 13:26 G 8621121.85 8621122.06 8621122.28 0.0089 0.0046 Uranus 18892-04-13 23:31 G 8621325.23 8621325.48 8621325.74 0.0134 0.0006 Jupiter 18892-07-06 08:52 G 8621408.83 8621408.87 8621408.93 0.0544 0.0530 Neptune 18892-09-25 00:28 G 8621489.32 8621489.52 8621489.76 0.0089 0.0047 Uranus 18893-04-18 08:52 G 8621694.65 8621694.87 8621695.11 0.0134 0.0057 Neptune 18893-09-27 11:31 G 8621856.78 8621856.98 8621857.22 0.0089 0.0047 Uranus 18894-04-22 18:00 G 8622064.11 8622064.25 8622064.40 0.0134 0.0108 Neptune 18894-09-29 22:48 G 8622224.25 8622224.45 8622224.69 0.0089 0.0047

Neptune 18895-10-02 10:04 G 8622591.72 8622591.92 8622592.15 0.0089 0.0047 Neptune 18896-10-03 21:07 G 8622959.18 8622959.38 8622959.61 0.0089 0.0047 Jupiter 18896-11-22 23:31 G 8623009.34 8623009.48 8623009.62 0.0494 0.0395 Neptune 18897-10-06 07:55 G 8623326.64 8623326.83 8623327.07 0.0089 0.0047 Jupiter 18897-12-23 04:48 G 8623404.49 8623404.70 8623404.90 0.0485 0.0227 Neptune 18898-10-08 19:12 G 8623694.09 8623694.30 8623694.52 0.0089 0.0046 Neptune 18899-10-11 05:45 G 8624061.54 8624061.74 8624061.98 0.0089 0.0046 Neptune 18900-10-13 16:33 G 8624428.99 8624429.19 8624429.42 0.0089 0.0046 Neptune 18901-10-16 03:21 G 8624796.43 8624796.64 8624796.87 0.0089 0.0045 Neptune 18902-10-18 13:55 G 8625163.87 8625164.08 8625164.31 0.0088 0.0045 Jupiter 18903-06-05 06:00 G 8625393.54 8625393.75 8625393.96 0.0538 0.0235 Neptune 18903-10-21 00:57 G 8625531.32 8625531.54 8625531.76 0.0088 0.0044 Neptune 18904-10-22 11:02 G 8625898.76 8625898.96 8625899.20 0.0088 0.0044 Saturn 18905-05-29 00:14 G 8626117.29 8626117.51 8626117.73 0.0281 0.0126 Neptune 18905-10-24 21:50 G 8626266.20 8626266.41 8626266.64 0.0088 0.0043 Neptune 18906-10-27 08:09 G 8626633.64 8626633.84 8626634.09 0.0088 0.0043 Neptune 18907-10-29 18:57 G 8627001.08 8627001.29 8627001.53 0.0088 0.0041 Neptune 18908-10-31 05:45 G 8627368.52 8627368.74 8627368.98 0.0088 0.0040 Jupiter 18908-11-28 03:07 G 8627396.45 8627396.63 8627396.81 0.0492 0.0310 Neptune 18909-11-02 16:04 G 8627735.95 8627736.17 8627736.41 0.0088 0.0039 Jupiter 18909-12-28 06:28 G 8627791.59 8627791.77 8627791.95 0.0485 0.0308 Neptune 18910-11-05 02:38 G 8628103.39 8628103.61 8628103.85 0.0088 0.0039 Neptune 18911-11-07 12:57 G 8628470.82 8628471.04 8628471.29 0.0088 0.0037 Neptune 18912-11-08 23:16 G 8628838.25 8628838.47 8628838.72 0.0088 0.0036 Neptune 18913-11-11 09:36 G 8629205.68 8629205.90 8629206.15 0.0088 0.0035 Neptune 18914-11-13 19:40 G 8629573.10 8629573.32 8629573.58 0.0088 0.0035 Jupiter 18915-06-10 12:14 G 8629781.78 8629782.01 8629782.24 0.0539 0.0111 Neptune 18915-11-16 06:28 G 8629940.53 8629940.77 8629941.01 0.0088 0.0032 Neptune 18916-11-17 16:33 G 8630307.96 8630308.19 8630308.44 0.0088 0.0031 Neptune 18917-11-20 02:38 G 8630675.39 8630675.61 8630675.87 0.0088 0.0030

Neptune 18918-11-22 12:57 G 8631042.81 8631043.04 8631043.30 0.0088 0.0029 Saturn 18919-11-20 04:04 G 8631405.46 8631405.67 8631405.89 0.0277 0.0130 Neptune 18919-11-24 23:31 G 8631410.25 8631410.48 8631410.74 0.0088 0.0027 Neptune 18920-11-26 09:36 G 8631777.67 8631777.90 8631778.16 0.0088 0.0026 Jupiter 18920-12-02 09:07 G 8631783.67 8631783.88 8631784.09 0.0491 0.0221 Neptune 18921-11-28 20:09 G 8632145.10 8632145.34 8632145.60 0.0088 0.0024 Jupiter 18922-01-01 10:19 G 8632178.80 8632178.93 8632179.07 0.0485 0.0390 Neptune 18922-12-01 06:28 G 8632512.53 8632512.77 8632513.03 0.0088 0.0023 Neptune 18923-12-03 16:48 G 8632879.95 8632880.20 8632880.45 0.0088 0.0021 Neptune 18924-12-05 02:52 G 8633247.38 8633247.62 8633247.88 0.0088 0.0020 Neptune 18925-12-07 12:57 G 8633614.80 8633615.04 8633615.30 0.0088 0.0018 Neptune 18926-12-09 23:31 G 8633982.23 8633982.48 8633982.73 0.0088 0.0016 Jupiter 18927-06-15 14:38 G 8634169.88 8634170.11 8634170.34 0.0540 0.0009 Neptune 18927-12-12 09:21 G 8634349.65 8634349.89 8634350.15 0.0088 0.0015 Neptune 18928-12-13 19:40 G 8634717.07 8634717.32 8634717.58 0.0088 0.0013 Neptune 18929-12-16 05:45 G 8635084.49 8635084.74 8635085.00 0.0088 0.0012 Neptune 18930-12-18 16:04 G 8635451.92 8635452.17 8635452.43 0.0088 0.0010 Neptune 18931-12-21 02:24 G 8635819.35 8635819.60 8635819.86 0.0088 0.0008 Jupiter 18932-12-06 16:19 G 8636170.96 8636171.18 8636171.40 0.0490 0.0131 Neptune 18932-12-22 12:43 G 8636186.78 8636187.03 8636187.29 0.0088 0.0006 Uranus 18933-10-07 01:55 G 8636475.42 8636475.58 8636475.76 0.0144 0.0107 Neptune 18933-12-24 23:02 G 8636554.21 8636554.46 8636554.72 0.0088 0.0005 Jupiter 18934-01-05 14:52 G 8636566.07 8636566.12 8636566.17 0.0484 0.0470 Saturn 18934-05-23 19:55 G 8636704.09 8636704.33 8636704.57 0.0282 0.0066 Uranus 18934-10-12 00:14 G 8636845.27 8636845.51 8636845.75 0.0144 0.0044 Neptune 18934-12-27 09:21 G 8636921.64 8636921.89 8636922.15 0.0088 0.0003 Uranus 18935-10-16 22:48 G 8637215.20 8637215.45 8637215.70 0.0144 0.0021 Neptune 18935-12-29 19:55 G 8637289.07 8637289.33 8637289.59 0.0088 0.0001 Uranus 18936-10-20 21:21 G 8637585.20 8637585.39 8637585.60 0.0145 0.0086 Neptune 18936-12-31 06:00 G 8637656.49 8637656.75 8637657.01 0.0088 0.0001

Neptune 18938-01-02 16:19 G 8638023.93 8638024.18 8638024.44 0.0088 0.0003 Neptune 18939-01-05 02:38 G 8638391.36 8638391.87 0.0088 0.0004 8638391.61 Jupiter 18939-06-20 23:31 G 8638558.26 8638558.48 8638558.71 0.0542 0.0135 Neptune 18940-01-07 12:57 G 8638758.79 8638759.04 8638759.30 0.0088 0.0006 Neptune 18941-01-08 23:16 G 8639126.22 8639126.47 8639126.73 0.0088 0.0008 Neptune 18942-01-11 09:36 G 8639493.65 8639493.90 8639494.16 0.0088 0.0009 Neptune 18943-01-13 20:09 G 8639861.09 8639861.34 8639861.60 0.0088 0.0011 Neptune 18944-01-16 06:28 G 8640228.52 8640228.77 8640229.03 0.0088 0.0013 Jupiter 18944-12-10 21:21 G 8640558.16 8640558.39 8640558.62 0.0488 0.0045 Neptune 18945-01-17 17:16 G 8640595.97 8640596.22 8640596.48 0.0088 0.0014 Neptune 18946-01-20 03:50 G 8640963.41 8640963.66 8640963.92 0.0088 0.0016 Neptune 18947-01-22 14:24 G 8641330.86 8641331.10 8641331.37 0.0088 0.0018 Neptune 18948-01-25 01:12 G 8641698.31 8641698.55 8641698.81 0.0088 0.0019 Neptune 18949-01-26 11:45 G 8642065.76 8642065.99 8642066.26 0.0088 0.0021 Saturn 18949-11-26 13:40 G 8642369.86 8642370.07 8642370.30 0.0278 0.0114 Neptune 18950-01-28 22:48 G 8642433.21 8642433.45 8642433.71 0.0088 0.0022 Neptune 18951-01-31 09:21 G 8642800.66 8642800.89 8642801.15 0.0088 0.0024 Jupiter 18951-06-26 11:02 G 8642946.75 8642946.96 8642947.16 0.0543 0.0262 Neptune 18952-02-02 20:24 G 8643168.11 8643168.35 8643168.61 0.0088 0.0025 18952-03-09 19:40 G 8643204.25 8643204.32 8643204.40 0.1702 0.1546 Mars Neptune 18953-02-04 07:12 G 8643535.56 8643535.80 8643536.05 0.0088 0.0026 Neptune 18954-02-06 18:00 G 8643903.02 8643903.25 8643903.51 0.0088 0.0028 Neptune 18955-02-09 05:02 G 8644270.47 8644270.71 8644270.96 0.0088 0.0029 Neptune 18956-02-11 16:04 G 8644637.93 8644638.17 8644638.42 0.0088 0.0030 Jupiter 18956-12-15 02:24 G 8644945.36 8644945.60 8644945.83 0.0487 0.0044 Neptune 18957-02-13 02:52 G 8645005.40 8645005.62 8645005.88 0.0088 0.0032 Neptune 18958-02-15 14:09 G 8645372.87 8645373.09 8645373.35 0.0088 0.0033 Neptune 18959-02-18 01:40 G 8645740.34 8645740.57 8645740.82 0.0088 0.0034 Neptune 18960-02-20 12:57 G 8646107.81 8646108.04 8646108.29 0.0088 0.0035 Neptune 18961-02-22 00:14 G 8646475.29 8646475.51 8646475.76 0.0088 0.0037

Neptune 18962-02-24 11:45 G 8646842.77 8646842.99 8646843.23 0.0088 0.0037 Jupiter 18962-05-24 15:50 G 8646932.07 8646932.16 8646932.27 0.0534 0.0483 Neptune 18963-02-26 23:02 G 8647210.25 8647210.46 8647210.71 0.0088 0.0039 Saturn 18963-05-17 23:45 G 8647290.48 8647290.49 8647290.53 0.0282 0.0280 Jupiter 18963-07-01 21:36 G 8647335.25 8647335.40 8647335.57 0.0543 0.0386 Neptune 18964-02-29 10:19 G 8647577.72 8647577.93 8647578.18 0.0088 0.0039 Saturn 18964-05-30 11:16 G 8647668.80 8647668.97 8647669.17 0.0281 0.0188 Neptune 18965-03-02 21:50 G 8647945.20 8647945.41 8647945.66 0.0088 0.0040 Neptune 18966-03-05 09:36 G 8648312.68 8648312.90 8648313.14 0.0088 0.0041 Neptune 18967-03-07 20:52 G 8648680.16 8648680.37 8648680.62 0.0088 0.0042 Jupiter 18967-11-19 17:45 G 8648937.24 8648937.24 8648937.26 0.0496 0.0495 Neptune 18968-03-09 08:24 G 8649047.65 8649047.85 8649048.10 0.0088 0.0043 Jupiter 18968-12-19 04:04 G 8649332.45 8649332.67 8649332.90 0.0487 0.0128 Neptune 18969-03-11 20:24 G 8649415.13 8649415.35 8649415.59 0.0088 0.0043 Neptune 18970-03-14 08:09 G 8649782.63 8649782.84 8649783.08 0.0088 0.0043 Neptune 18971-03-16 20:09 G 8650150.12 8650150.34 8650150.57 0.0088 0.0044 Neptune 18972-03-18 08:24 G 8650517.62 8650517.85 8650518.07 0.0088 0.0044 Neptune 18973-03-20 19:55 G 8650885.12 8650885.33 8650885.57 0.0088 0.0045 Neptune 18974-03-23 08:09 G 8651252.63 8651252.84 8651253.08 0.0088 0.0045 Uranus 18974-04-07 15:21 G 8651267.97 8651268.14 8651268.33 0.0134 0.0096 Jupiter 18974-05-29 21:07 G 8651320.22 8651320.38 8651320.55 0.0535 0.0369 Neptune 18975-03-25 20:24 G 8651620.13 8651620.35 8651620.58 0.0089 0.0045 Uranus 18975-04-12 01:26 G 8651637.33 8651637.56 8651637.81 0.0134 0.0043 Jupiter 18975-07-07 05:31 G 8651723.65 8651723.73 8651723.82 0.0543 0.0505 Neptune 18976-03-27 08:24 G 8651987.64 8651987.85 8651988.08 0.0089 0.0045 Uranus 18976-04-15 11:16 G 8652006.72 8652006.97 8652007.23 0.0134 0.0009 Neptune 18977-03-29 20:38 G 8652355.15 8652355.36 8652355.59 0.0089 0.0045 Uranus 18977-04-19 20:09 G 8652376.13 8652376.34 8652376.59 0.0134 0.0062 Neptune 18978-04-01 08:52 G 8652722.65 8652722.87 8652723.10 0.0089 0.0045 Uranus 18978-04-24 05:02 G 8652745.59 8652745.71 8652745.87 0.0134 0.0113

18978-08-29 14:09 G 8652873.04 8652873.09 8652873.22 0.0064 0.0060 Pluto Saturn 18978-11-21 13:12 G 8652956.82 8652957.05 8652957.29 0.0277 0.0072 Neptune 18979-04-03 21:07 G 8653090.16 8653090.38 8653090.61 0.0089 0.0045 18979-08-31 02:24 G 8653239.38 8653239.60 8653239.86 0.0064 0.0025 Pluto Jupiter 18979-11-24 01:12 G 8653324.42 8653324.55 8653324.68 0.0494 0.0408 Neptune 18980-04-05 09:07 G 8653457.67 8653457.88 8653458.11 0.0089 0.0045 Jupiter 18980-12-23 08:24 G 8653719.65 8653719.85 8653720.07 0.0486 0.0214 Neptune 18981-04-07 21:36 G 8653825.19 8653825.40 8653825.64 0.0089 0.0045 Neptune 18982-04-10 09:50 G 8654192.71 8654192.91 8654193.15 0.0089 0.0045 Neptune 18983-04-12 22:33 G 8654560.23 8654560.44 8654560.67 0.0089 0.0044 Neptune 18984-04-14 11:02 G 8654927.75 8654927.96 8654928.20 0.0089 0.0044 Neptune 18985-04-17 00:00 G 8655295.28 8655295.50 8655295.73 0.0089 0.0043 Neptune 18986-04-19 12:28 G 8655662.81 8655663.02 8655663.27 0.0089 0.0043 Jupiter 18986-06-03 21:50 G 8655708.20 8655708.41 8655708.61 0.0537 0.0257 Neptune 18987-04-22 01:26 G 8656030.34 8656030.56 8656030.80 0.0089 0.0042 Neptune 18988-04-23 14:09 G 8656397.87 8656398.09 8656398.33 0.0089 0.0041 Neptune 18989-04-26 02:38 G 8656765.40 8656765.61 8656765.86 0.0089 0.0041 Neptune 18990-04-28 15:36 G 8657132.94 8657133.15 8657133.40 0.0089 0.0040 Neptune 18991-05-01 04:19 G 8657500.46 8657500.68 8657500.93 0.0089 0.0039 Jupiter 18991-11-28 09:36 G 8657711.73 8657711.90 8657712.08 0.0493 0.0319 Neptune 18992-05-02 17:16 G 8657868.00 8657868.22 8657868.47 0.0089 0.0038 Jupiter 18992-12-27 13:40 G 8658106.89 8658107.07 8658107.26 0.0485 0.0297 Neptune 18993-05-05 06:14 G 8658235.54 8658235.76 8658236.01 0.0089 0.0037 Saturn 18993-05-25 07:55 G 8658255.58 8658255.83 8658256.08 0.0282 0.0003 Neptune 18994-05-07 19:12 G 8658603.07 8658603.30 8658603.55 0.0089 0.0036 Neptune 18995-05-10 08:09 G 8658970.62 8658970.84 8658971.09 0.0089 0.0035 Neptune 18996-05-11 21:36 G 8659338.16 8659338.40 8659338.64 0.0089 0.0034 Neptune 18997-05-14 10:48 G 8659705.71 8659705.95 8659706.19 0.0089 0.0032 Neptune 18998-05-16 23:45 G 8660073.26 8660073.49 8660073.74 0.0089 0.0031 Jupiter 18998-06-09 04:48 G 8660096.47 8660096.70 8660096.93 0.0539 0.0135

Neptune 19000-05-22 02:09 G 8660808.35 8660808.59 8660808.84 0.0089 0.0029

## 20TH MILLENNIUM CE

This is a list of transits of Earth in the 20th millennium CE.

FROM MAX- C START MAX END SUNRAD DEPTH S

TRANSIT

TIME

Neptune 19001-05-24 15:21 G 8661175.90 8661176.14 8661176.39 0.0089 0.0027 Neptune 19002-05-27 04:19 G 8661543.44 8661543.68 8661543.94 0.0089 0.0026 Neptune 19003-05-29 17:16 G 8661910.98 8661911.22 8661911.48 0.0089 0.0025 Jupiter 19003-12-03 16:33 G 8662098.98 8662099.19 8662099.39 0.0491 0.0231 Neptune 19004-05-31 06:28 G 8662278.53 8662278.77 8662279.03 0.0089 0.0023 Jupiter 19005-01-01 16:48 G 8662494.07 8662494.20 8662494.36 0.0484 0.0378 Neptune 19005-06-02 19:26 G 8662646.07 8662646.31 8662646.58 0.0089 0.0022 Neptune 19006-06-05 08:52 G 8663013.62 8663013.87 8663014.13 0.0089 0.0020 Neptune 19007-06-07 21:36 G 8663381.16 8663381.40 8663381.67 0.0089 0.0019 Saturn 19007-11-17 06:14 G 8663543.71 8663543.76 8663543.84 0.0277 0.0265 Neptune 19008-06-09 11:02 G 8663748.72 8663748.96 8663749.23 0.0089 0.0017 Saturn 19008-11-28 23:31 G 8663921.29 8663921.48 8663921.67 0.0278 0.0172 Neptune 19009-06-12 00:28 G 8664116.27 8664116.52 8664116.78 0.0089 0.0015 Neptune 19010-06-14 13:26 G 8664483.82 8664484.06 8664484.33 0.0089 0.0014 Jupiter 19010-06-15 14:52 G 8664484.88 8664485.12 8664485.35 0.0541 0.0013 Neptune 19011-06-17 02:52 G 8664851.37 8664851.62 8664851.88 0.0089 0.0012 Neptune 19012-06-18 16:19 G 8665218.92 8665219.18 8665219.44 0.0089 0.0010

Neptune 19013-06-21 05:31 G 8665586.47 8665586.73 8665586.99 0.0089 0.0008 Neptune 19014-06-23 18:28 G 8665954.02 8665954.27 8665954.54 0.0089 0.0007 Neptune 19015-06-26 07:40 G 8666321.56 8666321.82 8666322.08 0.0090 0.0004 Jupiter 19015-12-07 22:33 G 8666486.22 8666486.44 8666486.66 0.0490 0.0142 Neptune 19016-06-27 20:38 G 8666689.10 8666689.36 8666689.62 0.0090 0.0003 Jupiter 19017-01-05 20:52 G 8666881.30 8666881.37 8666881.45 0.0484 0.0457 Neptune 19017-06-30 09:50 G 8667056.65 8667056.91 8667057.17 0.0090 0.0001 Uranus 19017-10-08 12:43 G 8667156.88 8667157.03 8667157.22 0.0144 0.0104 Neptune 19018-07-02 22:33 G 8667424.19 8667424.44 8667424.70 0.0090 0.0002 Uranus 19018-10-13 11:02 G 8667526.73 8667526.96 8667527.21 0.0144 0.0040 Neptune 19019-07-05 11:45 G 8667791.73 8667791.99 8667792.25 0.0090 0.0002 Uranus 19019-10-18 09:21 G 8667896.65 8667896.89 8667897.15 0.0145 0.0026 Neptune 19020-07-07 00:43 G 8668159.27 8668159.53 8668159.79 0.0089 0.0004 Uranus 19020-10-22 08:24 G 8668266.66 8668266.85 8668267.06 0.0145 0.0090 Neptune 19021-07-09 13:40 G 8668526.82 8668527.07 8668527.34 0.0089 0.0007 Saturn 19022-05-20 11:45 G 8668841.84 8668841.99 8668842.16 0.0282 0.0217 Jupiter 19022-06-21 01:40 G 8668873.35 8668873.57 8668873.80 0.0541 0.0117 Neptune 19022-07-12 02:52 G 8668894.36 8668894.62 8668894.88 0.0089 0.0008 Saturn 19023-06-02 22:33 G 8669220.34 8669220.44 8669220.56 0.0281 0.0249 Neptune 19023-07-14 15:50 G 8669261.91 8669262.16 8669262.42 0.0089 0.0010 Neptune 19024-07-16 05:02 G 8669629.46 8669629.71 8669629.97 0.0089 0.0011 Neptune 19025-07-18 18:00 G 8669997.00 8669997.25 8669997.51 0.0089 0.0013 Neptune 19026-07-21 06:43 G 8670364.53 8670364.78 8670365.04 0.0089 0.0015 Neptune 19027-07-23 19:26 G 8670732.06 8670732.31 8670732.57 0.0089 0.0016 Jupiter 19027-12-12 01:12 G 8670873.32 8670873.55 8670873.78 0.0489 0.0057 Neptune 19028-07-25 08:24 G 8671099.60 8671099.85 8671100.11 0.0089 0.0018 Neptune 19029-07-27 20:52 G 8671467.12 8671467.37 8671467.63 0.0089 0.0019 Neptune 19030-07-30 09:21 G 8671834.65 8671834.89 8671835.16 0.0089 0.0021 Mars 19031-03-14 05:45 G 8672061.55 8672061.74 8672061.93 0.1707 0.0170 Neptune 19031-08-01 22:04 G 8672202.18 8672202.42 8672202.68 0.0089 0.0023

Neptune 19032-08-03 10:48 G 8672569.71 8672569.95 8672570.20 0.0089 0.0024 Neptune 19033-08-05 23:16 G 8672937.23 8672937.47 8672937.73 0.0089 0.0025 Jupiter 19034-06-26 09:50 G 8673261.70 8673261.91 8673262.12 0.0542 0.0241 Neptune 19034-08-08 11:45 G 8673304.75 8673304.99 8673305.24 0.0089 0.0027 Neptune 19035-08-11 00:14 G 8673672.28 8673672.51 8673672.77 0.0089 0.0028 Neptune 19036-08-12 12:43 G 8674039.80 8674040.03 8674040.29 0.0089 0.0030 Neptune 19037-08-15 01:12 G 8674407.32 8674407.55 8674407.80 0.0089 0.0031 Saturn 19037-11-23 20:09 G 8674508.10 8674508.34 8674508.59 0.0277 0.0018 Neptune 19038-08-17 13:26 G 8674774.83 8674775.06 8674775.31 0.0089 0.0032 Neptune 19039-08-20 01:55 G 8675142.34 8675142.58 8675142.82 0.0089 0.0033 Jupiter 19039-12-16 06:14 G 8675260.53 8675260.76 8675261.00 0.0488 0.0032 Neptune 19040-08-21 13:55 G 8675509.85 8675510.08 8675510.32 0.0089 0.0034 Neptune 19041-08-24 02:09 G 8675877.35 8675877.59 8675877.83 0.0089 0.0035 Neptune 19042-08-26 13:55 G 8676244.85 8676245.08 8676245.32 0.0089 0.0036 Neptune 19043-08-29 01:40 G 8676612.35 8676612.57 8676612.82 0.0089 0.0037 Neptune 19044-08-30 13:40 G 8676979.85 8676980.07 8676980.31 0.0089 0.0038 Jupiter 19045-05-24 09:21 G 8677246.82 8677246.89 8677246.97 0.0533 0.0501 Neptune 19045-09-02 01:12 G 8677347.34 8677347.55 8677347.80 0.0089 0.0039 Jupiter 19046-07-01 12:57 G 8677649.87 8677650.04 8677650.22 0.0543 0.0360 Neptune 19046-09-04 13:12 G 8677714.83 8677715.05 8677715.30 0.0089 0.0039 Neptune 19047-09-07 01:26 G 8678082.33 8678082.56 8678082.79 0.0089 0.0040 Neptune 19048-09-08 12:57 G 8678449.82 8678450.04 8678450.28 0.0089 0.0040 8678817.52 8678817.77 0.0089 0.0041 Neptune 19049-09-11 00:28 G 8678817.31 Neptune 19050-09-13 12:14 G 8679184.80 8679185.01 8679185.25 0.0089 0.0041 Neptune 19051-09-15 23:45 G 8679552.28 8679552.49 8679552.73 0.0089 0.0042 Jupiter 19051-12-20 12:14 G 8679647.78 8679648.01 8679648.24 0.0487 0.0118 Saturn 19052-05-27 19:12 G 8679807.06 8679807.30 8679807.54 0.0281 0.0060 Neptune 19052-09-17 11:16 G 8679919.76 8679919.97 8679920.21 0.0089 0.0042 Neptune 19053-09-19 22:33 G 8680287.23 8680287.44 8680287.68 0.0089 0.0042 Neptune 19054-09-22 10:04 G 8680654.70 8680654.92 8680655.15 0.0089 0.0042

Neptune 19055-09-24 21:07 G 8681022.17 8681022.38 8681022.62 0.0089 0.0043 Neptune 19056-09-26 08:09 G 8681389.64 8681389.84 8681390.09 0.0089 0.0043 Jupiter 19057-05-29 14:09 G 8681634.93 8681635.09 8681635.25 0.0535 0.0390 Neptune 19057-09-28 19:26 G 8681757.10 8681757.55 0.0089 0.0043 8681757.31 Uranus 19058-04-09 03:50 G 8681949.49 8681949.66 8681949.86 0.0134 0.0092 Jupiter 19058-07-06 22:33 G 8682038.33 8682038.44 8682038.55 0.0544 0.0481 Neptune 19058-10-01 06:28 G 8682124.57 8682124.77 8682125.02 0.0089 0.0043 Uranus 19059-04-13 13:55 G 8682318.85 8682319.08 8682319.34 0.0134 0.0039 Neptune 19059-10-03 17:45 G 8682492.03 8682492.24 8682492.48 0.0089 0.0043 Uranus 19060-04-16 23:31 G 8682688.23 8682688.48 8682688.74 0.0134 0.0014 Neptune 19060-10-05 04:48 G 8682859.50 8682859.70 8682859.95 0.0089 0.0043 Uranus 19061-04-21 08:38 G 8683057.65 8683057.86 8683058.10 0.0134 0.0066 Neptune 19061-10-07 16:19 G 8683226.96 8683227.18 8683227.41 0.0089 0.0042 Uranus 19062-04-25 17:31 G 8683427.12 8683427.23 8683427.36 0.0134 0.0117 Neptune 19062-10-10 03:07 G 8683594.42 8683594.63 8683594.87 0.0089 0.0042 Jupiter 19062-11-24 09:07 G 8683639.76 8683639.88 8683640.01 0.0495 0.0417 Neptune 19063-10-12 14:09 G 8683961.88 8683962.09 8683962.33 0.0089 0.0042 Jupiter 19063-12-24 16:33 G 8684034.98 8684035.19 8684035.40 0.0486 0.0202 Neptune 19064-10-14 01:12 G 8684329.33 8684329.55 8684329.79 0.0089 0.0041 Neptune 19065-10-16 11:45 G 8684696.78 8684696.99 8684697.23 0.0089 0.0041 Neptune 19066-10-18 22:33 G 8685064.22 8685064.44 8685064.68 0.0088 0.0040 Saturn 19066-11-18 13:40 G 8685094.93 8685095.07 8685095.24 0.0277 0.0210 Neptune 19067-10-21 09:07 G 8685431.67 8685431.88 8685432.13 0.0088 0.0039 Saturn 19067-12-01 07:12 G 8685472.67 8685472.80 8685472.95 0.0278 0.0228 Pluto 19068-02-29 11:45 G 8685562.73 8685562.99 8685563.25 0.0080 0.0004 Neptune 19068-10-22 19:55 G 8685799.11 8685799.33 8685799.57 0.0088 0.0039 Jupiter 19069-06-03 21:50 G 8686023.21 8686023.41 8686023.62 0.0537 0.0274 Neptune 19069-10-25 06:28 G 8686166.55 8686166.77 8686167.01 0.0088 0.0038 Neptune 19070-10-27 16:48 G 8686533.99 8686534.20 8686534.45 0.0088 0.0037 Neptune 19071-10-30 03:36 G 8686901.43 8686901.65 8686901.90 0.0088 0.0036

Neptune 19072-10-31 13:55 G 8687268.86 8687269.08 8687269.33 0.0088 0.0036 Neptune 19073-11-03 00:43 G 8687636.31 8687636.78 0.0088 0.0035 8687636.53 Neptune 19074-11-05 11:16 G 8688003.74 8688003.97 8688004.22 0.0088 0.0033 Jupiter 19074-11-28 16:48 G 8688027.03 8688027.38 0.0493 0.0328 8688027.20 Neptune 19075-11-07 21:50 G 8688371.18 8688371.41 8688371.66 0.0088 0.0032 Jupiter 19075-12-28 20:38 G 8688422.17 8688422.36 8688422.55 0.0485 0.0285 Neptune 19076-11-09 08:09 G 8688738.61 8688738.84 8688739.09 0.0088 0.0031 Neptune 19077-11-11 18:28 G 8689106.04 8689106.27 8689106.52 0.0088 0.0030 Neptune 19078-11-14 04:48 G 8689473.47 8689473.70 8689473.95 0.0088 0.0029 Neptune 19079-11-16 14:52 G 8689840.89 8689841.12 8689841.38 0.0088 0.0028 Neptune 19080-11-18 01:26 G 8690208.32 8690208.56 8690208.81 0.0088 0.0027 Saturn 19081-05-21 22:33 G 8690393.24 8690393.44 8690393.65 0.0282 0.0156 Jupiter 19081-06-09 08:24 G 8690411.62 8690411.85 8690412.07 0.0539 0.0150 Neptune 19081-11-20 11:31 G 8690575.74 8690575.98 8690576.23 0.0088 0.0025 Neptune 19082-11-22 21:50 G 8690943.17 8690943.41 8690943.66 0.0088 0.0024 Neptune 19083-11-25 07:40 G 8691310.59 8691310.82 8691311.08 0.0088 0.0023 8691678.26 8691678.51 0.0088 0.0021 Neptune 19084-11-26 18:14 G 8691678.01 Neptune 19085-11-29 04:19 G 8692045.44 8692045.94 0.0088 0.0020 8692045.68 Neptune 19086-12-01 14:52 G 8692412.87 8692413.12 8692413.37 0.0088 0.0018 Jupiter 19086-12-02 20:52 G 8692414.17 8692414.58 0.0491 0.0241 8692414.37 Neptune 19087-12-04 01:12 G 8692780.30 8692780.55 8692780.80 0.0088 0.0017 Jupiter 19088-01-01 22:48 G 8692809.30 8692809.45 8692809.60 0.0485 0.0365 Neptune 19088-12-05 11:02 G 8693147.72 8693147.96 8693148.22 0.0088 0.0016 Neptune 19089-12-07 21:36 G 8693515.15 8693515.40 8693515.66 0.0088 0.0014 Neptune 19090-12-10 07:40 G 8693882.57 8693882.82 8693883.08 0.0088 0.0013 Neptune 19091-12-12 17:45 G 8694249.99 8694250.24 8694250.50 0.0088 0.0011 Neptune 19092-12-14 03:50 G 8694617.41 8694617.66 8694617.92 0.0088 0.0010 Jupiter 19093-06-14 16:04 G 8694799.93 8694800.17 8694800.40 0.0540 0.0027 Neptune 19093-12-16 14:09 G 8694984.84 8694985.09 8694985.35 0.0088 0.0008 Neptune 19094-12-19 00:14 G 8695352.26 8695352.51 8695352.77 0.0088 0.0007

Neptune 19095-12-21 10:33 G 8695719.68 8695719.94 8695720.20 0.0088 0.0005 Saturn 19096-11-25 01:12 G 8696059.31 8696059.55 8696059.80 0.0278 0.0034 Neptune 19096-12-22 20:38 G 8696087.11 8696087.36 8696087.62 0.0088 0.0004 Neptune 19097-12-25 06:57 G 8696454.54 8696454.79 8696455.05 0.0088 0.0002 Jupiter 19098-12-07 03:07 G 8696801.41 8696801.63 8696801.85 0.0490 0.0153 Neptune 19098-12-27 17:31 G 8696821.97 8696822.23 8696822.49 0.0088 0.0000 Neptune 19099-12-30 03:50 G 8697189.40 8697189.66 8697189.91 0.0088 0.0002 Jupiter 19100-01-06 03:07 G 8697196.54 8697196.63 8697196.72 0.0484 0.0446 Neptune 19101-01-01 14:09 G 8697556.84 8697557.09 8697557.35 0.0088 0.0003 Uranus 19101-10-10 00:57 G 8697838.37 8697838.54 8697838.73 0.0144 0.0100 Neptune 19102-01-04 00:28 G 8697924.27 8697924.52 8697924.78 0.0088 0.0005 Uranus 19102-10-14 23:31 G 8698208.23 8698208.48 8698208.72 0.0144 0.0036 Neptune 19103-01-06 10:48 G 8698291.70 8698291.95 8698292.21 0.0088 0.0007 Uranus 19103-10-19 21:36 G 8698578.17 8698578.40 8698578.66 0.0145 0.0030 Neptune 19104-01-08 21:07 G 8698659.13 8698659.38 8698659.64 0.0088 0.0008 Uranus 19104-10-23 20:24 G 8698948.18 8698948.35 8698948.56 0.0145 0.0095 Neptune 19105-01-10 07:26 G 8699026.56 8699026.81 8699027.07 0.0088 0.0010 Jupiter 19105-06-20 18:28 G 8699188.04 8699188.27 8699188.50 0.0541 0.0091 Neptune 19106-01-12 18:00 G 8699394.00 8699394.25 8699394.51 0.0088 0.0011 Neptune 19107-01-15 04:04 G 8699761.43 8699761.67 8699761.94 0.0088 0.0013 Neptune 19108-01-17 14:38 G 8700128.86 8700129.11 8700129.37 0.0088 0.0014 Neptune 19109-01-19 01:12 G 8700496.30 8700496.55 8700496.81 0.0088 0.0015 Neptune 19110-01-21 11:45 G 8700863.74 8700863.99 8700864.25 0.0088 0.0017 Jupiter 19110-12-12 10:04 G 8701188.69 8701188.92 8701189.15 0.0489 0.0066 Neptune 19111-01-23 22:19 G 8701231.18 8701231.43 8701231.69 0.0088 0.0018 Saturn 19111-05-31 04:48 G 8701358.48 8701358.70 8701358.93 0.0281 0.0120 Neptune 19112-01-26 08:52 G 8701598.63 8701598.87 8701599.13 0.0088 0.0020 Neptune 19113-01-27 19:40 G 8701966.08 8701966.32 8701966.58 0.0088 0.0021 Neptune 19114-01-30 06:28 G 8702333.53 8702333.77 8702334.02 0.0088 0.0022 Neptune 19115-02-01 17:02 G 8702700.98 8702701.21 8702701.48 0.0088 0.0024

Neptune 19116-02-04 03:50 G 8703068.42 8703068.66 8703068.92 0.0088 0.0025 Neptune 19117-02-05 14:38 G 8703435.88 8703436.11 8703436.37 0.0088 0.0026 Jupiter 19117-06-26 02:52 G 8703576.40 8703576.62 8703576.83 0.0542 0.0217 Neptune 19118-02-08 01:26 G 8703803.33 8703803.56 8703803.82 0.0088 0.0027 Neptune 19119-02-10 12:28 G 8704170.78 8704171.02 8704171.27 0.0088 0.0028 Neptune 19120-02-12 23:16 G 8704538.24 8704538.47 8704538.72 0.0088 0.0029 Neptune 19121-02-14 10:04 G 8704905.69 8704905.92 8704906.18 0.0088 0.0031 Neptune 19122-02-16 21:21 G 8705273.16 8705273.39 8705273.64 0.0088 0.0031 Jupiter 19122-12-16 15:21 G 8705575.91 8705576.14 8705576.38 0.0488 0.0022 Neptune 19123-02-19 08:38 G 8705640.62 8705640.86 8705641.10 0.0088 0.0033 Neptune 19124-02-21 19:40 G 8706008.09 8706008.32 8706008.56 0.0088 0.0033 Neptune 19125-02-23 06:57 G 8706375.56 8706375.79 8706376.03 0.0088 0.0034 Saturn 19125-11-20 18:57 G 8706646.10 8706646.29 8706646.50 0.0277 0.0157 Neptune 19126-02-25 18:14 G 8706743.04 8706743.26 8706743.51 0.0088 0.0035 Neptune 19127-02-28 05:31 G 8707110.51 8707110.73 8707110.98 0.0088 0.0036 Neptune 19128-03-01 17:16 G 8707477.99 8707478.22 8707478.46 0.0088 0.0037 Jupiter 19128-05-24 10:04 G 8707561.87 8707561.92 8707561.98 0.0533 0.0514 Neptune 19129-03-04 04:33 G 8707845.47 8707845.69 8707845.94 0.0088 0.0038 Jupiter 19129-07-01 14:24 G 8707964.92 8707965.10 8707965.28 0.0543 0.0342 Neptune 19130-03-06 15:50 G 8708212.95 8708213.16 8708213.41 0.0088 0.0038 Neptune 19131-03-09 03:50 G 8708580.43 8708580.66 8708580.89 0.0088 0.0039 19131-09-14 11:31 G 8708769.79 8708769.98 8708770.17 0.1836 0.0236 Mars Neptune 19132-03-10 14:52 G 8708947.91 8708948.12 8708948.37 0.0088 0.0039 Neptune 19133-03-13 02:52 G 8709315.40 8709315.62 8709315.86 0.0088 0.0040 Neptune 19134-03-15 14:52 G 8709682.89 8709683.12 8709683.35 0.0088 0.0040 Jupiter 19134-12-20 20:38 G 8709963.13 8709963.36 8709963.58 0.0487 0.0108 Neptune 19135-03-18 02:09 G 8710050.38 8710050.59 8710050.84 0.0088 0.0041 Neptune 19136-03-19 14:09 G 8710417.87 8710418.09 8710418.33 0.0088 0.0041 Neptune 19137-03-22 02:24 G 8710785.38 8710785.60 8710785.84 0.0088 0.0041 Neptune 19138-03-24 14:24 G 8711152.88 8711153.10 8711153.34 0.0088 0.0041

Neptune 19139-03-27 02:38 G 8711520.38 8711520.61 8711520.84 0.0088 0.0041 Neptune 19140-03-28 14:38 G 8711887.89 8711888.11 8711888.35 0.0088 0.0041 Saturn 19140-05-24 07:55 G 8711944.61 8711944.83 8711945.07 0.0281 0.0096 Jupiter 19140-05-29 18:28 G 8711950.13 8711950.27 8711950.43 0.0535 0.0402 Neptune 19141-03-31 02:52 G 8712255.40 8712255.62 8712255.86 0.0089 0.0041 Jupiter 19141-07-07 03:07 G 8712353.51 8712353.63 8712353.75 0.0544 0.0465 Neptune 19142-04-02 15:07 G 8712622.91 8712623.13 8712623.37 0.0089 0.0041 Uranus 19142-04-10 16:33 G 8712631.01 8712631.19 8712631.39 0.0134 0.0088 Neptune 19143-04-05 02:52 G 8712990.41 8712990.62 8712990.87 0.0089 0.0041 Uranus 19143-04-15 02:38 G 8713000.36 8713000.61 8713000.86 0.0134 0.0035 Neptune 19144-04-06 15:07 G 8713357.92 8713358.13 8713358.39 0.0089 0.0041 Uranus 19144-04-18 12:00 G 8713369.75 8713370.00 8713370.26 0.0134 0.0018 Neptune 19145-04-09 03:50 G 8713725.43 8713725.66 8713725.90 0.0089 0.0040 Uranus 19145-04-22 21:07 G 8713739.17 8713739.38 8713739.61 0.0134 0.0070 Jupiter 19145-11-24 14:38 G 8713955.00 8713955.11 8713955.23 0.0495 0.0426 Neptune 19146-04-11 15:50 G 8714092.95 8714093.16 8714093.41 0.0089 0.0040 Uranus 19146-04-27 05:16 G 8714108.64 8714108.72 8714108.85 0.0134 0.0122 Jupiter 19146-12-24 23:02 G 8714350.25 8714350.46 8714350.68 0.0486 0.0191 Neptune 19147-04-14 04:04 G 8714460.46 8714460.67 8714460.93 0.0089 0.0040 Neptune 19148-04-15 16:48 G 8714827.98 8714828.20 8714828.45 0.0089 0.0039 Neptune 19149-04-18 05:45 G 8715195.51 8715195.74 8715195.98 0.0089 0.0038 Neptune 19150-04-20 18:00 G 8715563.03 8715563.25 8715563.50 0.0089 0.0038 Neptune 19151-04-23 06:57 G 8715930.56 8715930.79 8715931.03 0.0089 0.0037 Neptune 19152-04-24 19:40 G 8716298.09 8716298.32 8716298.57 0.0089 0.0036 Jupiter 19152-06-04 01:40 G 8716338.37 8716338.57 8716338.77 0.0536 0.0285 Neptune 19153-04-27 08:24 G 8716665.63 8716665.85 8716666.11 0.0089 0.0036 Neptune 19154-04-29 21:07 G 8717033.15 8717033.38 8717033.63 0.0089 0.0035 Neptune 19155-05-02 09:50 G 8717400.69 8717400.91 8717401.17 0.0089 0.0034 Saturn 19155-11-28 04:04 G 8717610.44 8717610.67 8717610.91 0.0278 0.0083 Neptune 19156-05-03 22:48 G 8717768.22 8717768.45 8717768.70 0.0089 0.0033

Neptune 19157-05-06 11:31 G 8718135.75 8718135.98 8718136.24 0.0089 0.0032 Jupiter 19157-11-28 22:04 G 8718342.25 8718342.42 8718342.59 0.0493 0.0337 Neptune 19158-05-09 00:28 G 8718503.29 8718503.52 8718503.77 0.0089 0.0031 Jupiter 19158-12-29 03:50 G 8718737.47 8718737.66 8718737.85 0.0485 0.0276 Neptune 19159-05-11 13:12 G 8718870.82 8718871.05 8718871.31 0.0089 0.0030 Neptune 19160-05-13 02:09 G 8719238.36 8719238.59 8719238.85 0.0089 0.0029 Neptune 19161-05-15 15:07 G 8719605.90 8719606.13 8719606.40 0.0089 0.0028 Neptune 19162-05-18 04:33 G 8719973.44 8719973.69 8719973.94 0.0089 0.0026 Neptune 19163-05-20 17:31 G 8720340.99 8720341.23 8720341.49 0.0089 0.0025 Neptune 19164-05-22 06:43 G 8720708.55 8720708.78 8720709.05 0.0089 0.0024 Jupiter 19164-06-09 03:07 G 8720726.40 8720726.63 8720726.85 0.0538 0.0172 Neptune 19165-05-24 20:09 G 8721076.09 8721076.34 8721076.60 0.0089 0.0023 Neptune 19166-05-27 09:21 G 8721443.64 8721443.89 8721444.15 0.0089 0.0021 Neptune 19167-05-29 22:33 G 8721811.19 8721811.44 8721811.70 0.0089 0.0020 Neptune 19168-05-31 11:31 G 8722178.74 8722178.98 8722179.25 0.0089 0.0019 Neptune 19169-06-03 00:43 G 8722546.29 8722546.53 8722546.80 0.0089 0.0018 Jupiter 19169-12-03 06:00 G 8722729.55 8722729.75 8722729.95 0.0492 0.0251 Saturn 19170-06-01 12:28 G 8722909.84 8722910.02 8722910.22 0.0281 0.0177 Neptune 19170-06-05 13:55 G 8722913.83 8722914.08 8722914.34 0.0089 0.0015 Jupiter 19171-01-02 09:07 G 8723124.73 8723124.88 8723125.04 0.0485 0.0357 Neptune 19171-06-08 03:07 G 8723281.38 8723281.63 8723281.89 0.0089 0.0014 Neptune 19172-06-09 16:19 G 8723648.93 8723649.18 8723649.44 0.0089 0.0012 Neptune 19173-06-12 05:45 G 8724016.48 8724016.74 8724016.99 0.0089 0.0011 Neptune 19174-06-14 18:43 G 8724384.03 8724384.28 8724384.54 0.0089 0.0009 Neptune 19175-06-17 08:09 G 8724751.58 8724751.84 8724752.10 0.0089 0.0008 Jupiter 19176-06-14 10:04 G 8725114.69 8725114.92 8725115.16 0.0539 0.0050 Neptune 19176-06-18 21:21 G 8725119.14 8725119.39 8725119.66 0.0089 0.0006 Neptune 19177-06-21 10:48 G 8725486.69 8725486.95 8725487.21 0.0089 0.0004 Neptune 19178-06-24 00:00 G 8725854.24 8725854.50 8725854.76 0.0089 0.0003 Neptune 19179-06-26 13:12 G 8726221.79 8726222.05 8726222.31 0.0089 0.0001

Neptune 19180-06-28 02:24 G 8726589.35 8726589.60 8726589.86 0.0090 0.0002 Neptune 19181-06-30 15:21 G 8726956.88 8726957.14 8726957.40 0.0090 0.0002 Jupiter 19181-12-07 12:57 G 8727116.83 8727117.04 8727117.27 0.0491 0.0163 Neptune 19182-07-03 04:33 G 8727324.43 8727324.69 8727324.95 0.0090 0.0004 Jupiter 19183-01-06 12:43 G 8727511.94 8727512.03 8727512.14 0.0484 0.0435 Neptune 19183-07-05 17:31 G 8727691.97 8727692.23 8727692.49 0.0090 0.0005 Neptune 19184-07-07 06:28 G 8728059.52 8728059.77 8728060.03 0.0090 0.0007 Saturn 19184-11-21 22:19 G 8728197.21 8728197.43 8728197.66 0.0277 0.0107 Neptune 19185-07-09 19:26 G 8728427.06 8728427.31 8728427.57 0.0090 0.0009 Uranus 19185-10-10 11:02 G 8728519.78 8728519.96 8728520.15 0.0144 0.0097 Neptune 19186-07-12 08:24 G 8728794.59 8728794.85 8728795.11 0.0090 0.0010 Uranus 19186-10-15 09:21 G 8728889.65 8728889.89 8728890.14 0.0144 0.0033 Neptune 19187-07-14 21:21 G 8729162.14 8729162.39 8729162.66 0.0090 0.0012 Uranus 19187-10-20 07:55 G 8729259.59 8729259.83 8729260.08 0.0145 0.0033 Jupiter 19188-06-19 19:55 G 8729503.10 8729503.33 8729503.57 0.0541 0.0075 Neptune 19188-07-16 10:33 G 8729529.69 8729529.94 8729530.20 0.0089 0.0013 Uranus 19188-10-24 06:57 G 8729629.62 8729629.79 8729629.99 0.0145 0.0098 Neptune 19189-07-18 23:31 G 8729897.23 8729897.48 8729897.74 0.0089 0.0014 Neptune 19190-07-21 12:28 G 8730264.77 8730265.02 8730265.28 0.0089 0.0016 Neptune 19191-07-24 01:12 G 8730632.31 8730632.55 8730632.82 0.0089 0.0018 Neptune 19192-07-25 14:09 G 8730999.84 8731000.09 8731000.35 0.0089 0.0019 Neptune 19193-07-28 02:38 G 8731367.37 8731367.61 8731367.88 0.0089 0.0021 Jupiter 19193-12-11 19:26 G 8731504.08 8731504.31 8731504.54 0.0489 0.0075 Neptune 19194-07-30 15:21 G 8731734.90 8731735.14 8731735.40 0.0089 0.0022 Neptune 19195-08-02 04:04 G 8732102.43 8732102.67 8732102.92 0.0089 0.0023 Neptune 19196-08-03 16:48 G 8732469.95 8732470.20 8732470.45 0.0089 0.0024 Neptune 19197-08-06 04:48 G 8732837.47 8732837.70 8732837.96 0.0089 0.0026 Neptune 19198-08-08 17:31 G 8733205.00 8733205.23 8733205.49 0.0089 0.0027 Saturn 19199-05-26 15:21 G 8733495.89 8733496.14 8733496.38 0.0281 0.0039 Neptune 19199-08-11 06:00 G 8733572.52 8733572.75 8733573.01 0.0089 0.0028

Jupiter 19200-06-25 08:24 G 8733891.63 8733891.85 8733892.07 0.0542 0.0202 Neptune 19200-08-12 18:43 G 8733940.04 8733940.28 8733940.53 0.0089 0.0029 Neptune 19201-08-15 07:12 G 8734307.56 8734307.80 8734308.05 0.0089 0.0030 Neptune 19202-08-17 19:40 G 8734675.08 8734675.32 8734675.57 0.0089 0.0031 Neptune 19203-08-20 08:09 G 8735042.60 8735042.84 8735043.09 0.0089 0.0032 Neptune 19204-08-21 20:24 G 8735410.12 8735410.35 8735410.60 0.0089 0.0032 Neptune 19205-08-24 08:24 G 8735777.62 8735777.85 8735778.10 0.0089 0.0033 Jupiter 19205-12-15 23:02 G 8735891.23 8735891.46 8735891.69 0.0488 0.0012 Neptune 19206-08-26 20:24 G 8736145.13 8736145.35 8736145.60 0.0089 0.0034 Neptune 19207-08-29 08:24 G 8736512.63 8736512.85 8736513.11 0.0089 0.0035 Neptune 19208-08-30 20:24 G 8736880.13 8736880.35 8736880.60 0.0089 0.0036 Neptune 19209-09-02 08:24 G 8737247.63 8737247.85 8737248.10 0.0089 0.0036 Neptune 19210-09-04 20:24 G 8737615.12 8737615.35 8737615.59 0.0089 0.0036 Jupiter 19211-05-24 15:50 G 8737877.12 8737877.16 8737877.21 0.0532 0.0522 Neptune 19211-09-07 07:55 G 8737982.61 8737982.83 8737983.08 0.0089 0.0038 Jupiter 19212-06-30 18:14 G 8738280.08 8738280.26 8738280.45 0.0543 0.0327 Neptune 19212-09-08 19:55 G 8738350.11 8738350.33 8738350.57 0.0089 0.0037 Neptune 19213-09-11 07:26 G 8738717.59 8738717.81 8738718.06 0.0089 0.0038 Neptune 19214-09-13 19:26 G 8739085.09 8739085.31 8739085.55 0.0089 0.0038 Saturn 19214-11-29 05:02 G 8739161.50 8739161.71 8739161.93 0.0278 0.0130 Neptune 19215-09-16 07:26 G 8739452.58 8739452.81 8739453.04 0.0089 0.0038 Neptune 19216-09-17 18:28 G 8739820.06 8739820.27 8739820.52 0.0089 0.0039 Neptune 19217-09-20 06:00 G 8740187.54 8740187.75 8740188.00 0.0089 0.0039 Jupiter 19217-12-20 04:19 G 8740278.45 8740278.68 8740278.91 0.0487 0.0099 Neptune 19218-09-22 17:31 G 8740555.02 8740555.23 8740555.48 0.0089 0.0039 Neptune 19219-09-25 04:48 G 8740922.49 8740922.70 8740922.95 0.0089 0.0039 Neptune 19220-09-26 16:04 G 8741289.96 8741290.17 8741290.42 0.0089 0.0039 Neptune 19221-09-29 03:07 G 8741657.42 8741657.63 8741657.88 0.0089 0.0039 Neptune 19222-10-01 14:38 G 8742024.88 8742025.11 8742025.34 0.0089 0.0038 Jupiter 19223-05-29 16:33 G 8742265.05 8742265.19 8742265.34 0.0534 0.0419

Neptune 19223-10-04 01:55 G 8742392.35 8742392.58 8742392.81 0.0089 0.0038 Jupiter 19224-07-05 21:50 G 8742668.28 8742668.41 8742668.55 0.0543 0.0441 Neptune 19224-10-05 12:28 G 8742759.80 8742760.02 8742760.26 0.0089 0.0038 Pluto 19225-09-02 04:48 G 8743091.52 8743091.70 8743091.92 0.0064 0.0040 Neptune 19225-10-07 23:31 G 8743127.26 8743127.48 8743127.73 0.0089 0.0038 Uranus 19226-04-11 05:16 G 8743312.54 8743312.72 8743312.94 0.0134 0.0084 Pluto 19226-09-03 16:19 G 8743458.03 8743458.18 8743458.40 0.0064 0.0045 Neptune 19226-10-10 10:19 G 8743494.72 8743494.93 8743495.19 0.0089 0.0038 Uranus 19227-04-15 15:36 G 8743681.90 8743682.15 8743682.40 0.0134 0.0030 Neptune 19227-10-12 21:50 G 8743862.18 8743862.41 8743862.65 0.0089 0.0037 Uranus 19228-04-19 00:57 G 8744051.29 8744051.54 8744051.80 0.0134 0.0022 Saturn 19228-05-20 06:28 G 8744082.64 8744082.77 8744082.91 0.0283 0.0234 Neptune 19228-10-14 08:24 G 8744229.64 8744229.85 8744230.10 0.0089 0.0037 Jupiter 19228-11-23 23:31 G 8744270.37 8744270.48 8744270.59 0.0496 0.0435 Uranus 19229-04-23 09:50 G 8744420.71 8744420.91 8744421.14 0.0134 0.0075 Saturn 19229-06-02 18:14 G 8744461.13 8744461.26 8744461.41 0.0281 0.0232 Neptune 19229-10-16 19:26 G 8744597.09 8744597.31 8744597.56 0.0089 0.0036 Jupiter 19229-12-24 10:04 G 8744665.71 8744665.92 8744666.14 0.0486 0.0184 Uranus 19230-04-27 18:43 G 8744790.21 8744790.28 8744790.37 0.0133 0.0126 Neptune 19230-10-19 06:00 G 8744964.54 8744964.75 8744965.01 0.0088 0.0036 Neptune 19231-10-21 17:02 G 8745331.98 8745332.21 8745332.46 0.0088 0.0035 Neptune 19232-10-23 03:36 G 8745699.42 8745699.65 8745699.90 0.0088 0.0034 Neptune 19233-10-25 13:55 G 8746066.86 8746067.08 8746067.34 0.0088 0.0034 Neptune 19234-10-28 00:43 G 8746434.31 8746434.53 8746434.78 0.0088 0.0033 Jupiter 19235-06-03 21:36 G 8746653.21 8746653.40 8746653.59 0.0535 0.0306 Neptune 19235-10-30 11:16 G 8746801.74 8746801.97 8746802.22 0.0088 0.0032 19236-03-12 13:40 G 8746935.92 8746936.07 8746936.22 0.1695 0.1028 Mars Neptune 19236-10-31 21:50 G 8747169.18 8747169.41 8747169.66 0.0088 0.0031 Neptune 19237-11-03 08:24 G 8747536.62 8747536.85 8747537.10 0.0088 0.0030 Neptune 19238-11-05 18:57 G 8747904.05 8747904.29 8747904.54 0.0088 0.0029

Neptune 19239-11-08 05:31 G 8748271.49 8748271.73 8748271.98 0.0088 0.0028 Neptune 19240-11-09 15:50 G 8748638.93 8748639.16 8748639.42 0.0088 0.0027 Jupiter 19240-11-28 08:09 G 8748657.68 8748657.84 8748658.01 0.0494 0.0348 Neptune 19241-11-12 02:38 G 8749006.37 8749006.61 8749006.86 0.0088 0.0025 Jupiter 19241-12-28 14:38 G 8749052.92 8749053.11 8749053.31 0.0485 0.0265 Neptune 19242-11-14 12:43 G 8749373.80 8749374.03 8749374.29 0.0088 0.0025 Neptune 19243-11-16 23:02 G 8749741.23 8749741.46 8749741.72 0.0088 0.0024 Saturn 19243-11-24 00:14 G 8749748.27 8749748.51 8749748.75 0.0277 0.0059 Neptune 19244-11-18 09:21 G 8750108.65 8750108.89 8750109.15 0.0088 0.0022 Neptune 19245-11-20 19:40 G 8750476.08 8750476.32 8750476.58 0.0088 0.0021 Neptune 19246-11-23 06:00 G 8750843.50 8750843.75 8750844.00 0.0088 0.0019 Jupiter 19247-06-09 05:16 G 8751041.50 8751041.72 8751041.94 0.0538 0.0187 Neptune 19247-11-25 16:04 G 8751210.93 8751211.17 8751211.43 0.0088 0.0018 Neptune 19248-11-27 02:09 G 8751578.35 8751578.59 8751578.85 0.0088 0.0017 Neptune 19249-11-29 12:14 G 8751945.77 8751946.01 8751946.28 0.0088 0.0016 Neptune 19250-12-01 22:48 G 8752313.20 8752313.45 8752313.71 0.0088 0.0014 Neptune 19251-12-04 08:52 G 8752680.62 8752680.87 8752681.13 0.0088 0.0013 Jupiter 19252-12-02 16:33 G 8753044.99 8753045.19 8753045.39 0.0492 0.0258 Neptune 19252-12-05 19:26 G 8753048.05 8753048.31 8753048.56 0.0088 0.0011 Neptune 19253-12-08 05:31 G 8753415.48 8753415.73 8753415.99 0.0088 0.0010 Jupiter 19254-01-01 19:12 G 8753440.14 8753440.30 8753440.47 0.0485 0.0347 Neptune 19254-12-10 15:36 G 8753782.91 8753783.15 8753783.42 0.0088 0.0009 Neptune 19255-12-13 01:55 G 8754150.33 8754150.58 8754150.84 0.0088 0.0007 Neptune 19256-12-14 12:00 G 8754517.75 8754518.00 8754518.26 0.0088 0.0006 Neptune 19257-12-16 22:19 G 8754885.17 8754885.43 8754885.69 0.0088 0.0004 Saturn 19258-05-27 20:52 G 8755047.12 8755047.37 8755047.62 0.0281 0.0016 Neptune 19258-12-19 08:24 G 8755252.59 8755252.85 8755253.11 0.0088 0.0003 Jupiter 19259-06-14 16:04 G 8755429.94 8755430.17 8755430.41 0.0539 0.0062 Neptune 19259-12-21 18:28 G 8755620.01 8755620.27 8755620.53 0.0088 0.0002 Neptune 19260-12-23 04:33 G 8755987.43 8755987.69 8755987.95 0.0088 0.0000

Neptune 19261-12-25 14:52 G 8756354.86 8756355.12 8756355.37 0.0088 0.0002 Neptune 19262-12-28 00:43 G 8756722.28 8756722.53 8756722.79 0.0088 0.0003 Neptune 19263-12-30 11:02 G 8757089.71 8757089.96 8757090.22 0.0088 0.0004 Jupiter 19264-12-06 21:36 G 8757432.18 8757432.40 8757432.62 0.0491 0.0170 Neptune 19264-12-31 21:21 G 8757457.14 8757457.39 8757457.65 0.0088 0.0006 Neptune 19266-01-03 07:40 G 8757824.57 8757824.82 8757825.08 0.0088 0.0007 Jupiter 19266-01-05 21:50 G 8757827.31 8757827.41 8757827.53 0.0484 0.0426 Neptune 19267-01-05 18:00 G 8758192.00 8758192.25 8758192.51 0.0088 0.0009 Neptune 19268-01-08 04:19 G 8758559.43 8758559.68 8758559.94 0.0088 0.0010 Neptune 19269-01-09 14:52 G 8758926.87 8758927.12 8758927.38 0.0088 0.0011 Uranus 19269-10-10 22:04 G 8759201.25 8759201.42 8759201.63 0.0144 0.0094 Neptune 19270-01-12 00:57 G 8759294.29 8759294.54 8759294.80 0.0088 0.0013 Uranus 19270-10-15 20:38 G 8759571.12 8759571.36 8759571.61 0.0144 0.0029 Neptune 19271-01-14 11:31 G 8759661.73 8759661.98 8759662.23 0.0088 0.0014 Jupiter 19271-06-20 01:55 G 8759818.35 8759818.58 8759818.81 0.0541 0.0063 Uranus 19271-10-20 19:26 G 8759941.07 8759941.31 8759941.55 0.0145 0.0036 Neptune 19272-01-16 21:50 G 8760029.16 8760029.41 8760029.66 0.0088 0.0015 Uranus 19272-10-24 18:14 G 8760311.09 8760311.26 8760311.45 0.0145 0.0102 Saturn 19272-11-17 12:00 G 8760334.92 8760335.00 8760335.09 0.0276 0.0258 Neptune 19273-01-18 08:09 G 8760396.59 8760396.84 8760397.10 0.0088 0.0017 Saturn 19273-11-30 04:48 G 8760712.52 8760712.70 8760712.90 0.0278 0.0175 Neptune 19274-01-20 18:28 G 8760764.03 8760764.27 8760764.53 0.0088 0.0018 Neptune 19275-01-23 05:02 G 8761131.47 8761131.71 8761131.97 0.0088 0.0019 Neptune 19276-01-25 15:50 G 8761498.91 8761499.16 8761499.41 0.0088 0.0020 Jupiter 19276-12-11 04:04 G 8761819.44 8761819.67 8761819.90 0.0490 0.0083 Neptune 19277-01-27 02:09 G 8761866.35 8761866.59 8761866.85 0.0088 0.0022 Neptune 19278-01-29 12:57 G 8762233.81 8762234.04 8762234.30 0.0088 0.0023 Neptune 19279-01-31 23:45 G 8762601.25 8762601.49 8762601.75 0.0088 0.0024 Neptune 19280-02-03 10:33 G 8762968.71 8762968.94 8762969.20 0.0088 0.0025 Neptune 19281-02-04 21:21 G 8763336.16 8763336.39 8763336.65 0.0088 0.0026

Neptune 19282-02-07 08:09 G 8763703.61 8763703.84 8763704.10 0.0088 0.0027 Neptune 19283-02-09 19:12 G 8764071.06 8764071.30 8764071.55 0.0088 0.0028 Jupiter 19283-06-25 05:31 G 8764206.51 8764206.73 8764206.95 0.0541 0.0179 Neptune 19284-02-12 05:45 G 8764438.51 8764438.74 8764439.00 0.0088 0.0029 Neptune 19285-02-13 16:48 G 8764805.98 8764806.20 8764806.46 0.0088 0.0030 Neptune 19286-02-16 04:04 G 8765173.43 8765173.67 8765173.92 0.0088 0.0030 Neptune 19287-02-18 14:52 G 8765540.89 8765541.12 8765541.37 0.0088 0.0031 Saturn 19287-05-22 09:36 G 8765633.73 8765633.90 8765634.10 0.0283 0.0182 Neptune 19288-02-21 01:55 G 8765908.35 8765908.58 8765908.83 0.0088 0.0032 Jupiter 19288-12-15 10:04 G 8766206.69 8766206.92 8766207.15 0.0489 0.0003 Neptune 19289-02-22 12:57 G 8766275.82 8766276.04 8766276.30 0.0088 0.0033 Neptune 19290-02-25 00:28 G 8766643.29 8766643.52 8766643.76 0.0088 0.0033 Neptune 19291-02-27 11:45 G 8767010.76 8767010.99 8767011.24 0.0088 0.0034 Neptune 19292-02-29 23:16 G 8767378.24 8767378.47 8767378.71 0.0088 0.0035 Neptune 19293-03-03 10:33 G 8767745.72 8767745.94 8767746.19 0.0088 0.0035 Neptune 19294-03-05 22:19 G 8768113.20 8768113.43 8768113.67 0.0088 0.0035 Neptune 19295-03-08 09:21 G 8768480.67 8768480.89 8768481.14 0.0088 0.0036 Jupiter 19295-06-30 13:40 G 8768594.89 8768595.07 8768595.27 0.0542 0.0303 Neptune 19296-03-09 21:07 G 8768848.16 8768848.38 8768848.63 0.0088 0.0036 Neptune 19297-03-12 08:38 G 8769215.64 8769215.86 8769216.11 0.0088 0.0037 Neptune 19298-03-14 20:24 G 8769583.12 8769583.35 8769583.59 0.0088 0.0037 Neptune 19299-03-17 07:40 G 8769950.60 8769950.82 8769951.07 0.0088 0.0037 Neptune 19300-03-19 19:26 G 8770318.09 8770318.31 8770318.56 0.0088 0.0037 Jupiter 19300-12-20 15:50 G 8770593.93 8770594.16 8770594.39 0.0487 0.0088 Neptune 19301-03-22 07:12 G 8770685.58 8770685.80 8770686.05 0.0088 0.0038 Neptune 19302-03-24 19:12 G 8771053.08 8771053.30 8771053.55 0.0088 0.0037 Saturn 19302-11-26 01:12 G 8771299.30 8771299.55 8771299.79 0.0277 0.0013 Neptune 19303-03-27 06:57 G 8771420.58 8771420.79 8771421.05 0.0088 0.0038 Neptune 19304-03-28 19:12 G 8771788.08 8771788.30 8771788.55 0.0088 0.0037 Neptune 19305-03-31 07:55 G 8772155.60 8772155.83 8772156.07 0.0089 0.0037

Neptune 19306-04-02 19:40 G 8772523.10 8772523.32 8772523.57 0.0089 0.0037 Jupiter 19306-05-29 18:57 G 8772580.16 8772580.29 8772580.43 0.0533 0.0432 Neptune 19307-04-05 07:55 G 8772890.61 8772890.83 8772891.08 0.0089 0.0037 Jupiter 19307-07-07 00:57 G 8772983.40 8772983.54 8772983.69 0.0544 0.0423 Neptune 19308-04-06 20:38 G 8773258.12 8773258.36 8773258.59 0.0089 0.0036 Uranus 19309-04-08 08:09 G 8773624.81 8773624.84 8773624.91 0.0135 0.0132 Neptune 19309-04-09 08:24 G 8773625.63 8773625.85 8773626.10 0.0089 0.0036 Neptune 19310-04-11 20:38 G 8773993.14 8773993.36 8773993.62 0.0089 0.0036 Uranus 19310-04-12 18:43 G 8773994.08 8773994.28 8773994.49 0.0134 0.0079 Neptune 19311-04-14 09:07 G 8774360.65 8774360.88 8774361.13 0.0089 0.0035 Uranus 19311-04-17 04:19 G 8774363.44 8774363.68 8774363.95 0.0134 0.0027 Jupiter 19311-11-25 10:48 G 8774585.84 8774585.95 8774586.05 0.0496 0.0441 Neptune 19312-04-15 21:50 G 8774728.17 8774728.41 8774728.65 0.0089 0.0034 Uranus 19312-04-20 13:55 G 8774732.84 8774733.08 8774733.34 0.0134 0.0027 Jupiter 19312-12-24 21:07 G 8774981.17 8774981.38 8774981.60 0.0486 0.0174 Neptune 19313-04-18 10:04 G 8775095.69 8775095.92 8775096.17 0.0089 0.0034 Uranus 19313-04-24 23:16 G 8775102.26 8775102.47 8775102.67 0.0134 0.0079 Neptune 19314-04-20 22:33 G 8775463.21 8775463.44 8775463.69 0.0089 0.0033 Uranus 19314-04-29 07:26 G 8775471.78 8775471.81 8775471.88 0.0133 0.0131 Pluto 19315-03-05 04:33 G 8775781.46 8775781.69 8775781.95 0.0080 0.0029 Mars 19315-03-16 23:16 G 8775793.29 8775793.47 8775793.64 0.1700 0.0670 Neptune 19315-04-23 11:31 G 8775830.74 8775830.98 8775831.22 0.0089 0.0032 Neptune 19316-04-25 00:00 G 8776198.27 8776198.50 8776198.76 0.0089 0.0032 Neptune 19317-04-27 12:43 G 8776565.80 8776566.03 8776566.29 0.0089 0.0031 Saturn 19317-05-30 00:43 G 8776598.30 8776598.53 8776598.77 0.0282 0.0069 Neptune 19318-04-30 01:40 G 8776933.34 8776933.57 8776933.83 0.0089 0.0030 Jupiter 19318-06-04 03:50 G 8776968.48 8776968.66 8776968.86 0.0536 0.0317 Neptune 19319-05-02 14:24 G 8777300.87 8777301.10 8777301.36 0.0089 0.0029 Jupiter 19319-07-12 14:24 G 8777372.10 8777372.10 8777372.10 0.0544 0.0544 Neptune 19320-05-04 03:21 G 8777668.41 8777668.64 8777668.90 0.0089 0.0028

Neptune 19321-05-06 16:19 G 8778035.94 8778036.18 8778036.44 0.0089 0.0027 Neptune 19322-05-09 05:02 G 8778403.47 8778403.71 8778403.97 0.0089 0.0026 Neptune 19323-05-11 18:00 G 8778771.01 8778771.25 8778771.51 0.0089 0.0025 Jupiter 19323-11-29 17:45 G 8778973.08 8778973.24 8778973.41 0.0494 0.0353 Neptune 19324-05-13 06:57 G 8779138.55 8779138.79 8779139.05 0.0089 0.0024 Jupiter 19324-12-29 00:28 G 8779368.33 8779368.52 8779368.72 0.0486 0.0257 Neptune 19325-05-15 20:09 G 8779506.09 8779506.34 8779506.59 0.0089 0.0023 Neptune 19326-05-18 08:52 G 8779873.63 8779873.87 8779874.13 0.0089 0.0022 Neptune 19327-05-20 21:50 G 8780241.17 8780241.41 8780241.68 0.0089 0.0021 Neptune 19328-05-22 11:02 G 8780608.72 8780608.96 8780609.22 0.0089 0.0019 Neptune 19329-05-25 00:28 G 8780976.26 8780976.52 8780976.77 0.0089 0.0018 Neptune 19330-05-27 13:26 G 8781343.81 8781344.06 8781344.32 0.0089 0.0017 Jupiter 19330-06-09 12:28 G 8781356.81 8781357.02 8781357.24 0.0537 0.0197 Neptune 19331-05-30 02:38 G 8781711.37 8781711.61 8781711.88 0.0089 0.0015 Saturn 19331-11-20 11:16 G 8781885.83 8781885.97 8781886.13 0.0276 0.0214 Neptune 19332-05-31 16:19 G 8782078.92 8782079.18 8782079.43 0.0089 0.0014 Saturn 19332-12-02 03:50 G 8782263.52 8782263.66 8782263.82 0.0278 0.0219 Neptune 19333-06-03 05:02 G 8782446.46 8782446.71 8782446.97 0.0089 0.0012 Neptune 19334-06-05 18:14 G 8782814.01 8782814.26 8782814.53 0.0089 0.0011 Neptune 19335-06-08 07:26 G 8783181.55 8783181.81 8783182.07 0.0089 0.0010 Jupiter 19335-12-04 01:26 G 8783360.36 8783360.56 8783360.76 0.0493 0.0265 Neptune 19336-06-09 20:24 G 8783549.10 8783549.35 8783549.62 0.0089 0.0009 Jupiter 19337-01-02 05:31 G 8783755.57 8783755.73 8783755.90 0.0485 0.0339 Neptune 19337-06-12 09:50 G 8783916.65 8783916.91 8783917.16 0.0089 0.0007 Neptune 19338-06-14 22:48 G 8784284.19 8784284.45 8784284.71 0.0089 0.0005 Neptune 19339-06-17 12:00 G 8784651.75 8784652.00 8784652.26 0.0089 0.0004 Neptune 19340-06-19 01:26 G 8785019.30 8785019.56 8785019.82 0.0089 0.0003 Neptune 19341-06-21 14:38 G 8785386.85 8785387.11 8785387.37 0.0089 0.0001 Jupiter 19342-06-14 16:04 G 8785744.94 8785745.17 8785745.41 0.0538 0.0084 Neptune 19342-06-24 03:50 G 8785754.40 8785754.66 8785754.92 0.0089 0.0001

Neptune 19343-06-26 17:16 G 8786121.96 8786122.22 8786122.48 0.0089 0.0002 Neptune 19344-06-28 06:28 G 8786489.51 8786489.77 8786490.03 0.0089 0.0004 Neptune 19345-06-30 19:40 G 8786857.07 8786857.32 8786857.58 0.0090 0.0005 Saturn 19346-05-24 12:14 G 8787184.80 8787185.01 8787185.23 0.0283 0.0130 Neptune 19346-07-03 08:52 G 8787224.61 8787224.87 8787225.13 0.0090 0.0006 Neptune 19347-07-05 22:04 G 8787592.16 8787592.42 8787592.68 0.0090 0.0008 Jupiter 19347-12-08 08:09 G 8787747.62 8787747.84 8787748.05 0.0492 0.0181 Neptune 19348-07-07 11:02 G 8787959.71 8787959.96 8787960.22 0.0090 0.0010 Jupiter 19349-01-06 10:33 G 8788142.83 8788142.94 8788143.06 0.0485 0.0418 Neptune 19349-07-10 00:00 G 8788327.24 8788327.50 8788327.76 0.0090 0.0011 Neptune 19350-07-12 13:12 G 8788694.79 8788695.05 8788695.30 0.0090 0.0012 Neptune 19351-07-15 01:55 G 8789062.33 8789062.58 8789062.84 0.0090 0.0014 Neptune 19352-07-16 15:07 G 8789429.88 8789430.13 8789430.39 0.0090 0.0015 Neptune 19353-07-19 03:50 G 8789797.42 8789797.66 8789797.92 0.0089 0.0017 Uranus 19353-10-12 07:55 G 8789882.64 8789882.83 8789883.03 0.0144 0.0091 Jupiter 19354-06-19 23:02 G 8790133.23 8790133.46 8790133.70 0.0540 0.0040 Neptune 19354-07-21 17:02 G 8790164.96 8790165.21 8790165.47 0.0089 0.0018 Uranus 19354-10-17 06:14 G 8790252.52 8790252.76 8790253.02 0.0144 0.0027 Neptune 19355-07-24 06:14 G 8790532.51 8790532.76 8790533.01 0.0089 0.0019 Uranus 19355-10-22 04:48 G 8790622.47 8790622.70 8790622.95 0.0145 0.0040 Neptune 19356-07-25 19:12 G 8790900.05 8790900.30 8790900.56 0.0089 0.0020 Uranus 19356-10-26 04:04 G 8790992.51 8790992.67 8790992.86 0.0145 0.0105 Neptune 19357-07-28 07:55 G 8791267.59 8791267.83 8791268.09 0.0089 0.0021 Neptune 19358-07-30 20:38 G 8791635.12 8791635.36 8791635.62 0.0089 0.0023 Neptune 19359-08-02 09:36 G 8792002.66 8792002.90 8792003.16 0.0089 0.0023 Jupiter 19359-12-12 14:52 G 8792134.90 8792135.12 8792135.35 0.0490 0.0094 Neptune 19360-08-03 22:04 G 8792370.18 8792370.42 8792370.68 0.0089 0.0024 Neptune 19361-08-06 10:33 G 8792737.71 8792737.94 8792738.20 0.0089 0.0026 Saturn 19361-11-27 01:12 G 8792850.31 8792850.55 8792850.80 0.0277 0.0035 Neptune 19362-08-08 23:02 G 8793105.23 8793105.46 8793105.72 0.0089 0.0027

Neptune 19363-08-11 11:45 G 8793472.75 8793472.99 8793473.25 0.0089 0.0027 Neptune 19364-08-13 00:00 G 8793840.27 8793840.50 8793840.76 0.0089 0.0029 Neptune 19365-08-15 12:28 G 8794207.79 8794208.02 8794208.28 0.0089 0.0029 Jupiter 19366-06-25 08:09 G 8794521.62 8794521.84 8794522.06 0.0541 0.0161 Neptune 19366-08-18 01:12 G 8794575.31 8794575.55 8794575.80 0.0089 0.0030 Neptune 19367-08-20 13:26 G 8794942.83 8794943.06 8794943.31 0.0089 0.0031 Neptune 19368-08-22 01:40 G 8795310.34 8795310.57 8795310.83 0.0089 0.0032 Neptune 19369-08-24 13:55 G 8795677.86 8795678.08 8795678.34 0.0089 0.0032 Neptune 19370-08-27 02:24 G 8796045.37 8796045.60 8796045.85 0.0089 0.0033 Neptune 19371-08-29 14:24 G 8796412.87 8796413.10 8796413.35 0.0089 0.0033 Jupiter 19371-12-16 21:36 G 8796522.17 8796522.40 8796522.64 0.0489 0.0012 Neptune 19372-08-31 02:38 G 8796780.38 8796780.61 8796780.85 0.0089 0.0033 Neptune 19373-09-02 14:09 G 8797147.87 8797148.09 8797148.35 0.0089 0.0034 Neptune 19374-09-05 02:09 G 8797515.37 8797515.59 8797515.84 0.0089 0.0035 Neptune 19375-09-07 14:24 G 8797882.86 8797883.10 8797883.34 0.0089 0.0035 Saturn 19376-05-31 03:36 G 8798149.43 8798149.65 8798149.88 0.0282 0.0120 Neptune 19376-09-09 01:40 G 8798250.35 8798250.57 8798250.82 0.0089 0.0035 Neptune 19377-09-11 13:40 G 8798617.84 8798618.07 8798618.31 0.0089 0.0035 Jupiter 19378-06-30 20:52 G 8798910.17 8798910.37 8798910.57 0.0543 0.0289 Neptune 19378-09-14 01:26 G 8798985.33 8798985.56 8798985.80 0.0089 0.0035 Neptune 19379-09-16 13:26 G 8799352.82 8799353.06 8799353.29 0.0089 0.0035 Neptune 19380-09-18 00:57 G 8799720.31 8799720.54 8799720.78 0.0089 0.0035 8800088.01 8800088.27 0.0089 0.0036 Neptune 19381-09-20 12:14 G 8800087.80 Neptune 19382-09-23 00:14 G 8800455.28 8800455.51 8800455.75 0.0089 0.0035 Neptune 19383-09-25 11:45 G 8800822.76 8800822.99 8800823.23 0.0089 0.0035 Jupiter 19383-12-21 01:55 G 8800909.36 8800909.58 8800909.82 0.0488 0.0082 Neptune 19384-09-26 22:48 G 8801190.23 8801190.45 8801190.70 0.0089 0.0035 Neptune 19385-09-29 10:04 G 8801557.69 8801557.92 8801558.17 0.0089 0.0035 Neptune 19386-10-01 21:21 G 8801925.17 8801925.39 8801925.64 0.0089 0.0035 Neptune 19387-10-04 08:38 G 8802292.62 8802292.86 8802293.10 0.0089 0.0034

Neptune 19388-10-05 19:40 G 8802660.09 8802660.32 8802660.56 0.0089 0.0034 Jupiter 19389-05-29 03:36 G 8802895.52 8802895.65 8802895.79 0.0533 0.0439 Neptune 19389-10-08 06:28 G 8803027.55 8803027.77 8803028.02 0.0089 0.0034 Jupiter 19390-07-06 07:55 G 8803298.69 8803298.83 8803298.99 0.0543 0.0412 Neptune 19390-10-10 17:45 G 8803395.01 8803395.24 8803395.49 0.0089 0.0033 Saturn 19390-11-21 11:31 G 8803436.79 8803436.98 8803437.17 0.0276 0.0167 Neptune 19391-10-13 04:33 G 8803762.47 8803762.69 8803762.94 0.0089 0.0033 Saturn 19391-12-04 03:50 G 8803814.58 8803814.66 8803814.73 0.0277 0.0263 Neptune 19392-10-14 15:36 G 8804129.92 8804130.15 8804130.40 0.0089 0.0032 Uranus 19393-04-08 21:50 G 8804306.35 8804306.41 8804306.51 0.0135 0.0127 Neptune 19393-10-17 02:38 G 8804497.38 8804497.61 8804497.86 0.0089 0.0031 Uranus 19394-04-13 08:09 G 8804675.64 8804675.84 8804676.06 0.0134 0.0074 Neptune 19394-10-19 13:40 G 8804864.84 8804865.07 8804865.32 0.0088 0.0031 Jupiter 19394-11-24 19:40 G 8804901.23 8804901.32 8804901.42 0.0497 0.0447 Uranus 19395-04-17 18:00 G 8805045.01 8805045.25 8805045.51 0.0134 0.0021 Neptune 19395-10-22 00:28 G 8805232.29 8805232.52 8805232.77 0.0088 0.0030 Jupiter 19395-12-25 07:26 G 8805296.59 8805296.81 8805297.03 0.0487 0.0167 Uranus 19396-04-21 03:36 G 8805414.41 8805414.65 8805414.90 0.0134 0.0032 Neptune 19396-10-23 11:02 G 8805599.73 8805599.96 8805600.22 0.0088 0.0030 Uranus 19397-04-25 12:43 G 8805783.83 8805784.03 8805784.23 0.0134 0.0084 Neptune 19397-10-25 21:50 G 8805967.18 8805967.41 8805967.67 0.0088 0.0029 Neptune 19398-10-28 08:24 G 8806334.62 8806334.85 8806335.10 0.0088 0.0028 8806702.29 8806702.55 0.0088 0.0027 Neptune 19399-10-30 18:57 G 8806702.06 Neptune 19400-11-02 05:31 G 8807069.49 8807069.73 8807069.98 0.0088 0.0026 Jupiter 19401-06-04 06:43 G 8807283.60 8807283.78 8807283.96 0.0534 0.0333 Neptune 19401-11-04 16:04 G 8807436.93 8807437.17 8807437.42 0.0088 0.0025 Jupiter 19402-07-12 12:57 G 8807686.98 8807687.04 8807687.11 0.0543 0.0521 Neptune 19402-11-07 02:38 G 8807804.36 8807804.61 8807804.86 0.0088 0.0024 Neptune 19403-11-09 12:57 G 8808171.79 8808172.04 8808172.29 0.0088 0.0023 Neptune 19404-11-10 23:31 G 8808539.23 8808539.48 8808539.73 0.0088 0.0022

Saturn 19405-05-26 13:12 G 8808735.82 8808736.05 8808736.29 0.0283 0.0082 Neptune 19405-11-13 09:50 G 8808906.66 8808906.91 8808907.16 0.0088 0.0020 Neptune 19406-11-15 20:09 G 8809274.10 8809274.34 8809274.60 0.0088 0.0020 Jupiter 19406-11-30 02:38 G 8809288.46 8809288.61 8809288.77 0.0495 0.0365 Neptune 19407-11-18 06:28 G 8809641.53 8809641.77 8809642.03 0.0088 0.0018 Jupiter 19407-12-30 12:28 G 8809683.82 8809684.02 8809684.22 0.0486 0.0247 Neptune 19408-11-19 16:48 G 8810008.96 8810009.20 8810009.46 0.0088 0.0017 Neptune 19409-11-22 03:07 G 8810376.39 8810376.63 8810376.89 0.0088 0.0016 Neptune 19410-11-24 13:12 G 8810743.81 8810744.05 8810744.32 0.0088 0.0015 Neptune 19411-11-26 23:16 G 8811111.23 8811111.47 8811111.74 0.0088 0.0014 Neptune 19412-11-28 09:50 G 8811478.65 8811478.91 8811479.16 0.0088 0.0012 Jupiter 19413-06-09 11:45 G 8811671.78 8811671.99 8811672.21 0.0536 0.0217 Neptune 19413-11-30 19:55 G 8811846.08 8811846.33 8811846.59 0.0088 0.0011 Neptune 19414-12-03 06:00 G 8812213.50 8812213.75 8812214.01 0.0088 0.0010 Mars 19415-09-16 10:04 G 8812500.72 8812500.92 8812501.11 0.1845 0.0280 Neptune 19415-12-05 16:04 G 8812580.92 8812581.17 8812581.43 0.0088 0.0009 Neptune 19416-12-07 02:24 G 8812948.34 8812948.60 8812948.86 0.0088 0.0007 Neptune 19417-12-09 12:28 G 8813315.77 8813316.02 8813316.28 0.0088 0.0006 Jupiter 19418-12-04 11:16 G 8813675.78 8813675.97 8813676.17 0.0494 0.0277 Neptune 19418-12-11 22:48 G 8813683.20 8813683.45 8813683.71 0.0088 0.0005 Neptune 19419-12-14 09:07 G 8814050.62 8814050.88 8814051.14 0.0088 0.0003 Jupiter 19420-01-03 16:48 G 8814071.04 8814071.20 8814071.38 0.0485 0.0328 Saturn 19420-11-29 01:55 G 8814401.34 8814401.58 8814401.81 0.0276 0.0081 Neptune 19420-12-15 19:26 G 8814418.05 8814418.31 8814418.57 0.0088 0.0002 Neptune 19421-12-18 05:31 G 8814785.48 8814785.73 8814785.99 0.0088 0.0001 Neptune 19422-12-20 15:36 G 8815152.90 8815153.15 8815153.41 0.0088 0.0002 Neptune 19423-12-23 01:40 G 8815520.32 8815520.57 8815520.83 0.0088 0.0003 Neptune 19424-12-24 12:00 G 8815887.74 8815888.00 8815888.26 0.0088 0.0003 Jupiter 19425-06-14 18:14 G 8816060.03 8816060.26 8816060.49 0.0538 0.0099 Neptune 19425-12-26 22:04 G 8816255.16 8816255.42 8816255.68 0.0088 0.0005

Neptune 19426-12-29 08:09 G 8816622.59 8816622.84 8816623.10 0.0088 0.0006 Neptune 19427-12-31 18:14 G 8816990.01 8816990.26 8816990.52 0.0088 0.0008 Neptune 19429-01-02 04:33 G 8817357.44 8817357.69 8817357.95 0.0088 0.0009 Neptune 19430-01-04 14:52 G 8817724.87 8817725.12 8817725.38 0.0088 0.0010 Jupiter 19430-12-08 19:26 G 8818063.10 8818063.31 8818063.53 0.0492 0.0188 Neptune 19431-01-07 00:57 G 8818092.29 8818092.54 8818092.80 0.0088 0.0011 Jupiter 19432-01-07 21:36 G 8818458.29 8818458.40 8818458.53 0.0485 0.0408 Neptune 19432-01-09 11:16 G 8818459.73 8818459.97 8818460.24 0.0088 0.0013 Neptune 19433-01-10 21:36 G 8818827.16 8818827.40 8818827.67 0.0088 0.0014 Neptune 19434-01-13 08:09 G 8819194.59 8819194.84 8819195.10 0.0088 0.0015 Neptune 19435-01-15 18:28 G 8819562.02 8819562.27 8819562.53 0.0088 0.0016 Saturn 19435-06-03 06:28 G 8819700.59 8819700.77 8819700.98 0.0282 0.0172 Neptune 19436-01-18 04:48 G 8819929.45 8819929.70 8819929.96 0.0088 0.0017 Neptune 19437-01-19 15:07 G 8820296.88 8820297.13 8820297.39 0.0088 0.0018 Jupiter 19437-06-20 05:02 G 8820448.47 8820448.71 8820448.94 0.0540 0.0027 Uranus 19437-10-13 20:09 G 8820564.15 8820564.34 8820564.56 0.0144 0.0087 Neptune 19438-01-22 01:40 G 8820664.32 8820664.57 8820664.82 0.0088 0.0019 Uranus 19438-10-18 18:43 G 8820934.03 8820934.28 8820934.53 0.0144 0.0022 Neptune 19439-01-24 12:00 G 8821031.75 8821032.00 8821032.25 0.0088 0.0020 Uranus 19439-10-23 17:31 G 8821303.99 8821304.23 8821304.47 0.0145 0.0044 Neptune 19440-01-26 22:19 G 8821399.18 8821399.43 8821399.68 0.0088 0.0021 Uranus 19440-10-27 16:33 G 8821674.04 8821674.19 8821674.37 0.0145 0.0110 Neptune 19441-01-28 08:52 G 8821766.62 8821766.87 8821767.12 0.0088 0.0022 Neptune 19442-01-30 19:12 G 8822134.06 8822134.30 8822134.55 0.0088 0.0023 Jupiter 19442-12-13 01:26 G 8822450.33 8822450.56 8822450.79 0.0490 0.0101 Neptune 19443-02-02 06:00 G 8822501.50 8822501.75 8822502.00 0.0088 0.0024 Neptune 19444-02-04 16:33 G 8822868.95 8822869.19 8822869.44 0.0088 0.0025 Neptune 19445-02-06 03:21 G 8823236.40 8823236.64 8823236.89 0.0088 0.0026 Neptune 19446-02-08 14:09 G 8823603.85 8823604.09 8823604.35 0.0088 0.0027 Neptune 19447-02-11 00:43 G 8823971.30 8823971.53 8823971.79 0.0088 0.0028

Neptune 19448-02-13 12:00 G 8824338.76 8824339.00 8824339.25 0.0088 0.0028 Neptune 19449-02-14 22:33 G 8824706.21 8824706.44 8824706.70 0.0088 0.0029 Jupiter 19449-06-25 15:50 G 8824836.94 8824837.16 8824837.39 0.0541 0.0150 Saturn 19449-11-23 12:14 G 8824987.79 8824988.23 0.0276 0.0120 8824988.01 Neptune 19450-02-17 09:21 G 8825073.67 8825073.89 8825074.15 0.0088 0.0030 Neptune 19451-02-19 20:24 G 8825441.12 8825441.35 8825441.61 0.0088 0.0030 Neptune 19452-02-22 07:26 G 8825808.58 8825808.81 8825809.07 0.0088 0.0031 Neptune 19453-02-23 18:43 G 8826176.04 8826176.28 8826176.52 0.0088 0.0031 Neptune 19454-02-26 05:31 G 8826543.51 8826543.73 8826543.99 0.0088 0.0032 Jupiter 19454-12-17 07:40 G 8826837.58 8826837.82 8826838.05 0.0489 0.0015 Neptune 19455-02-28 16:48 G 8826910.97 8826911.20 8826911.45 0.0088 0.0033 Neptune 19456-03-02 04:04 G 8827278.45 8827278.67 8827278.93 0.0088 0.0033 Neptune 19457-03-04 15:36 G 8827645.93 8827646.15 8827646.41 0.0088 0.0033 Neptune 19458-03-07 03:07 G 8828013.40 8828013.63 8828013.88 0.0088 0.0033 Neptune 19459-03-09 14:52 G 8828380.88 8828381.12 8828381.36 0.0088 0.0033 Neptune 19460-03-11 01:55 G 8828748.36 8828748.58 8828748.84 0.0088 0.0035 Neptune 19461-03-13 13:40 G 8829115.85 8829116.07 8829116.32 0.0088 0.0034 Jupiter 19461-06-30 21:21 G 8829225.19 8829225.39 8829225.59 0.0542 0.0266 Neptune 19462-03-16 01:12 G 8829483.33 8829483.55 8829483.80 0.0088 0.0034 Neptune 19463-03-18 12:43 G 8829850.81 8829851.03 8829851.29 0.0088 0.0035 Neptune 19464-03-20 00:28 G 8830218.30 8830218.52 8830218.78 0.0088 0.0035 Saturn 19464-05-27 14:24 G 8830286.86 8830287.10 8830287.35 0.0283 0.0032 Neptune 19465-03-22 12:28 G 8830585.79 8830586.02 8830586.27 0.0088 0.0034 Neptune 19466-03-25 00:14 G 8830953.28 8830953.51 8830953.76 0.0088 0.0034 Jupiter 19466-12-21 12:28 G 8831224.79 8831225.02 8831225.25 0.0488 0.0070 Neptune 19467-03-27 12:00 G 8831320.77 8831321.00 8831321.25 0.0088 0.0034 Neptune 19468-03-29 00:00 G 8831688.28 8831688.50 8831688.76 0.0088 0.0034 Neptune 19469-03-31 12:14 G 8832055.77 8832056.01 8832056.25 0.0088 0.0033 Neptune 19470-04-03 00:14 G 8832423.28 8832423.51 8832423.76 0.0089 0.0033 Neptune 19471-04-05 12:14 G 8832790.79 8832791.01 8832791.27 0.0089 0.0033

Neptune 19472-04-07 00:43 G 8833158.30 8833158.53 8833158.78 0.0089 0.0032 Jupiter 19472-05-29 05:02 G 8833210.59 8833210.71 8833210.83 0.0532 0.0455 Pluto 19472-09-05 14:09 G 8833309.89 8833310.09 8833310.32 0.0064 0.0035 Neptune 19473-04-09 12:57 G 8833525.81 8833526.04 8833526.29 0.0089 0.0032 Jupiter 19473-07-06 05:16 G 8833613.56 8833613.72 8833613.89 0.0542 0.0385 Pluto 19473-09-07 01:40 G 8833676.43 8833676.57 8833676.77 0.0064 0.0049 Neptune 19474-04-12 01:12 G 8833893.31 8833893.55 8833893.80 0.0089 0.0031 Neptune 19475-04-14 13:40 G 8834260.83 8834261.07 8834261.32 0.0089 0.0030 Neptune 19476-04-16 01:40 G 8834628.34 8834628.57 8834628.83 0.0089 0.0030 Uranus 19477-04-10 11:16 G 8834987.87 8834987.97 8834988.08 0.0135 0.0122 Neptune 19477-04-18 14:09 G 8834995.85 8834996.09 8834996.34 0.0089 0.0029 Jupiter 19477-11-25 03:36 G 8835216.57 8835216.65 8835216.74 0.0498 0.0460 Uranus 19478-04-14 21:36 G 8835357.19 8835357.40 8835357.63 0.0135 0.0069 Neptune 19478-04-21 02:24 G 8835363.37 8835363.60 8835363.86 0.0089 0.0029 Jupiter 19478-12-25 17:45 G 8835612.02 8835612.24 8835612.47 0.0487 0.0154 Uranus 19479-04-19 07:40 G 8835726.56 8835726.82 8835727.07 0.0134 0.0016 Neptune 19479-04-23 14:52 G 8835730.89 8835731.12 8835731.38 0.0089 0.0028 Saturn 19479-12-01 03:36 G 8835952.44 8835952.65 8835952.87 0.0276 0.0129 Uranus 19480-04-22 17:02 G 8836095.97 8836096.21 8836096.46 0.0134 0.0037 Neptune 19480-04-25 03:36 G 8836098.41 8836098.65 8836098.91 0.0089 0.0027 Uranus 19481-04-27 02:09 G 8836465.41 8836465.59 8836465.79 0.0134 0.0090 Neptune 19481-04-27 16:19 G 8836465.94 8836466.18 8836466.44 0.0089 0.0026 8836833.71 8836833.97 0.0089 0.0025 Neptune 19482-04-30 05:02 G 8836833.47 Neptune 19483-05-02 18:00 G 8837201.00 8837201.25 8837201.50 0.0089 0.0024 Neptune 19484-05-04 06:57 G 8837568.55 8837568.79 8837569.05 0.0089 0.0023 Jupiter 19484-06-03 08:09 G 8837598.67 8837598.84 8837599.02 0.0534 0.0347 Neptune 19485-05-06 19:40 G 8837936.07 8837936.32 8837936.58 0.0089 0.0022 Jupiter 19485-07-11 14:38 G 8838002.02 8838002.11 8838002.20 0.0544 0.0502 Neptune 19486-05-09 08:38 G 8838303.62 8838303.86 8838304.12 0.0089 0.0021 Neptune 19487-05-11 21:21 G 8838671.15 8838671.39 8838671.66 0.0089 0.0020

Neptune 19488-05-13 10:19 G 8839038.69 8839038.93 8839039.20 0.0089 0.0019 Neptune 19489-05-15 23:16 G 8839406.22 8839406.47 8839406.73 0.0089 0.0018 Jupiter 19489-11-29 13:40 G 8839603.92 8839604.07 8839604.23 0.0496 0.0370 Neptune 19490-05-18 12:28 G 8839773.76 8839774.02 8839774.27 0.0089 0.0017 Jupiter 19490-12-29 23:16 G 8839999.27 8839999.47 8839999.68 0.0486 0.0238 Neptune 19491-05-21 01:26 G 8840141.31 8840141.56 8840141.82 0.0089 0.0015 Neptune 19492-05-22 14:24 G 8840508.85 8840509.10 8840509.36 0.0089 0.0014 Saturn 19493-05-21 19:12 G 8840873.18 8840873.30 8840873.43 0.0283 0.0245 Neptune 19493-05-25 03:21 G 8840876.39 8840876.64 8840876.90 0.0089 0.0013 Neptune 19494-05-27 16:19 G 8841243.94 8841244.18 8841244.45 0.0089 0.0013 Saturn 19494-06-04 09:36 G 8841251.75 8841251.90 8841252.05 0.0282 0.0222 Neptune 19495-05-30 06:00 G 8841611.49 8841611.75 8841612.01 0.0089 0.0010 Neptune 19496-05-31 18:57 G 8841979.04 8841979.29 8841979.56 0.0089 0.0010 Jupiter 19496-06-08 16:19 G 8841986.97 8841987.18 8841987.39 0.0536 0.0229 Neptune 19497-06-03 08:38 G 8842346.60 8842346.86 8842347.12 0.0089 0.0008 Neptune 19498-06-05 21:50 G 8842714.15 8842714.41 8842714.67 0.0089 0.0006 Neptune 19499-06-08 11:02 G 8843081.70 8843081.96 8843082.22 0.0089 0.0005 Neptune 19500-06-11 00:14 G 8843449.25 8843449.51 8843449.77 0.0089 0.0004 Neptune 19501-06-13 13:26 G 8843816.80 8843817.06 8843817.32 0.0089 0.0002 Jupiter 19501-12-04 21:21 G 8843991.20 8843991.39 8843991.58 0.0494 0.0283 Neptune 19502-06-16 02:38 G 8844184.35 8844184.61 8844184.87 0.0089 0.0001 Jupiter 19503-01-04 02:52 G 8844386.45 8844386.62 8844386.80 0.0485 0.0319 Neptune 19503-06-18 15:50 G 8844551.90 8844552.16 8844552.42 0.0089 0.0001 Neptune 19504-06-20 04:48 G 8844919.45 8844919.70 8844919.97 0.0089 0.0003 Neptune 19505-06-22 18:00 G 8845286.99 8845287.25 8845287.51 0.0089 0.0003 Neptune 19506-06-25 07:26 G 8845654.55 8845654.81 8845655.07 0.0089 0.0004 Neptune 19507-06-27 20:38 G 8846022.10 8846022.36 8846022.62 0.0089 0.0006 Jupiter 19508-06-15 01:40 G 8846375.35 8846375.57 8846375.80 0.0538 0.0110 Neptune 19508-06-29 09:50 G 8846389.66 8846389.91 8846390.17 0.0090 0.0007 Saturn 19508-11-25 14:09 G 8846538.86 8846539.09 8846539.33 0.0276 0.0072

Neptune 19509-07-01 23:02 G 8846757.21 8846757.46 8846757.72 0.0090 0.0008 Neptune 19510-07-04 12:28 G 8847124.76 8847125.02 8847125.28 0.0090 0.0010 Neptune 19511-07-07 01:40 G 8847492.32 8847492.57 8847492.83 0.0090 0.0011 Neptune 19512-07-08 14:24 G 8847859.86 8847860.10 8847860.37 0.0090 0.0013 Neptune 19513-07-11 03:36 G 8848227.40 8848227.65 8848227.92 0.0090 0.0014 Jupiter 19513-12-09 04:48 G 8848378.49 8848378.70 8848378.91 0.0492 0.0195 Neptune 19514-07-13 16:48 G 8848594.95 8848595.20 8848595.46 0.0090 0.0015 Jupiter 19515-01-08 07:55 G 8848773.70 8848773.83 8848773.96 0.0485 0.0399 Neptune 19515-07-16 05:45 G 8848962.49 8848962.74 8848963.00 0.0090 0.0016 Neptune 19516-07-17 18:43 G 8849330.03 8849330.28 8849330.54 0.0090 0.0017 Neptune 19517-07-20 07:40 G 8849697.57 8849697.82 8849698.08 0.0090 0.0018 Neptune 19518-07-22 20:24 G 8850065.11 8850065.35 8850065.62 0.0090 0.0020 Neptune 19519-07-25 09:36 G 8850432.66 8850432.90 8850433.16 0.0090 0.0020 Mars 19520-03-16 08:52 G 8850667.69 8850667.87 8850668.06 0.1688 0.0486 Jupiter 19520-06-20 07:40 G 8850763.58 8850763.82 8850764.05 0.0539 0.0010 Neptune 19520-07-26 22:19 G 8850800.20 8850800.43 8850800.70 0.0090 0.0022 Neptune 19521-07-29 11:31 G 8851167.74 8851167.98 8851168.24 0.0089 0.0022 Uranus 19521-10-15 08:09 G 8851245.64 8851245.84 8851246.05 0.0144 0.0082 Neptune 19522-08-01 00:28 G 8851535.29 8851535.52 8851535.79 0.0089 0.0024 Uranus 19522-10-20 06:43 G 8851615.53 8851615.78 8851616.03 0.0144 0.0017 Saturn 19523-05-30 16:48 G 8851837.95 8851838.20 8851838.45 0.0283 0.0018 Neptune 19523-08-03 13:12 G 8851902.82 8851903.05 8851903.32 0.0089 0.0025 Uranus 19523-10-25 05:16 G 8851985.49 8851985.72 8851985.96 0.0145 0.0048 Neptune 19524-08-05 02:09 G 8852270.36 8852270.59 8852270.85 0.0089 0.0025 Uranus 19524-10-29 04:33 G 8852355.55 8852355.69 8852355.85 0.0145 0.0114 Neptune 19525-08-07 15:07 G 8852637.88 8852638.13 8852638.38 0.0089 0.0026 Jupiter 19525-12-13 09:36 G 8852765.68 8852765.90 8852766.13 0.0491 0.0114 Neptune 19526-08-10 03:36 G 8853005.41 8853005.65 8853005.91 0.0089 0.0027 Jupiter 19527-01-12 11:45 G 8853160.95 8853160.99 8853161.04 0.0485 0.0474 Neptune 19527-08-12 16:04 G 8853372.94 8853373.17 8853373.43 0.0089 0.0028

Neptune 19528-08-14 04:19 G 8853740.46 8853740.68 8853740.94 0.0089 0.0029 Neptune 19529-08-16 17:16 G 8854107.98 8854108.22 8854108.47 0.0089 0.0029 Neptune 19530-08-19 05:31 G 8854475.50 8854475.73 8854475.99 0.0089 0.0030 Neptune 19531-08-21 18:14 G 8854843.02 8854843.50 0.0089 0.0030 8854843.26 Jupiter 19532-06-25 14:09 G 8855151.86 8855152.09 8855152.32 0.0540 0.0126 Neptune 19532-08-23 06:28 G 8855210.53 8855210.77 8855211.02 0.0089 0.0030 Neptune 19533-08-25 18:43 G 8855578.06 8855578.28 8855578.54 0.0089 0.0031 Neptune 19534-08-28 07:12 G 8855945.57 8855945.80 8855946.05 0.0089 0.0032 Neptune 19535-08-30 19:55 G 8856313.09 8856313.33 8856313.57 0.0089 0.0032 Neptune 19536-09-01 07:40 G 8856680.59 8856680.82 8856681.07 0.0089 0.0032 Neptune 19537-09-03 19:55 G 8857048.10 8857048.33 8857048.58 0.0089 0.0032 Saturn 19537-11-20 16:33 G 8857126.10 8857126.19 8857126.32 0.0275 0.0245 Jupiter 19537-12-17 16:04 G 8857152.94 8857153.17 8857153.40 0.0490 0.0026 Neptune 19538-09-06 08:09 G 8857415.61 8857415.84 8857416.08 0.0089 0.0032 Saturn 19538-12-03 06:43 G 8857503.61 8857503.78 8857503.98 0.0276 0.0179 Neptune 19539-09-08 19:55 G 8857783.09 8857783.33 8857783.57 0.0089 0.0032 Neptune 19540-09-10 07:55 G 8858150.59 8858150.83 8858151.07 0.0089 0.0033 Neptune 19541-09-12 19:40 G 8858518.08 8858518.32 8858518.56 0.0089 0.0033 Neptune 19542-09-15 06:57 G 8858885.57 8858885.79 8858886.05 0.0089 0.0033 Neptune 19543-09-17 18:57 G 8859253.06 8859253.53 0.0089 0.0033 8859253.29 Jupiter 19544-06-30 21:07 G 8859540.18 8859540.38 8859540.59 0.0542 0.0247 Neptune 19544-09-19 06:43 G 8859620.54 8859620.78 8859621.02 0.0089 0.0032 8859988.26 8859988.50 0.0089 0.0032 Neptune 19545-09-21 18:14 G 8859988.03 Neptune 19546-09-24 05:45 G 8860355.51 8860355.74 8860355.99 0.0089 0.0032 Neptune 19547-09-26 17:16 G 8860722.99 8860723.22 8860723.47 0.0089 0.0032 Neptune 19548-09-28 04:33 G 8861090.47 8861090.69 8861090.95 0.0089 0.0032 Neptune 19549-09-30 16:33 G 8861457.95 8861458.19 8861458.43 0.0089 0.0031 Jupiter 19549-12-21 22:48 G 8861540.22 8861540.45 8861540.68 0.0488 0.0061 Neptune 19550-10-03 03:36 G 8861825.42 8861825.65 8861825.90 0.0089 0.0031 Neptune 19551-10-05 14:38 G 8862192.89 8862193.11 8862193.37 0.0089 0.0031

Saturn 19552-05-23 23:31 G 8862424.31 8862424.48 8862424.67 0.0284 0.0191 Neptune 19552-10-07 01:55 G 8862560.34 8862560.58 8862560.83 0.0089 0.0030 Saturn 19553-06-06 13:40 G 8862803.03 8862803.07 8862803.13 0.0282 0.0275 Neptune 19553-10-09 12:43 G 8862927.81 8862928.03 8862928.29 0.0089 0.0030 Neptune 19554-10-12 00:00 G 8863295.27 8863295.50 8863295.75 0.0089 0.0029 Jupiter 19555-05-30 07:40 G 8863525.71 8863525.82 8863525.93 0.0532 0.0466 Neptune 19555-10-14 11:02 G 8863662.72 8863662.96 8863663.21 0.0089 0.0028 Jupiter 19556-07-06 08:52 G 8863928.70 8863928.87 8863929.04 0.0543 0.0369 Neptune 19556-10-15 21:50 G 8864030.18 8864030.41 8864030.67 0.0089 0.0028 Neptune 19557-10-18 08:52 G 8864397.63 8864397.87 8864398.12 0.0089 0.0027 Neptune 19558-10-20 19:40 G 8864765.09 8864765.32 8864765.58 0.0089 0.0027 Neptune 19559-10-23 06:43 G 8865132.54 8865132.78 8865133.03 0.0088 0.0025 Neptune 19560-10-24 17:45 G 8865500.00 8865500.24 8865500.49 0.0088 0.0025 Jupiter 19560-11-25 12:57 G 8865531.97 8865532.04 8865532.13 0.0498 0.0466 Uranus 19561-04-12 01:26 G 8865669.44 8865669.56 8865669.69 0.0135 0.0117 Neptune 19561-10-27 04:33 G 8865867.45 8865867.69 8865867.94 0.0088 0.0024 Jupiter 19561-12-26 03:07 G 8865927.41 8865927.63 8865927.86 0.0487 0.0145 19562-03-08 15:07 G 8865999.92 8866000.13 8866000.38 0.0080 0.0039 Pluto Uranus 19562-04-16 11:31 G 8866038.77 8866038.98 8866039.22 0.0135 0.0064 Neptune 19562-10-29 15:21 G 8866234.90 8866235.14 8866235.39 0.0088 0.0023 Uranus 19563-04-20 21:50 G 8866408.15 8866408.41 8866408.66 0.0134 0.0010 Neptune 19563-11-01 01:55 G 8866602.33 8866602.58 8866602.83 0.0088 0.0022 Uranus 19564-04-24 07:12 G 8866777.57 8866777.80 8866778.05 0.0134 0.0043 Neptune 19564-11-02 12:14 G 8866969.77 8866970.01 8866970.27 0.0088 0.0021 Uranus 19565-04-28 16:33 G 8867147.01 8867147.19 8867147.37 0.0134 0.0095 Neptune 19565-11-04 23:16 G 8867337.22 8867337.47 8867337.72 0.0088 0.0020 Neptune 19566-11-07 09:07 G 8867704.65 8867704.88 8867705.15 0.0088 0.0020 Jupiter 19567-06-04 14:52 G 8867913.95 8867914.12 8867914.30 0.0534 0.0356 Neptune 19567-11-09 19:40 G 8868072.09 8868072.32 8868072.59 0.0088 0.0019 Saturn 19567-11-27 18:43 G 8868090.03 8868090.28 8868090.52 0.0276 0.0020

Jupiter 19568-07-11 20:38 G 8868317.26 8868317.36 8868317.46 0.0543 0.0488 Neptune 19568-11-11 06:14 G 8868439.52 8868439.76 8868440.02 0.0088 0.0017 Neptune 19569-11-13 16:48 G 8868806.95 8868807.20 8868807.46 0.0088 0.0016 Neptune 19570-11-16 03:21 G 8869174.38 8869174.64 8869174.89 0.0088 0.0015 Neptune 19571-11-18 13:40 G 8869541.82 8869542.07 8869542.32 0.0088 0.0013 Neptune 19572-11-20 00:00 G 8869909.25 8869909.50 8869909.76 0.0088 0.0012 Jupiter 19572-11-29 21:50 G 8869919.27 8869919.41 8869919.56 0.0496 0.0378 Neptune 19573-11-22 10:33 G 8870276.69 8870276.94 8870277.19 0.0088 0.0011 Jupiter 19573-12-30 08:24 G 8870314.65 8870314.85 8870315.06 0.0486 0.0229 Neptune 19574-11-24 20:38 G 8870644.11 8870644.36 8870644.62 0.0088 0.0010 Neptune 19575-11-27 06:57 G 8871011.54 8871011.79 8871012.05 0.0088 0.0009 Neptune 19576-11-28 17:16 G 8871378.97 8871379.22 8871379.48 0.0088 0.0008 Neptune 19577-12-01 03:21 G 8871746.38 8871746.64 8871746.89 0.0088 0.0006 Neptune 19578-12-03 13:26 G 8872113.81 8872114.06 8872114.32 0.0088 0.0005 Jupiter 19579-06-09 20:24 G 8872302.14 8872302.35 8872302.56 0.0535 0.0245 Neptune 19579-12-05 23:31 G 8872481.23 8872481.48 8872481.74 0.0088 0.0004 Neptune 19580-12-07 09:36 G 8872848.65 8872848.90 8872849.16 0.0088 0.0003 Neptune 19581-12-09 19:40 G 8873216.07 8873216.32 8873216.58 0.0088 0.0002 Saturn 19582-05-31 20:09 G 8873389.10 8873389.34 8873389.58 0.0283 0.0070 Neptune 19582-12-12 05:45 G 8873583.48 8873583.74 8873584.00 0.0088 0.0001 Neptune 19583-12-14 16:04 G 8873950.91 8873951.17 8873951.43 0.0088 0.0001 Jupiter 19584-12-04 03:21 G 8874306.45 8874306.64 8874306.82 0.0495 0.0297 Neptune 19584-12-16 02:09 G 8874318.34 8874318.59 8874318.85 0.0088 0.0002 Neptune 19585-12-18 12:28 G 8874685.76 8874686.02 8874686.27 0.0088 0.0003 Jupiter 19586-01-03 11:45 G 8874701.81 8874701.99 8874702.17 0.0486 0.0306 Neptune 19586-12-20 22:33 G 8875053.18 8875053.44 8875053.70 0.0088 0.0004 Neptune 19587-12-23 08:38 G 8875420.61 8875420.86 8875421.12 0.0088 0.0006 Neptune 19588-12-24 18:43 G 8875788.03 8875788.28 8875788.54 0.0088 0.0007 Neptune 19589-12-27 05:02 G 8876155.45 8876155.71 8876155.96 0.0088 0.0008 Neptune 19590-12-29 14:52 G 8876522.87 8876523.12 8876523.38 0.0088 0.0009

Jupiter 19591-06-15 01:26 G 8876690.33 8876690.56 8876690.78 0.0537 0.0130 Neptune 19592-01-01 00:57 G 8876890.29 8876890.54 8876890.80 0.0088 0.0011 Neptune 19593-01-02 11:02 G 8877257.72 8877257.96 8877258.23 0.0088 0.0012 Neptune 19594-01-04 21:07 G 8877625.13 8877625.38 8877625.64 0.0088 0.0013 Neptune 19595-01-07 07:26 G 8877992.56 8877992.81 8877993.07 0.0088 0.0014 Neptune 19596-01-09 17:31 G 8878359.98 8878360.23 8878360.49 0.0088 0.0015 Saturn 19596-11-21 21:50 G 8878677.25 8878677.41 8878677.60 0.0275 0.0193 Jupiter 19596-12-08 10:48 G 8878693.74 8878693.95 8878694.16 0.0493 0.0209 Neptune 19597-01-11 03:50 G 8878727.42 8878727.66 8878727.92 0.0088 0.0016 Saturn 19597-12-04 12:00 G 8879054.88 8879055.00 8879055.14 0.0276 0.0231 Jupiter 19598-01-07 16:04 G 8879089.03 8879089.17 8879089.31 0.0485 0.0386 Neptune 19598-01-13 14:24 G 8879094.85 8879095.10 8879095.35 0.0088 0.0017 Neptune 19599-01-16 00:43 G 8879462.28 8879462.53 8879462.78 0.0088 0.0018 19599-03-19 18:00 G 8879525.12 8879525.25 8879525.39 0.1693 0.1195 Mars Neptune 19600-01-18 11:02 G 8879829.72 8879829.96 8879830.22 0.0088 0.0019 Neptune 19601-01-19 21:21 G 8880197.15 8880197.39 8880197.65 0.0088 0.0020 Neptune 19602-01-22 07:40 G 8880564.58 8880564.82 8880565.08 0.0088 0.0021 Neptune 19603-01-24 18:00 G 8880932.01 8880932.25 8880932.51 0.0088 0.0022 Jupiter 19603-06-20 05:31 G 8881078.50 8881078.73 8881078.97 0.0539 0.0014 Neptune 19604-01-27 04:33 G 8881299.45 8881299.69 8881299.95 0.0088 0.0023 Uranus 19604-10-11 00:57 G 8881557.51 8881557.54 8881557.60 0.0143 0.0141 Neptune 19605-01-28 14:38 G 8881666.88 8881667.38 0.0088 0.0024 8881667.11 Uranus 19605-10-15 22:48 G 8881927.25 8881927.45 8881927.68 0.0144 0.0077 Neptune 19606-01-31 01:40 G 8882034.32 8882034.57 8882034.82 0.0088 0.0024 Uranus 19606-10-20 21:21 G 8882297.14 8882297.39 8882297.65 0.0144 0.0012 Neptune 19607-02-02 12:00 G 8882401.76 8882402.00 8882402.25 0.0088 0.0025 Uranus 19607-10-25 20:09 G 8882667.11 8882667.34 8882667.58 0.0145 0.0054 Neptune 19608-02-04 22:33 G 8882769.20 8882769.44 8882769.69 0.0088 0.0026 Uranus 19608-10-29 19:12 G 8883037.18 8883037.30 8883037.46 0.0145 0.0121 Jupiter 19608-12-12 18:57 G 8883081.07 8883081.29 8883081.52 0.0491 0.0121

Neptune 19609-02-06 09:21 G 8883136.65 8883136.89 8883137.14 0.0088 0.0026 Jupiter 19610-01-11 20:38 G 8883476.30 8883476.43 0.0485 0.0463 8883476.36 Neptune 19610-02-08 19:55 G 8883504.09 8883504.33 8883504.58 0.0088 0.0027 Neptune 19611-02-11 06:43 G 8883871.55 8883872.04 0.0088 0.0028 8883871.78 Saturn 19611-05-26 05:31 G 8883975.52 8883975.73 8883975.96 0.0284 0.0136 Neptune 19612-02-13 17:45 G 8884239.00 8884239.24 8884239.49 0.0088 0.0028 Neptune 19613-02-15 04:19 G 8884606.45 8884606.68 8884606.94 0.0088 0.0029 Neptune 19614-02-17 15:21 G 8884973.90 8884974.39 0.0088 0.0029 8884974.14 Neptune 19615-02-20 01:55 G 8885341.36 8885341.58 8885341.84 0.0088 0.0030 Jupiter 19615-06-25 15:21 G 8885466.91 8885467.14 8885467.37 0.0540 0.0109 Neptune 19616-02-22 12:57 G 8885708.81 8885709.04 8885709.30 0.0088 0.0030 Neptune 19617-02-24 00:00 G 8886076.27 8886076.75 0.0088 0.0030 8886076.50 Neptune 19618-02-26 11:16 G 8886443.73 8886443.97 8886444.21 0.0088 0.0030 Neptune 19619-02-28 21:50 G 8886811.19 8886811.41 8886811.67 0.0088 0.0031 Neptune 19620-03-02 09:07 G 8887178.65 8887178.88 8887179.14 0.0088 0.0031 Jupiter 19620-12-17 00:57 G 8887468.30 8887468.54 8887468.77 0.0490 0.0035 Neptune 19621-03-04 20:09 G 8887546.11 8887546.34 8887546.60 0.0088 0.0031 Neptune 19622-03-07 07:40 G 8887913.59 8887913.82 8887914.07 0.0088 0.0031 Neptune 19623-03-09 19:12 G 8888281.06 8888281.30 8888281.55 0.0088 0.0031 Neptune 19624-03-11 06:43 G 8888648.54 8888649.03 0.0088 0.0031 8888648.78 Neptune 19625-03-13 18:14 G 8889016.02 8889016.26 8889016.51 0.0088 0.0031 Neptune 19626-03-16 05:31 G 8889383.50 8889383.99 0.0088 0.0032 8889383.73 Saturn 19626-11-29 00:57 G 8889641.30 8889641.54 8889641.78 0.0276 0.0034 Neptune 19627-03-18 17:16 G 8889750.99 8889751.22 8889751.47 0.0088 0.0031 Jupiter 19627-07-01 02:09 G 8889855.38 8889855.59 8889855.80 0.0542 0.0232 Neptune 19628-03-20 04:48 G 8890118.47 8890118.70 8890118.96 0.0088 0.0031 Neptune 19629-03-22 16:48 G 8890485.96 8890486.20 8890486.44 0.0088 0.0031 Neptune 19630-03-25 04:19 G 8890853.44 8890853.68 8890853.93 0.0088 0.0031 Neptune 19631-03-27 16:04 G 8891220.94 8891221.17 8891221.42 0.0088 0.0030 Neptune 19632-03-29 04:04 G 8891588.42 8891588.67 8891588.91 0.0088 0.0030

Jupiter 19632-12-21 06:43 G 8891855.55 8891855.78 8891856.01 0.0489 0.0052 Neptune 19633-03-31 15:50 G 8891955.92 8891956.16 8891956.41 0.0088 0.0030 Neptune 19634-04-03 03:36 G 8892323.42 8892323.65 8892323.91 0.0088 0.0029 Neptune 19635-04-05 15:50 G 8892690.93 8892691.16 8892691.42 0.0088 0.0029 Neptune 19636-04-07 04:19 G 8893058.44 8893058.68 8893058.93 0.0089 0.0028 Neptune 19637-04-09 16:04 G 8893425.94 8893426.17 8893426.44 0.0089 0.0028 Neptune 19638-04-12 04:48 G 8893793.46 8893793.70 8893793.96 0.0089 0.0027 Jupiter 19638-05-29 12:14 G 8893840.92 8893841.01 8893841.12 0.0531 0.0479 Neptune 19639-04-14 17:16 G 8894160.98 8894161.22 8894161.47 0.0089 0.0026 Jupiter 19639-07-06 09:50 G 8894243.74 8894243.91 8894244.09 0.0542 0.0347 Neptune 19640-04-16 05:16 G 8894528.49 8894528.72 8894528.99 0.0089 0.0026 Neptune 19641-04-18 17:45 G 8894896.00 8894896.24 8894896.50 0.0089 0.0025 Saturn 19641-06-02 01:40 G 8894940.35 8894940.57 8894940.80 0.0283 0.0124 Neptune 19642-04-21 06:14 G 8895263.52 8895263.76 8895264.02 0.0089 0.0024 Neptune 19643-04-23 18:43 G 8895631.04 8895631.28 8895631.54 0.0089 0.0023 Jupiter 19643-11-25 16:19 G 8895847.12 8895847.18 8895847.25 0.0499 0.0479 Neptune 19644-04-25 07:12 G 8895998.56 8895998.80 8895999.06 0.0089 0.0022 Jupiter 19644-12-25 09:50 G 8896242.68 8896242.91 8896243.13 0.0488 0.0131 Uranus 19645-04-12 15:07 G 8896351.01 8896351.13 8896351.29 0.0135 0.0113 Neptune 19645-04-27 19:40 G 8896366.08 8896366.32 8896366.58 0.0089 0.0021 Uranus 19646-04-17 01:55 G 8896720.36 8896720.58 8896720.82 0.0135 0.0059 Neptune 19646-04-30 08:24 G 8896733.60 8896733.85 8896734.11 0.0089 0.0020 Uranus 19647-04-21 12:00 G 8897089.75 8897090.00 8897090.26 0.0134 0.0006 Neptune 19647-05-02 21:21 G 8897101.14 8897101.39 8897101.64 0.0089 0.0019 Uranus 19648-04-24 21:36 G 8897459.17 8897459.40 8897459.64 0.0134 0.0048 Neptune 19648-05-04 09:50 G 8897468.66 8897468.91 8897469.17 0.0089 0.0018 Uranus 19649-04-29 06:43 G 8897828.63 8897828.78 8897828.96 0.0134 0.0101 Neptune 19649-05-06 22:48 G 8897836.20 8897836.45 8897836.71 0.0089 0.0017 Neptune 19650-05-09 11:31 G 8898203.74 8898203.98 8898204.25 0.0089 0.0017 Jupiter 19650-06-03 15:36 G 8898228.98 8898229.15 8898229.32 0.0532 0.0372

Neptune 19651-05-12 00:43 G 8898571.28 8898571.53 8898571.79 0.0089 0.0015 Jupiter 19651-07-11 17:02 G 8898632.09 8898632.21 8898632.33 0.0542 0.0461 Neptune 19652-05-13 13:26 G 8898938.81 8898939.06 8898939.32 0.0089 0.0014 Neptune 19653-05-16 02:09 G 8899306.35 8899306.59 8899306.86 0.0089 0.0014 Neptune 19654-05-18 15:21 G 8899673.89 8899674.14 8899674.40 0.0089 0.0012 Neptune 19655-05-21 04:19 G 8900041.43 8900041.68 8900041.94 0.0089 0.0011 Saturn 19655-11-24 05:16 G 8900228.51 8900228.72 8900228.93 0.0275 0.0138 Jupiter 19655-11-30 01:26 G 8900234.42 8900234.56 8900234.70 0.0497 0.0392 Neptune 19656-05-22 17:16 G 8900408.96 8900409.22 8900409.48 0.0089 0.0009 Jupiter 19656-12-29 14:38 G 8900629.90 8900630.11 8900630.32 0.0487 0.0214 Neptune 19657-05-25 06:00 G 8900776.50 8900776.75 8900777.02 0.0089 0.0009 Neptune 19658-05-27 19:12 G 8901144.05 8901144.30 8901144.57 0.0089 0.0007 Neptune 19659-05-30 08:24 G 8901511.59 8901511.85 8901512.11 0.0089 0.0006 Neptune 19660-05-31 21:36 G 8901879.14 8901879.40 8901879.66 0.0089 0.0004 Neptune 19661-06-03 10:48 G 8902246.69 8902246.95 8902247.21 0.0089 0.0003 Neptune 19662-06-06 00:00 G 8902614.24 8902614.50 8902614.76 0.0089 0.0002 Jupiter 19662-06-08 16:48 G 8902617.00 8902617.20 8902617.41 0.0535 0.0263 Neptune 19663-06-08 13:26 G 8902981.80 8902982.06 8902982.32 0.0089 0.0001 Neptune 19664-06-10 02:38 G 8903349.35 8903349.61 8903349.87 0.0089 0.0001 Neptune 19665-06-12 15:50 G 8903716.90 8903717.16 8903717.42 0.0089 0.0002 Neptune 19666-06-15 05:02 G 8904084.45 8904084.71 8904084.97 0.0089 0.0003 Neptune 19667-06-17 18:14 G 8904452.00 8904452.26 8904452.52 0.0089 0.0004 Jupiter 19667-12-04 11:02 G 8904621.79 8904621.96 8904622.15 0.0495 0.0304 Neptune 19668-06-19 07:26 G 8904819.55 8904819.81 8904820.07 0.0089 0.0006 Jupiter 19669-01-02 19:55 G 8905017.15 8905017.33 8905017.52 0.0486 0.0296 Neptune 19669-06-21 20:38 G 8905187.10 8905187.36 8905187.62 0.0089 0.0007 Saturn 19670-05-27 13:40 G 8905526.84 8905527.07 8905527.31 0.0284 0.0078 Neptune 19670-06-24 09:36 G 8905554.65 8905554.90 8905555.17 0.0089 0.0009 Neptune 19671-06-26 23:02 G 8905922.20 8905922.46 8905922.72 0.0089 0.0009 Neptune 19672-06-28 12:14 G 8906289.75 8906290.01 8906290.27 0.0090 0.0011

Neptune 19673-07-01 01:26 G 8906657.31 8906657.56 8906657.82 0.0090 0.0012 Jupiter 19674-06-13 23:45 G 8907005.27 8907005.49 8907005.72 0.0537 0.0147 Neptune 19674-07-03 15:07 G 8907024.87 8907025.13 8907025.38 0.0090 0.0013 Neptune 19675-07-06 04:19 G 8907392.42 8907392.68 8907392.93 0.0090 0.0014 Neptune 19676-07-07 17:31 G 8907759.98 8907760.23 8907760.49 0.0090 0.0015 Neptune 19677-07-10 06:28 G 8908127.53 8908127.77 8908128.04 0.0090 0.0017 Neptune 19678-07-12 19:55 G 8908495.08 8908495.33 8908495.59 0.0090 0.0018 Neptune 19679-07-15 08:52 G 8908862.63 8908862.87 8908863.14 0.0090 0.0019 Jupiter 19679-12-08 18:43 G 8909009.08 8909009.28 8909009.49 0.0493 0.0218 Neptune 19680-07-16 21:50 G 8909230.17 8909230.41 8909230.68 0.0090 0.0020 Jupiter 19681-01-06 23:31 G 8909404.34 8909404.48 8909404.63 0.0485 0.0374 Neptune 19681-07-19 10:48 G 8909597.72 8909597.95 8909598.22 0.0090 0.0021 Neptune 19682-07-21 23:45 G 8909965.26 8909965.49 8909965.76 0.0090 0.0022 Neptune 19683-07-24 12:57 G 8910332.79 8910333.04 8910333.30 0.0090 0.0022 Neptune 19684-07-26 01:55 G 8910700.33 8910700.58 8910700.83 0.0090 0.0023 Neptune 19685-07-28 14:52 G 8911067.88 8911068.12 8911068.38 0.0090 0.0024 Saturn 19685-11-30 09:21 G 8911192.66 8911192.89 8911193.12 0.0276 0.0091 Jupiter 19686-06-19 09:21 G 8911393.65 8911393.89 8911394.12 0.0538 0.0030 Neptune 19686-07-31 03:36 G 8911435.42 8911435.65 8911435.91 0.0090 0.0025 Neptune 19687-08-02 16:33 G 8911802.96 8911803.19 8911803.46 0.0090 0.0026 Neptune 19688-08-04 05:45 G 8912170.50 8912170.74 8912170.99 0.0089 0.0026 Uranus 19688-10-11 13:26 G 8912239.00 8912239.06 8912239.14 0.0143 0.0137 Neptune 19689-08-06 18:28 G 8912538.04 8912538.27 8912538.53 0.0089 0.0027 Uranus 19689-10-16 11:16 G 8912608.77 8912608.97 8912609.20 0.0144 0.0073 Neptune 19690-08-09 07:12 G 8912905.57 8912905.80 8912906.06 0.0089 0.0028 Uranus 19690-10-21 10:04 G 8912978.67 8912978.92 8912979.17 0.0144 0.0007 Neptune 19691-08-11 19:55 G 8913273.09 8913273.33 8913273.58 0.0089 0.0028 Uranus 19691-10-26 08:52 G 8913348.64 8913348.87 8913349.10 0.0144 0.0059 Jupiter 19691-12-13 01:40 G 8913396.35 8913396.57 8913396.80 0.0492 0.0131 Neptune 19692-08-13 08:24 G 8913640.62 8913640.85 8913641.11 0.0089 0.0029

Uranus 19692-10-30 07:55 G 8913718.71 8913718.83 8913718.96 0.0145 0.0125 Jupiter 19693-01-11 03:50 G 8913791.59 8913791.66 8913791.75 0.0485 0.0452 Neptune 19693-08-15 21:07 G 8914008.14 8914008.38 8914008.63 0.0089 0.0029 Neptune 19694-08-18 09:21 G 8914375.67 8914375.89 8914376.15 0.0089 0.0030 Neptune 19695-08-20 21:50 G 8914743.18 8914743.41 8914743.67 0.0089 0.0030 Neptune 19696-08-22 10:33 G 8915110.70 8915110.94 8915111.18 0.0089 0.0030 Neptune 19697-08-24 22:33 G 8915478.21 8915478.44 8915478.70 0.0089 0.0031 Jupiter 19698-06-24 17:16 G 8915781.99 8915782.22 8915782.45 0.0539 0.0090 Neptune 19698-08-27 11:02 G 8915845.73 8915845.96 8915846.22 0.0089 0.0031 Neptune 19699-08-29 23:16 G 8916213.24 8916213.47 8916213.73 0.0089 0.0031 19699-09-17 07:12 G 8916231.61 8916231.80 8916231.99 0.1854 0.0363 Mars Saturn 19700-06-04 09:21 G 8916491.70 8916491.89 8916492.08 0.0283 0.0181 Neptune 19700-09-01 12:00 G 8916580.76 8916581.00 8916581.24 0.0089 0.0031 Neptune 19701-09-04 00:14 G 8916948.27 8916948.51 8916948.76 0.0089 0.0031 Neptune 19702-09-06 12:00 G 8917315.78 8917316.00 8917316.26 0.0089 0.0031 Neptune 19703-09-09 00:14 G 8917683.28 8917683.51 8917683.77 0.0089 0.0031 Jupiter 19703-12-18 05:02 G 8917783.48 8917783.71 8917783.94 0.0491 0.0049 Neptune 19704-09-10 12:00 G 8918050.78 8918051.00 8918051.26 0.0089 0.0032 Neptune 19705-09-13 00:28 G 8918418.28 8918418.52 8918418.76 0.0089 0.0030 Neptune 19706-09-15 12:14 G 8918785.77 8918786.01 8918786.25 0.0089 0.0030 Neptune 19707-09-17 23:45 G 8919153.26 8919153.49 8919153.74 0.0089 0.0030 Neptune 19708-09-19 11:31 G 8919520.75 8919520.98 8919521.23 0.0089 0.0030 Neptune 19709-09-21 23:02 G 8919888.24 8919888.46 8919888.72 0.0089 0.0030 Jupiter 19710-06-30 23:31 G 8920170.27 8920170.48 8920170.70 0.0540 0.0209 Neptune 19710-09-24 11:02 G 8920255.72 8920255.96 8920256.20 0.0089 0.0029 Neptune 19711-09-26 22:19 G 8920623.20 8920623.43 8920623.69 0.0089 0.0029 Neptune 19712-09-28 10:04 G 8920990.69 8920990.92 8920991.18 0.0089 0.0029 Neptune 19713-09-30 21:36 G 8921358.17 8921358.40 8921358.66 0.0089 0.0028 Neptune 19714-10-03 09:07 G 8921725.65 8921725.88 8921726.14 0.0089 0.0028 Saturn 19714-11-26 13:40 G 8921779.84 8921780.07 8921780.31 0.0275 0.0082

Neptune 19715-10-05 20:24 G 8922093.12 8922093.35 8922093.61 0.0089 0.0027 Jupiter 19715-12-22 10:48 G 8922170.72 8922170.95 8922171.18 0.0489 0.0037 Neptune 19716-10-07 07:55 G 8922460.59 8922460.83 8922461.08 0.0089 0.0026 Neptune 19717-10-09 18:57 G 8922828.06 8922828.29 8922828.55 0.0089 0.0026 Neptune 19718-10-12 06:00 G 8923195.52 8923195.75 8923196.01 0.0089 0.0025 Pluto 19719-09-09 21:36 G 8923528.21 8923528.40 8923528.63 0.0064 0.0036 Neptune 19719-10-14 17:16 G 8923562.98 8923563.22 8923563.47 0.0089 0.0024 Pluto 19720-09-10 09:50 G 8923894.74 8923894.91 8923895.08 0.0064 0.0048 Neptune 19720-10-16 04:04 G 8923930.44 8923930.67 8923930.93 0.0089 0.0024 Jupiter 19721-05-29 07:55 G 8924155.75 8924155.83 8924155.92 0.0530 0.0494 Neptune 19721-10-18 15:07 G 8924297.89 8924298.13 8924298.39 0.0089 0.0023 Jupiter 19722-07-06 04:04 G 8924558.49 8924558.67 8924558.87 0.0542 0.0324 Neptune 19722-10-21 01:55 G 8924665.34 8924665.58 8924665.84 0.0089 0.0022 Neptune 19723-10-23 12:57 G 8925032.80 8925033.04 8925033.30 0.0089 0.0021 Neptune 19724-10-25 00:00 G 8925400.25 8925400.50 8925400.75 0.0088 0.0020 Mars 19725-03-15 22:33 G 8925542.36 8925542.44 8925542.51 0.1678 0.1527 Neptune 19725-10-27 10:33 G 8925767.71 8925767.94 8925768.21 0.0088 0.0020 Neptune 19726-10-29 21:21 G 8926135.15 8926135.39 8926135.65 0.0088 0.0019 Jupiter 19726-11-25 23:02 G 8926162.41 8926162.46 8926162.51 0.0499 0.0486 Neptune 19727-11-01 08:09 G 8926502.60 8926502.84 8926503.10 0.0088 0.0018 Jupiter 19727-12-26 17:02 G 8926557.99 8926558.21 8926558.44 0.0488 0.0122 Neptune 19728-11-02 18:57 G 8926870.05 8926870.29 8926870.55 0.0088 0.0016 Uranus 19729-04-14 05:31 G 8927032.60 8927032.73 8927032.90 0.0135 0.0108 Saturn 19729-05-30 00:00 G 8927078.26 8927078.50 8927078.75 0.0284 0.0018 Neptune 19729-11-05 05:31 G 8927237.48 8927237.73 8927237.99 0.0088 0.0015 Uranus 19730-04-18 16:33 G 8927401.96 8927402.19 8927402.43 0.0134 0.0054 Neptune 19730-11-07 16:04 G 8927604.92 8927605.17 8927605.43 0.0088 0.0014 Uranus 19731-04-23 02:38 G 8927771.35 8927771.61 8927771.87 0.0134 0.0000 Neptune 19731-11-10 02:24 G 8927972.35 8927972.60 8927972.86 0.0088 0.0013 Uranus 19732-04-26 12:28 G 8928140.78 8928141.02 8928141.25 0.0134 0.0053

Neptune 19732-11-11 12:43 G 8928339.79 8928340.03 8928340.30 0.0088 0.0013 Uranus 19733-04-30 21:21 G 8928510.25 8928510.39 8928510.56 0.0134 0.0106 Jupiter 19733-06-03 12:00 G 8928543.84 8928544.00 8928544.16 0.0532 0.0387 Neptune 19733-11-13 23:16 G 8928707.22 8928707.47 8928707.73 0.0088 0.0011 Jupiter 19734-07-11 14:09 G 8928946.96 8928947.09 8928947.23 0.0543 0.0442 Neptune 19734-11-16 09:36 G 8929074.65 8929074.90 8929075.16 0.0088 0.0010 Neptune 19735-11-18 19:55 G 8929442.08 8929442.33 8929442.59 0.0088 0.0009 Neptune 19736-11-20 06:28 G 8929809.51 8929809.77 8929810.03 0.0088 0.0008 Neptune 19737-11-22 16:48 G 8930176.95 8930177.20 8930177.46 0.0088 0.0006 Neptune 19738-11-25 03:07 G 8930544.38 8930544.63 8930544.89 0.0088 0.0005 Jupiter 19738-11-30 08:38 G 8930549.73 8930549.86 8930550.00 0.0497 0.0400 Neptune 19739-11-27 13:40 G 8930911.81 8930912.07 8930912.33 0.0088 0.0004 Jupiter 19739-12-30 21:36 G 8930945.19 8930945.40 8930945.62 0.0487 0.0203 Neptune 19740-11-28 23:45 G 8931279.24 8931279.49 8931279.75 0.0088 0.0003 Neptune 19741-12-01 10:19 G 8931646.67 8931646.93 8931647.18 0.0088 0.0002 Neptune 19742-12-03 20:09 G 8932014.09 8932014.34 8932014.60 0.0088 0.0002 Saturn 19743-11-21 06:28 G 8932366.75 8932366.77 8932366.83 0.0275 0.0271 Neptune 19743-12-06 06:28 G 8932381.51 8932381.77 8932382.03 0.0088 0.0001 Saturn 19744-12-02 19:26 G 8932744.12 8932744.31 8932744.52 0.0276 0.0150 Neptune 19744-12-07 16:48 G 8932748.94 8932749.20 8932749.45 0.0088 0.0002 Jupiter 19745-06-08 18:57 G 8932932.09 8932932.29 8932932.49 0.0534 0.0277 Neptune 19745-12-10 02:38 G 8933116.35 8933116.61 8933116.87 0.0088 0.0003 Neptune 19746-12-12 12:43 G 8933483.78 8933484.03 8933484.29 0.0088 0.0004 Neptune 19747-12-14 22:48 G 8933851.20 8933851.45 8933851.71 0.0088 0.0005 Neptune 19748-12-16 08:52 G 8934218.62 8934218.87 8934219.13 0.0088 0.0007 Neptune 19749-12-18 18:57 G 8934586.04 8934586.29 8934586.55 0.0088 0.0008 Jupiter 19750-12-04 17:02 G 8934937.03 8934937.21 8934937.39 0.0495 0.0313 Neptune 19750-12-21 05:16 G 8934953.47 8934953.72 8934953.98 0.0088 0.0009 Neptune 19751-12-23 15:21 G 8935320.89 8935321.14 8935321.40 0.0088 0.0010 Jupiter 19752-01-04 02:09 G 8935332.41 8935332.59 8935332.78 0.0486 0.0284

Neptune 19752-12-25 01:40 G 8935688.32 8935688.57 8935688.83 0.0088 0.0011 Neptune 19753-12-27 11:45 G 8936055.74 8936055.99 8936056.25 0.0088 0.0012 Neptune 19754-12-29 21:50 G 8936423.16 8936423.41 8936423.67 0.0088 0.0013 Neptune 19756-01-01 08:09 G 8936790.59 8936790.84 8936791.10 0.0088 0.0014 Neptune 19757-01-02 18:00 G 8937158.00 8937158.25 8937158.51 0.0088 0.0015 Jupiter 19757-06-14 02:24 G 8937320.38 8937320.60 8937320.83 0.0536 0.0163 Neptune 19758-01-05 04:04 G 8937525.43 8937525.67 8937525.93 0.0088 0.0016 Saturn 19758-05-24 02:52 G 8937664.49 8937664.62 8937664.77 0.0284 0.0231 Neptune 19759-01-07 14:09 G 8937892.84 8937893.09 8937893.35 0.0088 0.0017 Saturn 19759-06-06 19:12 G 8938043.17 8938043.30 8938043.43 0.0283 0.0239 Neptune 19760-01-10 00:14 G 8938260.27 8938260.51 8938260.77 0.0088 0.0018 Neptune 19761-01-11 10:19 G 8938627.69 8938627.93 8938628.19 0.0088 0.0019 Neptune 19762-01-13 20:24 G 8938995.11 8938995.35 8938995.61 0.0088 0.0020 Jupiter 19762-12-08 21:07 G 8939324.18 8939324.38 8939324.59 0.0494 0.0232 Neptune 19763-01-16 06:43 G 8939362.54 8939362.78 8939363.05 0.0088 0.0021 Jupiter 19764-01-08 04:19 G 8939719.53 8939719.68 8939719.84 0.0486 0.0360 Neptune 19764-01-18 17:16 G 8939729.97 8939730.22 8939730.47 0.0088 0.0021 Neptune 19765-01-20 03:36 G 8940097.41 8940097.65 8940097.90 0.0088 0.0022 Neptune 19766-01-22 13:40 G 8940464.84 8940465.07 8940465.33 0.0088 0.0023 Neptune 19767-01-25 00:14 G 8940832.27 8940832.51 8940832.77 0.0088 0.0024 Neptune 19768-01-27 10:33 G 8941199.70 8941199.94 8941200.20 0.0088 0.0024 Neptune 19769-01-28 20:52 G 8941567.14 8941567.37 8941567.63 0.0088 0.0025 Jupiter 19769-06-19 07:40 G 8941708.58 8941708.82 8941709.05 0.0537 0.0048 Neptune 19770-01-31 07:26 G 8941934.57 8941934.81 8941935.06 0.0088 0.0025 Neptune 19771-02-02 17:45 G 8942302.00 8942302.24 8942302.49 0.0088 0.0026 Neptune 19772-02-05 04:04 G 8942669.44 8942669.67 8942669.93 0.0088 0.0027 Uranus 19772-10-13 02:52 G 8942920.55 8942920.62 8942920.74 0.0143 0.0133 Neptune 19773-02-06 14:38 G 8943036.87 8943037.11 8943037.36 0.0088 0.0027 Uranus 19773-10-18 01:12 G 8943290.34 8943290.55 8943290.78 0.0144 0.0068 Saturn 19773-11-27 23:16 G 8943331.23 8943331.47 8943331.72 0.0275 0.0025

Neptune 19774-02-09 01:12 G 8943404.32 8943404.55 8943404.81 0.0088 0.0028 Uranus 19774-10-22 23:45 G 8943660.23 8943660.49 8943660.74 0.0144 0.0003 Jupiter 19774-12-13 03:50 G 8943711.44 8943711.66 8943711.88 0.0492 0.0145 Neptune 19775-02-11 12:00 G 8943771.76 8943772.00 8943772.25 0.0088 0.0028 Uranus 19775-10-27 22:33 G 8944030.22 8944030.44 8944030.67 0.0145 0.0064 Jupiter 19776-01-12 08:09 G 8944106.75 8944106.84 8944106.95 0.0485 0.0438 Neptune 19776-02-13 22:48 G 8944139.21 8944139.45 8944139.70 0.0088 0.0028 Uranus 19776-10-31 21:50 G 8944400.30 8944400.41 8944400.52 0.0145 0.0130 Neptune 19777-02-15 09:21 G 8944506.66 8944506.89 8944507.15 0.0088 0.0029 Neptune 19778-02-17 20:24 G 8944874.12 8944874.35 8944874.60 0.0088 0.0029 Neptune 19779-02-20 07:26 G 8945241.57 8945241.81 8945242.06 0.0088 0.0029 Neptune 19780-02-22 18:28 G 8945609.03 8945609.27 8945609.52 0.0088 0.0029 Neptune 19781-02-24 05:02 G 8945976.48 8945976.71 8945976.97 0.0088 0.0030 Jupiter 19781-06-24 10:04 G 8946096.68 8946096.92 8946097.15 0.0539 0.0067 Neptune 19782-02-26 16:04 G 8946343.94 8946344.17 8946344.43 0.0088 0.0030 Neptune 19783-03-01 03:07 G 8946711.40 8946711.63 8946711.89 0.0088 0.0030 Neptune 19784-03-02 13:55 G 8947078.86 8947079.08 8947079.34 0.0088 0.0030 Neptune 19785-03-05 01:12 G 8947446.32 8947446.55 8947446.81 0.0088 0.0030 Neptune 19786-03-07 12:14 G 8947813.79 8947814.01 8947814.27 0.0088 0.0030 Jupiter 19786-12-17 11:45 G 8948098.76 8948098.99 8948099.22 0.0491 0.0058 Neptune 19787-03-10 00:00 G 8948181.26 8948181.50 8948181.75 0.0088 0.0030 Neptune 19788-03-11 11:16 G 8948548.73 8948548.97 8948549.22 0.0088 0.0029 Saturn 19788-05-31 11:45 G 8948629.75 8948629.99 8948630.24 0.0283 0.0046 Neptune 19789-03-13 22:33 G 8948916.20 8948916.44 8948916.69 0.0088 0.0029 Neptune 19790-03-16 10:04 G 8949283.69 8949283.92 8949284.18 0.0088 0.0029 Neptune 19791-03-18 21:36 G 8949651.17 8949651.40 8949651.66 0.0088 0.0029 Neptune 19792-03-20 09:21 G 8950018.65 8950018.89 8950019.14 0.0088 0.0028 Neptune 19793-03-22 20:38 G 8950386.13 8950386.36 8950386.62 0.0088 0.0029 Jupiter 19793-06-29 18:14 G 8950485.04 8950485.26 8950485.48 0.0541 0.0187 Neptune 19794-03-25 08:38 G 8950753.62 8950753.86 8950754.12 0.0088 0.0028

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Neptune 19814-05-10 14:09 G 8958103.83 8958104.09 8958104.34 0.0089 0.0011 Uranus 19815-04-24 17:16 G 8958452.96 8958453.22 8958453.48 0.0134 0.0005 Neptune 19815-05-13 03:07 G 8958471.37 8958471.63 8958471.88 0.0089 0.0010 Uranus 19816-04-28 02:38 G 8958822.39 8958822.61 8958822.85 0.0134 0.0059 Neptune 19816-05-14 15:50 G 8958838.90 8958839.16 8958839.42 0.0089 0.0009 Jupiter 19816-06-03 14:52 G 8958858.97 8958859.12 8958859.28 0.0532 0.0400 Uranus 19817-05-02 11:45 G 8959191.87 8959191.99 8959192.15 0.0134 0.0112 Neptune 19817-05-17 05:02 G 8959206.45 8959206.71 8959206.97 0.0089 0.0008 Saturn 19817-05-26 14:38 G 8959215.92 8959216.11 8959216.32 0.0284 0.0168 Jupiter 19817-07-11 15:07 G 8959261.99 8959262.13 8959262.28 0.0542 0.0421 Neptune 19818-05-19 18:00 G 8959573.99 8959574.25 8959574.51 0.0089 0.0007 Neptune 19819-05-22 06:57 G 8959941.53 8959941.79 8959942.05 0.0089 0.0006 Neptune 19820-05-23 19:55 G 8960309.07 8960309.33 8960309.59 0.0089 0.0004 Neptune 19821-05-26 08:52 G 8960676.61 8960676.87 8960677.13 0.0089 0.0004 Jupiter 19821-11-30 09:36 G 8960864.78 8960864.90 8960865.04 0.0498 0.0413 Neptune 19822-05-28 21:50 G 8961044.15 8961044.41 8961044.67 0.0089 0.0002 Jupiter 19822-12-31 00:57 G 8961260.33 8961260.54 8961260.76 0.0488 0.0189 Neptune 19823-05-31 11:02 G 8961411.70 8961411.96 8961412.22 0.0089 0.0001 Neptune 19824-06-02 00:00 G 8961779.24 8961779.50 8961779.76 0.0089 0.0001 Neptune 19825-06-04 12:57 G 8962146.78 8962147.04 8962147.30 0.0089 0.0002 Neptune 19826-06-07 02:24 G 8962514.34 8962514.60 8962514.86 0.0089 0.0003 Neptune 19827-06-09 15:21 G 8962881.88 8962882.14 8962882.40 0.0089 0.0004 Jupiter 19828-06-08 18:43 G 8963247.09 8963247.28 8963247.48 0.0533 0.0291 Neptune 19828-06-11 04:48 G 8963249.44 8963249.70 8963249.96 0.0089 0.0005 Neptune 19829-06-13 18:00 G 8963617.00 8963617.25 8963617.51 0.0089 0.0007 Jupiter 19829-07-16 22:19 G 8963650.39 8963650.43 8963650.47 0.0543 0.0533 Neptune 19830-06-16 07:26 G 8963984.55 8963984.81 8963985.07 0.0089 0.0008 Neptune 19831-06-18 20:38 G 8964352.10 8964352.36 8964352.62 0.0089 0.0009 Neptune 19832-06-20 09:50 G 8964719.65 8964719.91 8964720.17 0.0089 0.0010 Saturn 19832-11-30 09:07 G 8964882.64 8964882.88 8964883.12 0.0276 0.0033

Neptune 19833-06-22 23:02 G 8965087.20 8965087.46 8965087.72 0.0089 0.0011 Jupiter 19833-12-04 17:45 G 8965252.07 8965252.24 8965252.42 0.0496 0.0327 Neptune 19834-06-25 12:00 G 8965454.75 8965455.00 8965455.27 0.0090 0.0013 Jupiter 19835-01-04 05:31 G 8965647.54 8965647.73 8965647.93 0.0487 0.0270 Neptune 19835-06-28 01:12 G 8965822.30 8965822.55 8965822.81 0.0090 0.0013 Neptune 19836-06-29 14:09 G 8966189.85 8966190.09 8966190.36 0.0090 0.0015 Neptune 19837-07-02 03:36 G 8966557.40 8966557.65 8966557.91 0.0090 0.0015 Neptune 19838-07-04 16:33 G 8966924.95 8966925.19 8966925.46 0.0090 0.0017 Neptune 19839-07-07 06:00 G 8967292.50 8967292.75 8967293.01 0.0090 0.0017 Jupiter 19840-06-13 18:43 G 8967635.06 8967635.28 8967635.50 0.0535 0.0184 Neptune 19840-07-08 19:12 G 8967660.05 8967660.30 8967660.56 0.0090 0.0018 Neptune 19841-07-11 08:24 G 8968027.61 8968027.85 8968028.12 0.0090 0.0020 Neptune 19842-07-13 21:50 G 8968395.17 8968395.41 8968395.67 0.0090 0.0020 Neptune 19843-07-16 11:02 G 8968762.71 8968762.96 8968763.22 0.0090 0.0021 Neptune 19844-07-18 00:14 G 8969130.27 8969130.51 8969130.77 0.0090 0.0022 Neptune 19845-07-20 13:26 G 8969497.81 8969498.06 8969498.31 0.0090 0.0023 Jupiter 19845-12-09 02:52 G 8969639.43 8969639.62 8969639.83 0.0494 0.0242 Neptune 19846-07-23 02:24 G 8969865.36 8969865.60 8969865.86 0.0090 0.0024 Jupiter 19847-01-08 11:02 G 8970034.80 8970034.96 8970035.12 0.0486 0.0350 Saturn 19847-06-04 00:43 G 8970181.31 8970181.53 8970181.77 0.0283 0.0111 Neptune 19847-07-25 15:07 G 8970232.90 8970233.13 8970233.40 0.0090 0.0025 Neptune 19848-07-27 04:33 G 8970600.44 8970600.69 8970600.94 0.0090 0.0025 Neptune 19849-07-29 17:16 G 8970967.98 8970968.22 8970968.48 0.0090 0.0026 Neptune 19850-08-01 06:14 G 8971335.53 8971335.76 8971336.02 0.0090 0.0027 Neptune 19851-08-03 19:12 G 8971703.06 8971703.30 8971703.56 0.0090 0.0027 Jupiter 19852-06-19 00:43 G 8972023.30 8972023.53 8972023.77 0.0537 0.0070 Neptune 19852-08-05 08:09 G 8972070.61 8972070.84 8972071.10 0.0090 0.0027 Neptune 19853-08-07 21:21 G 8972438.15 8972438.39 8972438.64 0.0089 0.0028 Neptune 19854-08-10 09:50 G 8972805.69 8972805.91 8972806.18 0.0089 0.0029 Neptune 19855-08-12 23:02 G 8973173.23 8973173.46 8973173.72 0.0089 0.0029

Neptune 19856-08-14 12:00 G 8973540.76 8973541.00 8973541.25 0.0089 0.0029 Uranus 19856-10-14 14:24 G 8973602.01 8973602.10 8973602.22 0.0143 0.0129 Neptune 19857-08-17 00:28 G 8973908.29 8973908.52 8973908.78 0.0089 0.0029 Uranus 19857-10-19 12:28 G 8973971.80 8973972.02 8973972.25 0.0144 0.0064 Jupiter 19857-12-13 10:33 G 8974026.72 8974026.94 8974027.17 0.0492 0.0156 Neptune 19858-08-19 12:57 G 8974275.81 8974276.04 8974276.30 0.0089 0.0030 Uranus 19858-10-24 10:48 G 8974341.69 8974341.95 8974342.20 0.0144 0.0002 Jupiter 19859-01-12 14:38 G 8974422.00 8974422.11 8974422.22 0.0485 0.0424 Neptune 19859-08-22 01:40 G 8974643.33 8974643.57 8974643.82 0.0089 0.0030 Uranus 19859-10-29 09:21 G 8974711.67 8974711.89 8974712.12 0.0144 0.0068 Neptune 19860-08-23 14:09 G 8975010.85 8975011.09 8975011.34 0.0089 0.0030 Uranus 19860-11-02 08:24 G 8975081.76 8975081.85 8975081.95 0.0145 0.0134 Neptune 19861-08-26 02:38 G 8975378.37 8975378.61 8975378.86 0.0089 0.0030 Saturn 19861-11-25 04:19 G 8975469.48 8975469.68 8975469.89 0.0275 0.0153 Neptune 19862-08-28 14:52 G 8975745.89 8975746.12 8975746.37 0.0089 0.0030 Saturn 19862-12-07 17:16 G 8975847.18 8975847.22 8975847.29 0.0276 0.0269 Neptune 19863-08-31 03:21 G 8976113.40 8976113.64 8976113.89 0.0089 0.0030 Jupiter 19864-06-24 09:50 G 8976411.68 8976411.91 8976412.15 0.0539 0.0051 Neptune 19864-09-01 15:50 G 8976480.92 8976481.16 8976481.40 0.0089 0.0030 Neptune 19865-09-04 03:50 G 8976848.43 8976848.66 8976848.91 0.0089 0.0030 Neptune 19866-09-06 16:19 G 8977215.95 8977216.18 8977216.43 0.0089 0.0029 Neptune 19867-09-09 04:19 G 8977583.45 8977583.68 8977583.94 0.0089 0.0030 Neptune 19868-09-10 16:33 G 8977950.96 8977951.19 8977951.45 0.0089 0.0029 Neptune 19869-09-13 04:48 G 8978318.46 8978318.70 8978318.95 0.0089 0.0029 Jupiter 19869-12-17 17:02 G 8978413.99 8978414.21 8978414.45 0.0491 0.0070 Neptune 19870-09-15 16:33 G 8978685.95 8978686.19 8978686.44 0.0089 0.0028 Neptune 19871-09-18 04:19 G 8979053.45 8979053.68 8979053.94 0.0089 0.0028 Neptune 19872-09-19 16:19 G 8979420.94 8979421.18 8979421.43 0.0089 0.0027 Neptune 19873-09-22 03:50 G 8979788.42 8979788.66 8979788.91 0.0089 0.0027 Neptune 19874-09-24 15:36 G 8980155.91 8980156.15 8980156.40 0.0089 0.0026

Neptune 19875-09-27 03:07 G 8980523.39 8980523.63 8980523.89 0.0089 0.0026 Saturn 19876-05-28 03:21 G 8980767.41 8980767.87 0.0284 0.0105 8980767.64 Jupiter 19876-06-29 19:55 G 8980800.11 8980800.33 8980800.55 0.0540 0.0169 Neptune 19876-09-28 14:52 G 8980890.87 8980891.12 8980891.37 0.0089 0.0025 Neptune 19877-10-01 02:09 G 8981258.36 8981258.59 8981258.85 0.0089 0.0025 Neptune 19878-10-03 13:40 G 8981625.83 8981626.07 8981626.33 0.0089 0.0024 Neptune 19879-10-06 01:12 G 8981993.32 8981993.55 8981993.81 0.0089 0.0024 Neptune 19880-10-07 12:43 G 8982360.80 8982361.03 8982361.29 0.0089 0.0023 Neptune 19881-10-10 00:14 G 8982728.27 8982728.51 8982728.76 0.0089 0.0022 Jupiter 19881-12-21 20:09 G 8982801.11 8982801.34 8982801.57 0.0490 0.0014 Neptune 19882-10-12 11:31 G 8983095.74 8983095.98 8983096.24 0.0089 0.0021 Neptune 19883-10-14 22:33 G 8983463.20 8983463.44 8983463.70 0.0089 0.0021 Neptune 19884-10-16 09:36 G 8983830.67 8983830.90 8983831.17 0.0089 0.0020 Neptune 19885-10-18 20:38 G 8984198.12 8984198.36 8984198.62 0.0089 0.0019 Neptune 19886-10-21 07:40 G 8984565.58 8984565.82 8984566.08 0.0089 0.0018 Jupiter 19887-05-29 10:04 G 8984785.88 8984785.92 8984785.98 0.0529 0.0515 Neptune 19887-10-23 18:43 G 8984933.03 8984933.28 8984933.54 0.0089 0.0017 Jupiter 19888-07-05 02:52 G 8985188.43 8985188.62 8985188.83 0.0541 0.0286 Neptune 19888-10-25 05:45 G 8985300.49 8985300.74 8985300.99 0.0089 0.0016 Neptune 19889-10-27 16:33 G 8985667.94 8985668.19 8985668.44 0.0088 0.0015 Neptune 19890-10-30 03:21 G 8986035.39 8986035.64 8986035.90 0.0088 0.0014 Neptune 19891-11-01 14:24 G 8986402.85 8986403.10 8986403.36 0.0088 0.0013 Saturn 19891-12-02 18:28 G 8986434.04 8986434.27 8986434.50 0.0276 0.0089 Neptune 19892-11-03 01:12 G 8986770.30 8986770.55 8986770.80 0.0088 0.0011 Neptune 19893-11-05 12:00 G 8987137.75 8987138.00 8987138.26 0.0088 0.0011 Jupiter 19893-12-26 01:26 G 8987188.33 8987188.56 8987188.79 0.0489 0.0097 Neptune 19894-11-07 22:33 G 8987505.19 8987505.44 8987505.70 0.0088 0.0009 Neptune 19895-11-10 09:07 G 8987872.63 8987872.88 8987873.14 0.0088 0.0009 Neptune 19896-11-11 19:40 G 8988240.07 8988240.32 8988240.58 0.0088 0.0007 Uranus 19897-04-16 10:48 G 8988395.78 8988395.95 8988396.13 0.0135 0.0097

Neptune 19897-11-14 06:00 G 8988607.50 8988607.75 8988608.01 0.0088 0.0006 19898-04-20 21:21 G 8988765.16 8988765.39 8988765.64 0.0135 0.0044 Uranus Neptune 19898-11-16 16:33 G 8988974.93 8988975.19 8988975.45 0.0088 0.0005 Uranus 19899-04-25 07:26 G 8989134.56 8989135.07 0.0134 0.0012 8989134.81 Jupiter 19899-06-03 08:09 G 8989173.69 8989173.84 8989173.98 0.0531 0.0418 Neptune 19899-11-19 02:52 G 8989342.37 8989342.62 8989342.88 0.0088 0.0004 Uranus 19900-04-29 17:16 G 8989504.00 8989504.22 8989504.45 0.0134 0.0064 Jupiter 19900-07-11 06:00 G 8989576.59 8989576.75 8989576.91 0.0542 0.0396 Neptune 19900-11-21 13:12 G 8989709.80 8989710.05 8989710.31 0.0088 0.0003 Uranus 19901-05-04 02:24 G 8989873.49 8989873.60 8989873.73 0.0134 0.0117 Neptune 19901-11-23 23:31 G 8990077.22 8990077.48 8990077.74 0.0088 0.0002 Neptune 19902-11-26 09:50 G 8990444.66 8990444.91 8990445.17 0.0088 0.0001 Neptune 19903-11-28 20:09 G 8990812.09 8990812.34 8990812.60 0.0088 0.0001 Neptune 19904-11-30 06:43 G 8991179.52 8991179.78 8991180.03 0.0088 0.0002 Jupiter 19904-11-30 15:07 G 8991180.02 8991180.13 8991180.26 0.0498 0.0421 \* Neptune 19905-12-02 16:48 G 8991546.94 8991547.20 8991547.46 0.0088 0.0003 Jupiter 19905-12-31 07:40 G 8991575.61 8991575.82 8991576.04 0.0488 0.0180 Saturn 19906-06-06 13:26 G 8991732.88 8991733.06 8991733.27 0.0283 0.0174 Neptune 19906-12-05 03:07 G 8991914.37 8991914.63 8991914.89 0.0088 0.0004 Neptune 19907-12-07 13:26 G 8992281.80 8992282.06 8992282.31 0.0088 0.0005 Neptune 19908-12-08 23:16 G 8992649.22 8992649.47 8992649.73 0.0088 0.0006 Neptune 19909-12-11 09:36 G 8993016.64 8993016.90 8993017.15 0.0088 0.0007 8993384.31 8993384.57 0.0088 0.0009 Neptune 19910-12-13 19:26 G 8993384.06 Jupiter 19911-06-09 11:31 G 8993561.79 8993561.98 8993562.17 0.0533 0.0311 Neptune 19911-12-16 05:31 G 8993751.48 8993751.73 8993751.99 0.0088 0.0010 Jupiter 19912-07-16 15:07 G 8993965.06 8993965.13 8993965.21 0.0543 0.0511 Neptune 19912-12-17 15:36 G 8994118.90 8994119.15 8994119.41 0.0088 0.0011 Neptune 19913-12-20 01:26 G 8994486.32 8994486.56 8994486.83 0.0088 0.0012 Neptune 19914-12-22 11:45 G 8994853.74 8994853.99 8994854.25 0.0088 0.0013 Neptune 19915-12-24 21:50 G 8995221.16 8995221.41 8995221.67 0.0088 0.0014

Jupiter 19916-12-05 00:43 G 8995567.36 8995567.53 8995567.70 0.0496 0.0336 Neptune 19916-12-26 07:55 G 8995588.59 8995588.83 8995589.09 0.0088 0.0015 Neptune 19917-12-28 18:00 G 8995956.01 8995956.25 8995956.52 0.0088 0.0016 Jupiter 19918-01-04 12:28 G 8995962.82 8995963.02 8995963.22 0.0487 0.0258 Neptune 19918-12-31 04:19 G 8996323.44 8996323.68 8996323.94 0.0088 0.0017 Neptune 19920-01-02 14:24 G 8996690.86 8996691.10 8996691.36 0.0088 0.0018 Saturn 19920-11-27 14:09 G 8997020.86 8997021.09 8997021.32 0.0275 0.0096 Neptune 19921-01-04 00:28 G 8997058.29 8997058.52 8997058.79 0.0088 0.0019 Neptune 19922-01-06 10:48 G 8997425.70 8997425.95 8997426.20 0.0088 0.0019 Neptune 19923-01-08 20:52 G 8997793.13 8997793.37 8997793.63 0.0088 0.0020 Jupiter 19923-06-14 18:14 G 8997950.04 8997950.26 8997950.48 0.0535 0.0200 Neptune 19924-01-11 06:57 G 8998160.55 8998160.79 8998161.05 0.0088 0.0021 Neptune 19925-01-12 17:02 G 8998527.97 8998528.21 8998528.47 0.0088 0.0022 Neptune 19926-01-15 03:21 G 8998895.40 8998895.64 8998895.89 0.0088 0.0022 Neptune 19927-01-17 13:26 G 8999262.82 8999263.06 8999263.31 0.0088 0.0023 Neptune 19928-01-19 23:31 G 8999630.24 8999630.48 8999630.74 0.0088 0.0024 Jupiter 19928-12-09 09:07 G 8999954.68 8999954.88 8999955.08 0.0494 0.0250 Neptune 19929-01-21 09:36 G 8999997.67 8999997.90 8999998.17 0.0088 0.0025 Jupiter 19930-01-08 16:48 G 9000350.03 9000350.20 9000350.37 0.0486 0.0338 Neptune 19930-01-23 20:09 G 9000365.11 9000365.34 9000365.60 0.0088 0.0025 Neptune 19931-01-26 06:28 G 9000732.54 9000732.77 9000733.03 0.0088 0.0026 Neptune 19932-01-28 17:02 G 9001099.98 9001100.21 9001100.47 0.0088 0.0026 Neptune 19933-01-30 03:21 G 9001467.41 9001467.64 9001467.90 0.0088 0.0027 Neptune 19934-02-01 13:40 G 9001834.84 9001835.07 9001835.33 0.0088 0.0027 Neptune 19935-02-04 00:28 G 9002202.28 9002202.52 9002202.77 0.0088 0.0027 Saturn 19935-05-31 16:19 G 9002318.94 9002319.18 9002319.43 0.0283 0.0041 Jupiter 19935-06-20 03:21 G 9002338.41 9002338.64 9002338.87 0.0537 0.0084 Neptune 19936-02-06 10:19 G 9002569.70 9002569.93 9002570.19 0.0088 0.0028 Neptune 19937-02-07 21:07 G 9002937.14 9002937.38 9002937.63 0.0088 0.0028 Neptune 19938-02-10 07:26 G 9003304.58 9003304.81 9003305.06 0.0088 0.0028

Neptune 19939-02-12 17:45 G 9003672.02 9003672.24 9003672.50 0.0088 0.0029 Neptune 19940-02-15 04:19 G 9004039.45 9004039.68 9004039.94 0.0088 0.0029 Uranus 19940-10-16 03:07 G 9004283.53 9004283.63 9004283.78 0.0143 0.0125 Jupiter 19940-12-13 13:12 G 9004341.84 9004342.05 9004342.27 0.0493 0.0167 Neptune 19941-02-16 15:07 G 9004406.90 9004407.13 9004407.38 0.0088 0.0029 Uranus 19941-10-21 01:12 G 9004653.33 9004653.55 9004653.79 0.0144 0.0060 Jupiter 19942-01-12 18:43 G 9004737.16 9004737.41 0.0486 0.0413 9004737.28 Neptune 19942-02-19 01:55 G 9004774.35 9004774.58 9004774.83 0.0088 0.0029 Uranus 19942-10-25 23:31 G 9005023.23 9005023.48 9005023.73 0.0144 0.0006 Neptune 19943-02-21 12:43 G 9005141.80 9005142.03 9005142.29 0.0088 0.0029 Uranus 19943-10-30 22:04 G 9005393.21 9005393.42 9005393.64 0.0144 0.0073 Neptune 19944-02-23 23:31 G 9005509.25 9005509.48 9005509.74 0.0088 0.0029 Uranus 19944-11-03 21:07 G 9005763.32 9005763.38 9005763.45 0.0145 0.0139 Neptune 19945-02-25 10:19 G 9005876.70 9005876.93 9005877.19 0.0088 0.0029 Neptune 19946-02-27 21:21 G 9006244.16 9006244.39 9006244.65 0.0088 0.0029 Neptune 19947-03-02 08:09 G 9006611.61 9006611.84 9006612.10 0.0088 0.0029 Jupiter 19947-06-25 09:50 G 9006726.68 9006726.91 9006727.14 0.0538 0.0033 Neptune 19948-03-03 19:12 G 9006979.07 9006979.30 9006979.56 0.0088 0.0029 Neptune 19949-03-06 06:28 G 9007346.53 9007346.77 9007347.02 0.0088 0.0028 Neptune 19950-03-08 17:16 G 9007713.99 9007714.22 9007714.48 0.0088 0.0029 Saturn 19950-12-05 02:09 G 9007985.39 9007985.59 9007985.80 0.0276 0.0144 Neptune 19951-03-11 04:33 G 9008081.45 9008081.94 0.0088 0.0028 9008081.69 9008449.16 9008449.40 0.0088 0.0028 Neptune 19952-03-12 15:50 G 9008448.91 Jupiter 19952-12-17 19:55 G 9008729.10 9008729.33 9008729.56 0.0492 0.0081 Neptune 19953-03-15 03:07 G 9008816.39 9008816.63 9008816.88 0.0088 0.0027 Neptune 19954-03-17 14:09 G 9009183.86 9009184.35 0.0088 0.0027 9009184.09 Neptune 19955-03-20 01:55 G 9009551.34 9009551.58 9009551.83 0.0088 0.0027 Neptune 19956-03-21 13:12 G 9009918.82 9009919.05 9009919.31 0.0088 0.0026 Neptune 19957-03-24 01:12 G 9010286.30 9010286.55 9010286.80 0.0088 0.0026 Neptune 19958-03-26 12:28 G 9010653.79 9010654.02 9010654.29 0.0088 0.0026

Neptune 19959-03-29 00:28 G 9011021.28 9011021.52 9011021.78 0.0088 0.0024 Jupiter 19959-06-30 11:31 G 9011114.75 9011114.98 9011115.20 0.0540 0.0145 Neptune 19960-03-30 12:14 G 9011388.76 9011389.01 9011389.26 0.0088 0.0024 Neptune 19961-04-01 23:45 G 9011756.25 9011756.49 9011756.75 0.0088 0.0023 Neptune 19962-04-04 11:45 G 9012123.75 9012123.99 9012124.25 0.0088 0.0022 Neptune 19963-04-06 23:31 G 9012491.23 9012491.48 9012491.74 0.0088 0.0022 Neptune 19964-04-08 11:31 G 9012858.73 9012858.98 9012859.24 0.0088 0.0021 Saturn 19964-05-25 09:50 G 9012905.77 9012905.91 9012906.06 0.0284 0.0232 Jupiter 19964-12-22 03:21 G 9013116.40 9013116.64 9013116.87 0.0490 0.0008 Neptune 19965-04-10 23:31 G 9013226.23 9013226.48 9013226.73 0.0088 0.0020 Saturn 19965-06-08 01:26 G 9013284.44 9013284.56 9013284.71 0.0283 0.0236 Neptune 19966-04-13 11:31 G 9013593.73 9013593.98 9013594.24 0.0089 0.0019 Pluto 19966-09-13 00:14 G 9013746.37 9013746.51 9013746.69 0.0064 0.0050 Neptune 19967-04-15 23:31 G 9013961.24 9013961.48 9013961.75 0.0089 0.0018 Pluto 19967-09-14 12:00 G 9014112.80 9014113.00 9014113.24 0.0064 0.0033 Neptune 19968-04-17 12:00 G 9014328.74 9014329.00 9014329.25 0.0089 0.0017 Neptune 19969-04-20 00:14 G 9014696.26 9014696.51 9014696.77 0.0089 0.0016 Neptune 19970-04-22 12:28 G 9015063.78 9015064.02 9015064.29 0.0089 0.0016 Neptune 19971-04-25 00:57 G 9015431.29 9015431.54 9015431.81 0.0089 0.0015 Jupiter 19971-07-05 18:57 G 9015503.09 9015503.29 9015503.50 0.0541 0.0262 Neptune 19972-04-26 13:12 G 9015798.81 9015799.05 9015799.32 0.0089 0.0014 Neptune 19973-04-29 02:09 G 9016166.33 9016166.59 9016166.85 0.0089 0.0012 Neptune 19974-05-01 14:24 G 9016533.85 9016534.10 9016534.36 0.0089 0.0011 Neptune 19975-05-04 02:52 G 9016901.37 9016901.62 9016901.88 0.0089 0.0010 Neptune 19976-05-05 15:21 G 9017268.88 9017269.14 9017269.40 0.0089 0.0009 Jupiter 19976-12-26 09:21 G 9017503.66 9017503.89 9017504.12 0.0489 0.0086 Neptune 19977-05-08 04:04 G 9017636.41 9017636.67 9017636.93 0.0089 0.0008 Neptune 19978-05-10 16:33 G 9018003.94 9018004.19 9018004.46 0.0089 0.0007 Neptune 19979-05-13 05:16 G 9018371.46 9018371.72 9018371.98 0.0089 0.0006 Saturn 19979-11-29 22:33 G 9018572.20 9018572.44 9018572.68 0.0275 0.0040

Neptune 19980-05-14 18:14 G 9018739.00 9018739.26 9018739.52 0.0089 0.0004 Uranus 19981-04-18 00:57 G 9019077.36 9019077.54 9019077.73 0.0135 0.0092 Neptune 19981-05-17 07:12 G 9019106.54 9019106.80 9019107.06 0.0089 0.0003 Uranus 19982-04-22 11:45 G 9019446.75 9019446.99 9019447.24 0.0135 0.0038 Neptune 19982-05-19 20:09 G 9019474.08 9019474.34 9019474.60 0.0089 0.0002 Jupiter 19982-06-03 07:40 G 9019488.69 9019488.82 9019488.96 0.0531 0.0431 Uranus 19983-04-26 21:50 G 9019816.16 9019816.41 9019816.67 0.0134 0.0016 Neptune 19983-05-22 09:07 G 9019841.62 9019841.88 9019842.14 0.0089 0.0001 Jupiter 19983-07-11 06:00 G 9019891.58 9019891.75 9019891.91 0.0542 0.0378 19983-09-20 03:21 G 9019962.45 9019962.64 9019962.83 0.1863 0.0499 Mars Uranus 19984-04-30 07:12 G 9020185.60 9020185.80 9020186.03 0.0134 0.0070 Neptune 19984-05-23 22:04 G 9020209.16 9020209.42 9020209.68 0.0089 0.0001 Uranus 19985-05-04 16:33 G 9020555.10 9020555.19 9020555.30 0.0134 0.0123 Neptune 19985-05-26 11:02 G 9020576.70 9020576.96 9020577.22 0.0089 0.0002 Neptune 19986-05-29 00:00 G 9020944.25 9020944.50 9020944.77 0.0089 0.0003 Neptune 19987-05-31 12:57 G 9021311.78 9021312.04 9021312.30 0.0089 0.0004 Jupiter 19987-11-30 21:36 G 9021495.30 9021495.40 9021495.53 0.0499 0.0430 Neptune 19988-06-02 01:55 G 9021679.33 9021679.58 9021679.85 0.0089 0.0005 Jupiter 19988-12-30 14:24 G 9021890.89 9021891.10 9021891.33 0.0488 0.0169 Neptune 19989-06-04 15:07 G 9022046.88 9022047.13 9022047.39 0.0089 0.0006 Neptune 19990-06-07 04:04 G 9022414.41 9022414.67 9022414.93 0.0089 0.0007 Neptune 19991-06-09 17:16 G 9022781.97 9022782.22 9022782.48 0.0089 0.0009 Neptune 19992-06-11 06:28 G 9023149.51 9023149.77 9023150.03 0.0089 0.0010 Neptune 19993-06-13 19:55 G 9023517.07 9023517.33 9023517.59 0.0089 0.0011 Saturn 19994-06-02 04:04 G 9023870.43 9023870.67 9023870.92 0.0283 0.0022 Jupiter 19994-06-08 14:52 G 9023876.94 9023877.12 9023877.31 0.0533 0.0323 Neptune 19994-06-16 09:07 G 9023884.63 9023884.88 9023885.14 0.0089 0.0012 Neptune 19995-06-18 22:19 G 9024252.18 9024252.43 9024252.69 0.0089 0.0013 Jupiter 19995-07-16 17:45 G 9024280.15 9024280.24 9024280.34 0.0543 0.0495 Neptune 19996-06-20 11:45 G 9024619.74 9024619.99 9024620.25 0.0089 0.0014

 Neptune
 19997-06-23 00:57 G
 9024987.29
 9024987.54
 9024987.81
 0.0089 0.0016

 Neptune
 19998-06-25 14:09 G
 9025354.84
 9025355.09
 9025355.35 0.0089 0.0016

 Neptune
 19999-06-28 03:21 G
 9025722.39 9025722.64
 9025722.90 0.0089 0.0017

 Jupiter
 19999-12-05 04:04 G
 9025882.51 9025882.67 9025882.84 0.0497 0.0346

 Neptune
 20000-06-29 16:33 G
 9026089.95 9026090.19 9026090.46 0.0090 0.0019

## 21ST MILLENNIUM CE

## This is a list of transits of Earth in the 21st millennium CE.

FROM MAX- C START MAX END SUNRAD DEPTH S

TRANSIT

TIME

Jupiter 20001-01-03 17:02 G 9026278.01 9026278.21 9026278.41 0.0487 0.0248 9026457.74 9026458.00 0.0090 0.0019 Neptune 20001-07-02 05:45 G 9026457.50 Neptune 20002-07-04 19:12 G 9026825.05 9026825.30 9026825.55 0.0090 0.0020 9027192.84 9027193.10 0.0090 0.0021 Neptune 20003-07-07 08:09 G 9027192.59 Neptune 20004-07-08 21:21 G 9027560.15 9027560.39 9027560.65 0.0090 0.0022 Neptune 20005-07-11 10:48 G 9027927.71 9027927.95 9027928.21 0.0090 0.0023 Jupiter 20006-06-13 20:09 G 9028265.13 9028265.34 9028265.56 0.0534 0.0213 Neptune 20006-07-13 23:45 G 9028295.25 9028295.49 9028295.75 0.0090 0.0024 Neptune 20007-07-16 13:26 G 9028662.81 9028663.06 9028663.31 0.0090 0.0024 Neptune 20008-07-18 02:38 G 9029030.37 9029030.61 9029030.86 0.0090 0.0025 Saturn 20008-11-23 18:00 G 9029159.13 9029159.25 9029159.41 0.0275 0.0225 20009-03-18 21:50 G 9029274.25 9029274.41 9029274.57 0.1672 0.0903 Mars Neptune 20009-07-20 15:50 G 9029397.92 9029398.16 9029398.42 0.0090 0.0025 Saturn 20009-12-06 07:55 G 9029536.66 9029536.83 9029537.00 0.0276 0.0195

Neptune 20010-07-23 05:02 G 9029765.46 9029765.71 9029765.96 0.0090 0.0026 Neptune 20011-07-25 18:00 G 9030133.01 9030133.25 9030133.51 0.0090 0.0027 Jupiter 20011-12-09 12:00 G 9030269.81 9030270.00 9030270.20 0.0495 0.0261 Neptune 20012-07-27 06:57 G 9030500.55 9030500.79 9030501.05 0.0090 0.0027 Jupiter 20013-01-07 21:50 G 9030665.24 9030665.41 9030665.58 0.0486 0.0328 Neptune 20013-07-29 19:55 G 9030868.10 9030868.33 9030868.59 0.0090 0.0028 Neptune 20014-08-01 08:38 G 9031235.63 9031235.86 9031236.12 0.0090 0.0028 Neptune 20015-08-03 21:36 G 9031603.17 9031603.40 9031603.66 0.0090 0.0028 Neptune 20016-08-05 10:33 G 9031970.71 9031970.94 9031971.20 0.0090 0.0029 Neptune 20017-08-07 23:31 G 9032338.24 9032338.48 9032338.73 0.0090 0.0029 Jupiter 20018-06-18 20:38 G 9032653.14 9032653.36 9032653.59 0.0536 0.0106 Neptune 20018-08-10 12:43 G 9032705.78 9032706.03 9032706.27 0.0090 0.0029 Neptune 20019-08-13 01:12 G 9033073.32 9033073.55 9033073.81 0.0090 0.0030 Neptune 20020-08-14 14:09 G 9033440.86 9033441.09 9033441.35 0.0089 0.0030 Neptune 20021-08-17 03:07 G 9033808.40 9033808.63 9033808.89 0.0089 0.0030 Neptune 20022-08-19 15:50 G 9034175.93 9034176.16 9034176.41 0.0089 0.0030 Saturn 20023-05-27 21:07 G 9034457.19 9034457.38 9034457.58 0.0284 0.0169 Neptune 20023-08-22 04:33 G 9034543.46 9034543.69 9034543.94 0.0089 0.0030 Jupiter 20023-12-13 20:38 G 9034657.15 9034657.36 9034657.58 0.0494 0.0176 Neptune 20024-08-23 17:16 G 9034910.98 9034911.22 9034911.47 0.0089 0.0030 Uranus 20024-10-16 15:36 G 9034965.03 9034965.15 9034965.30 0.0143 0.0119 Jupiter 20025-01-12 03:21 G 9035052.51 9035052.64 9035052.77 0.0486 0.0404 Neptune 20025-08-26 05:31 G 9035278.50 9035278.73 9035278.99 0.0089 0.0030 Uranus 20025-10-21 13:12 G 9035334.82 9035335.05 9035335.29 0.0144 0.0055 Neptune 20026-08-28 18:00 G 9035646.02 9035646.25 9035646.51 0.0089 0.0029 Uranus 20026-10-26 11:16 G 9035704.72 9035704.97 9035705.22 0.0144 0.0011 Neptune 20027-08-31 06:28 G 9036013.54 9036013.77 9036014.03 0.0089 0.0029 Uranus 20027-10-31 09:36 G 9036074.70 9036074.90 9036075.12 0.0144 0.0078 Neptune 20028-09-01 18:43 G 9036381.05 9036381.28 9036381.54 0.0089 0.0029 Uranus 20028-11-04 08:09 G 9036444.84 9036444.84 9036444.88 0.0145 0.0144

Neptune 20029-09-04 07:26 G 9036748.57 9036748.81 9036749.06 0.0089 0.0029 Jupiter 20030-06-24 02:38 G 9037041.38 9037041.61 9037041.85 0.0538 0.0010 Neptune 20030-09-06 19:26 G 9037116.07 9037116.31 9037116.56 0.0089 0.0028 Neptune 20031-09-09 07:40 G 9037483.59 9037483.82 9037484.08 0.0089 0.0028 Neptune 20032-09-10 20:09 G 9037851.11 9037851.34 9037851.60 0.0089 0.0028 Neptune 20033-09-13 08:24 G 9038218.61 9038218.85 9038219.10 0.0089 0.0027 Neptune 20034-09-15 20:38 G 9038586.12 9038586.36 9038586.61 0.0089 0.0027 Neptune 20035-09-18 08:38 G 9038953.62 9038953.86 9038954.11 0.0089 0.0026 Jupiter 20035-12-18 04:19 G 9039044.46 9039044.68 9039044.91 0.0492 0.0091 Neptune 20036-09-19 20:38 G 9039321.12 9039321.36 9039321.61 0.0089 0.0025 Jupiter 20037-01-16 07:12 G 9039439.77 9039439.80 9039439.85 0.0485 0.0476 Neptune 20037-09-22 08:09 G 9039688.61 9039688.84 9039689.11 0.0089 0.0026 Neptune 20038-09-24 20:09 G 9040056.10 9040056.34 9040056.60 0.0089 0.0024 Saturn 20038-12-01 04:33 G 9040123.45 9040123.69 9040123.94 0.0275 0.0013 Neptune 20039-09-27 07:55 G 9040423.59 9040423.83 9040424.08 0.0089 0.0023 Neptune 20040-09-28 19:26 G 9040791.08 9040791.31 9040791.57 0.0089 0.0023 Neptune 20041-10-01 06:57 G 9041158.55 9041158.79 9041159.05 0.0089 0.0022 Jupiter 20042-06-29 11:45 G 9041429.76 9041429.99 9041430.21 0.0540 0.0128 Neptune 20042-10-03 18:43 G 9041526.04 9041526.28 9041526.54 0.0089 0.0021 Neptune 20043-10-06 06:28 G 9041893.52 9041893.77 9041894.02 0.0089 0.0020 Neptune 20044-10-07 18:00 G 9042261.00 9042261.25 9042261.50 0.0089 0.0019 Neptune 20045-10-10 05:16 G 9042628.48 9042628.72 9042628.98 0.0089 0.0019 Neptune 20046-10-12 16:33 G 9042995.95 9042996.19 9042996.45 0.0089 0.0018 Neptune 20047-10-15 04:04 G 9043363.42 9043363.67 9043363.93 0.0089 0.0017 Jupiter 20047-12-22 11:16 G 9043431.73 9043431.97 9043432.20 0.0490 0.0011 Neptune 20048-10-16 15:07 G 9043730.89 9043731.13 9043731.39 0.0089 0.0016 Neptune 20049-10-19 02:09 G 9044098.35 9044098.59 9044098.85 0.0089 0.0015 Neptune 20050-10-21 13:12 G 9044465.81 9044466.05 9044466.31 0.0089 0.0014 Neptune 20051-10-24 00:14 G 9044833.27 9044833.51 9044833.78 0.0089 0.0013 Neptune 20052-10-25 11:16 G 9045200.72 9045200.97 9045201.23 0.0089 0.0012

Saturn 20053-06-03 14:24 G 9045421.86 9045422.10 9045422.34 0.0283 0.0082 Neptune 20053-10-27 22:04 G 9045568.17 9045568.42 9045568.68 0.0089 0.0011 Jupiter 20054-07-04 23:02 G 9045818.26 9045818.46 9045818.67 0.0541 0.0247 Neptune 20054-10-30 09:07 G 9045935.63 9045935.88 9045936.14 0.0089 0.0009 Neptune 20055-11-01 19:40 G 9046303.07 9046303.32 9046303.58 0.0088 0.0009 Pluto 20056-03-13 21:36 G 9046436.14 9046436.40 9046436.66 0.0080 0.0001 Neptune 20056-11-03 06:43 G 9046670.53 9046670.78 9046671.04 0.0088 0.0007 Neptune 20057-11-05 17:16 G 9047037.97 9047038.22 9047038.49 0.0088 0.0007 Neptune 20058-11-08 04:19 G 9047405.43 9047405.68 9047405.94 0.0088 0.0005 Neptune 20059-11-10 15:07 G 9047772.88 9047773.13 9047773.39 0.0088 0.0004 Jupiter 20059-12-26 14:52 G 9047818.89 9047819.12 9047819.35 0.0489 0.0076 Neptune 20060-11-12 01:40 G 9048140.32 9048140.57 9048140.83 0.0088 0.0003 Neptune 20061-11-14 12:14 G 9048507.76 9048508.01 9048508.27 0.0088 0.0002 Neptune 20062-11-16 22:48 G 9048875.19 9048875.45 9048875.71 0.0088 0.0000 Neptune 20063-11-19 09:21 G 9049242.63 9049242.89 9049243.14 0.0088 0.0001 Neptune 20064-11-20 19:40 G 9049610.06 9049610.32 9049610.57 0.0088 0.0002 Uranus 20065-04-18 14:24 G 9049758.92 9049759.10 9049759.31 0.0135 0.0087 Jupiter 20065-06-02 12:00 G 9049803.87 9049804.00 9049804.13 0.0530 0.0439 Neptune 20065-11-23 06:00 G 9049977.49 9049977.75 9049978.01 0.0088 0.0003 Uranus 20066-04-23 01:12 G 9050128.31 9050128.55 9050128.81 0.0135 0.0033 Jupiter 20066-07-10 07:55 G 9050206.66 9050206.83 9050207.01 0.0542 0.0364 Neptune 20066-11-25 16:19 G 9050344.92 9050345.18 9050345.44 0.0088 0.0004 Uranus 20067-04-27 11:16 G 9050497.72 9050497.97 9050498.23 0.0134 0.0022 Saturn 20067-11-25 22:04 G 9050710.24 9050710.42 9050710.61 0.0275 0.0175 Neptune 20067-11-28 02:38 G 9050712.36 9050712.61 9050712.87 0.0088 0.0005 Uranus 20068-04-30 20:52 G 9050867.17 9050867.37 9050867.60 0.0134 0.0076 Neptune 20068-11-29 12:57 G 9051079.78 9051080.04 9051080.30 0.0088 0.0006 Saturn 20068-12-07 11:45 G 9051087.88 9051087.99 9051088.10 0.0276 0.0245 Uranus 20069-05-05 06:00 G 9051236.70 9051236.75 9051236.84 0.0134 0.0129 Neptune 20069-12-01 23:16 G 9051447.22 9051447.47 9051447.73 0.0088 0.0008 Jupiter 20070-11-30 01:40 G 9051810.47 9051810.57 9051810.68 0.0499 0.0438 Neptune 20070-12-04 09:36 G 9051814.65 9051814.90 9051815.16 0.0088 0.0009 Neptune 20071-12-06 19:55 G 9052182.08 9052182.33 9052182.59 0.0088 0.0010 Jupiter 20071-12-30 20:09 G 9052206.13 9052206.34 9052206.57 0.0488 0.0159 Neptune 20072-12-08 06:14 G 9052549.51 9052549.76 9052550.02 0.0088 0.0011 Neptune 20073-12-10 16:19 G 9052916.94 9052917.18 9052917.44 0.0088 0.0012 Neptune 20074-12-13 02:38 G 9053284.36 9053284.61 9053284.87 0.0088 0.0013 Neptune 20075-12-15 12:43 G 9053651.78 9053652.03 9053652.29 0.0088 0.0014 Neptune 20076-12-16 22:48 G 9054019.20 9054019.45 9054019.71 0.0088 0.0015 Jupiter 20077-06-07 11:02 G 9054191.79 9054191.96 9054192.15 0.0532 0.0342 Neptune 20077-12-19 08:52 G 9054386.62 9054386.87 9054387.13 0.0088 0.0016 Jupiter 20078-07-15 10:48 G 9054594.84 9054594.95 9054595.07 0.0542 0.0471 Neptune 20078-12-21 18:57 G 9054754.04 9054754.29 9054754.55 0.0088 0.0017 Neptune 20079-12-24 04:48 G 9055121.46 9055121.70 9055121.97 0.0088 0.0018 Neptune 20080-12-25 14:52 G 9055488.88 9055489.12 9055489.38 0.0088 0.0019 Neptune 20081-12-28 00:57 G 9055856.31 9055856.54 9055856.81 0.0088 0.0020 Saturn 20082-05-29 05:45 G 9056008.51 9056008.74 9056008.97 0.0284 0.0110 Jupiter 20082-12-04 11:16 G 9056197.81 9056197.97 9056198.14 0.0498 0.0356 Neptune 20082-12-30 11:16 G 9056223.73 9056223.97 9056224.23 0.0088 0.0020 Neptune 20084-01-01 21:36 G 9056591.15 9056591.40 9056591.65 0.0088 0.0021 Jupiter 20084-01-04 02:38 G 9056593.41 9056593.61 9056593.82 0.0487 0.0239 Neptune 20085-01-03 07:26 G 9056958.57 9056958.81 9056959.07 0.0088 0.0022 Neptune 20086-01-05 17:31 G 9057326.00 9057326.23 9057326.50 0.0088 0.0023 Neptune 20087-01-08 04:04 G 9057693.42 9057693.67 9057693.92 0.0088 0.0023 Neptune 20088-01-10 13:55 G 9058060.84 9058061.08 9058061.33 0.0088 0.0024 Mars 20088-03-21 05:02 G 9058131.54 9058131.71 9058131.88 0.1677 0.0700 Neptune 20089-01-11 23:45 G 9058428.26 9058428.49 9058428.76 0.0088 0.0025 Jupiter 20089-06-12 15:07 G 9058579.92 9058580.13 9058580.34 0.0534 0.0233 Neptune 20090-01-14 10:04 G 9058795.68 9058795.92 9058796.17 0.0088 0.0025 Neptune 20091-01-16 20:09 G 9059163.10 9059163.34 9059163.60 0.0088 0.0026

Neptune 20092-01-19 06:14 G 9059530.52 9059530.76 9059531.01 0.0088 0.0026 Neptune 20093-01-20 16:19 G 9059897.95 9059898.18 9059898.44 0.0088 0.0027 Neptune 20094-01-23 02:38 G 9060265.37 9060265.61 9060265.86 0.0088 0.0027 Jupiter 20094-12-08 21:07 G 9060585.19 9060585.38 9060585.58 0.0496 0.0271 Neptune 20095-01-25 12:43 G 9060632.80 9060633.03 9060633.29 0.0088 0.0028 Jupiter 20096-01-08 07:26 G 9060980.64 9060980.81 9060980.99 0.0486 0.0317 Neptune 20096-01-27 23:16 G 9061000.23 9061000.47 9061000.72 0.0088 0.0028 Neptune 20097-01-29 09:50 G 9061367.67 9061367.91 9061368.15 0.0088 0.0028 Saturn 20097-12-02 08:24 G 9061674.62 9061674.85 9061675.09 0.0275 0.0063 Neptune 20098-01-31 19:55 G 9061735.11 9061735.33 9061735.59 0.0088 0.0029 Neptune 20099-02-03 06:28 G 9062102.53 9062102.77 9062103.02 0.0088 0.0029 Neptune 20100-02-05 17:02 G 9062469.97 9062470.21 9062470.46 0.0088 0.0029 Neptune 20101-02-08 03:21 G 9062837.40 9062837.64 9062837.89 0.0088 0.0029 Jupiter 20101-06-18 21:36 G 9062968.18 9062968.40 9062968.63 0.0536 0.0122 Neptune 20102-02-10 13:55 G 9063204.84 9063205.08 9063205.33 0.0088 0.0029 Neptune 20103-02-13 00:28 G 9063572.28 9063572.52 9063572.77 0.0088 0.0029 Neptune 20104-02-15 10:48 G 9063939.71 9063939.95 9063940.20 0.0088 0.0029 Neptune 20105-02-16 21:36 G 9064307.16 9064307.40 9064307.64 0.0088 0.0029 Neptune 20106-02-19 08:09 G 9064674.60 9064674.84 9064675.09 0.0088 0.0029 Jupiter 20106-12-14 05:45 G 9064972.53 9064972.74 9064972.96 0.0494 0.0184 Neptune 20107-02-21 18:43 G 9065042.04 9065042.28 9065042.53 0.0088 0.0029 Jupiter 20108-01-13 12:14 G 9065367.88 9065368.01 9065368.15 0.0486 0.0394 Neptune 20108-02-24 05:16 G 9065409.49 9065409.72 9065409.98 0.0088 0.0029 Uranus 20108-10-18 06:00 G 9065646.62 9065646.75 9065646.92 0.0143 0.0114 Neptune 20109-02-25 16:19 G 9065776.95 9065777.18 9065777.44 0.0088 0.0029 Uranus 20109-10-23 03:50 G 9066016.43 9066016.66 9066016.90 0.0144 0.0049 Neptune 20110-02-28 03:07 G 9066144.40 9066144.63 9066144.89 0.0088 0.0029 Uranus 20110-10-28 01:40 G 9066386.32 9066386.57 9066386.82 0.0144 0.0017 Neptune 20111-03-02 14:24 G 9066511.86 9066512.10 9066512.35 0.0088 0.0028 Uranus 20111-11-02 00:00 G 9066756.30 9066756.50 9066756.71 0.0144 0.0084

Neptune 20112-03-04 01:12 G 9066879.31 9066879.55 9066879.80 0.0088 0.0028 Saturn 20112-06-05 22:48 G 9066973.24 9066973.45 9066973.66 0.0283 0.0140 Neptune 20113-03-06 12:28 G 9067246.77 9067247.02 9067247.26 0.0088 0.0027 Jupiter 20113-06-24 07:26 G 9067356.58 9067356.81 9067357.05 0.0538 0.0006 Neptune 20114-03-08 23:16 G 9067614.23 9067614.47 9067614.73 0.0088 0.0027 Neptune 20115-03-11 10:04 G 9067981.69 9067981.92 9067982.18 0.0088 0.0027 Neptune 20116-03-12 21:21 G 9068349.15 9068349.39 9068349.65 0.0088 0.0026 Neptune 20117-03-15 08:38 G 9068716.61 9068716.86 9068717.11 0.0088 0.0026 Neptune 20118-03-17 19:40 G 9069084.08 9069084.32 9069084.58 0.0088 0.0025 Jupiter 20118-12-18 11:16 G 9069359.74 9069359.97 9069360.20 0.0492 0.0099 Neptune 20119-03-20 06:57 G 9069451.55 9069451.79 9069452.04 0.0088 0.0024 Jupiter 20120-01-17 14:52 G 9069755.06 9069755.12 9069755.18 0.0485 0.0467 Neptune 20120-03-21 18:00 G 9069819.02 9069819.25 9069819.52 0.0088 0.0025 Neptune 20121-03-24 05:45 G 9070186.50 9070186.74 9070187.00 0.0088 0.0023 Neptune 20122-03-26 17:16 G 9070553.98 9070554.22 9070554.48 0.0088 0.0023 Neptune 20123-03-29 05:02 G 9070921.46 9070921.71 9070921.96 0.0088 0.0022 Neptune 20124-03-30 16:19 G 9071288.95 9071289.18 9071289.45 0.0088 0.0022 Neptune 20125-04-02 04:19 G 9071656.44 9071656.68 9071656.94 0.0088 0.0020 Jupiter 20125-06-29 16:04 G 9071744.95 9071745.17 9071745.40 0.0539 0.0116 Neptune 20126-04-04 15:50 G 9072023.92 9072024.16 9072024.43 0.0088 0.0020 Saturn 20126-11-27 23:45 G 9072261.27 9072261.49 9072261.70 0.0275 0.0128 Neptune 20127-04-07 03:50 G 9072391.41 9072391.66 9072391.92 0.0088 0.0018 Neptune 20128-04-08 15:36 G 9072758.90 9072759.15 9072759.41 0.0088 0.0017 Neptune 20129-04-11 03:21 G 9073126.40 9073126.64 9073126.91 0.0088 0.0017 Neptune 20130-04-13 15:21 G 9073493.89 9073494.14 9073494.40 0.0088 0.0016 Jupiter 20130-12-22 17:45 G 9073747.01 9073747.24 9073747.48 0.0491 0.0016 Neptune 20131-04-16 03:07 G 9073861.39 9073861.63 9073861.90 0.0089 0.0015 Neptune 20132-04-17 15:21 G 9074228.89 9074229.14 9074229.41 0.0089 0.0014 Neptune 20133-04-20 03:36 G 9074596.40 9074596.65 9074596.91 0.0089 0.0013 Neptune 20134-04-22 15:50 G 9074963.91 9074964.16 9074964.43 0.0089 0.0012

Neptune 20135-04-25 04:04 G 9075331.42 9075331.67 9075331.94 0.0089 0.0011 Neptune 20136-04-26 16:48 G 9075698.95 9075699.20 9075699.46 0.0089 0.0009 Neptune 20137-04-29 05:16 G 9076066.47 9076066.72 9076066.98 0.0089 0.0008 Jupiter 20137-07-04 18:43 G 9076133.07 9076133.28 9076133.49 0.0540 0.0224 Neptune 20138-05-01 17:45 G 9076433.99 9076434.24 9076434.50 0.0089 0.0007 Neptune 20139-05-04 06:14 G 9076801.50 9076801.76 9076802.02 0.0089 0.0006 Neptune 20140-05-05 18:43 G 9077169.02 9077169.28 9077169.54 0.0089 0.0005 Neptune 20141-05-08 07:26 G 9077536.55 9077536.81 9077537.07 0.0089 0.0003 Saturn 20141-05-31 12:14 G 9077559.77 9077560.01 9077560.26 0.0284 0.0054 Neptune 20142-05-10 19:55 G 9077904.07 9077904.33 9077904.59 0.0089 0.0002 Jupiter 20142-12-27 00:43 G 9078134.30 9078134.53 9078134.76 0.0490 0.0067 Neptune 20143-05-13 08:38 G 9078271.60 9078271.86 9078272.12 0.0089 0.0001 Neptune 20144-05-14 21:07 G 9078639.13 9078639.38 9078639.65 0.0089 0.0002 Neptune 20145-05-17 10:04 G 9079006.66 9079006.92 9079007.18 0.0089 0.0002 Neptune 20146-05-19 22:48 G 9079374.20 9079374.45 9079374.71 0.0089 0.0003 Neptune 20147-05-22 11:45 G 9079741.74 9079741.99 9079742.25 0.0089 0.0004 Neptune 20148-05-24 00:57 G 9080109.28 9080109.54 9080109.80 0.0089 0.0005 Jupiter 20148-06-02 09:36 G 9080118.78 9080118.90 9080119.02 0.0529 0.0456 Uranus 20149-04-20 04:33 G 9080440.50 9080440.69 9080440.90 0.0135 0.0082 Neptune 20149-05-26 13:55 G 9080476.83 9080477.08 9080477.34 0.0089 0.0007 Jupiter 20149-07-10 02:24 G 9080521.43 9080521.60 9080521.79 0.0541 0.0340 Uranus 20150-04-24 15:07 G 9080809.89 9080810.13 9080810.39 0.0135 0.0028 Neptune 20150-05-29 02:52 G 9080844.36 9080844.62 9080844.88 0.0089 0.0008 Uranus 20151-04-29 01:12 G 9081179.31 9081179.55 9081179.81 0.0134 0.0027 Neptune 20151-05-31 15:50 G 9081211.91 9081212.16 9081212.42 0.0089 0.0009 Uranus 20152-05-02 10:48 G 9081548.76 9081548.95 9081549.17 0.0134 0.0081 Neptune 20152-06-02 04:48 G 9081579.45 9081579.70 9081579.97 0.0089 0.0011 Neptune 20153-06-04 17:45 G 9081946.99 9081947.24 9081947.51 0.0089 0.0011 Jupiter 20153-11-30 10:19 G 9082125.84 9082125.93 9082126.04 0.0500 0.0449 Neptune 20154-06-07 06:43 G 9082314.54 9082314.78 9082315.05 0.0089 0.0013

Jupiter 20154-12-31 06:57 G 9082521.57 9082521.79 9082522.01 0.0489 0.0149 Neptune 20155-06-09 19:40 G 9082682.07 9082682.32 9082682.59 0.0089 0.0014 Neptune 20156-06-11 08:52 G 9083049.62 9083049.87 9083050.13 0.0089 0.0014 Saturn 20156-12-04 10:33 G 9083225.72 9083225.94 9083226.17 0.0275 0.0111 Neptune 20157-06-13 22:04 G 9083417.17 9083417.42 9083417.68 0.0089 0.0015 Neptune 20158-06-16 11:02 G 9083784.71 9083784.96 9083785.22 0.0089 0.0016 Neptune 20159-06-19 00:14 G 9084152.27 9084152.51 9084152.78 0.0089 0.0018 Jupiter 20160-06-07 12:57 G 9084506.87 9084507.04 9084507.22 0.0531 0.0354 Neptune 20160-06-20 13:40 G 9084519.82 9084520.07 9084520.33 0.0089 0.0018 Neptune 20161-06-23 02:52 G 9084887.38 9084887.62 9084887.89 0.0089 0.0020 Jupiter 20161-07-15 12:57 G 9084909.92 9084910.04 9084910.17 0.0543 0.0454 Neptune 20162-06-25 16:04 G 9085254.93 9085255.17 9085255.44 0.0089 0.0021 Neptune 20163-06-28 05:31 G 9085622.49 9085622.73 9085622.99 0.0089 0.0022 Neptune 20164-06-29 18:57 G 9085990.04 9085990.29 9085990.54 0.0090 0.0022 Neptune 20165-07-02 08:09 G 9086357.60 9086357.84 9086358.10 0.0090 0.0023 Jupiter 20165-12-04 21:21 G 9086513.24 9086513.39 9086513.55 0.0498 0.0363 Neptune 20166-07-04 21:07 G 9086725.14 9086725.38 9086725.64 0.0090 0.0024 Jupiter 20167-01-04 12:43 G 9086908.83 9086909.03 9086909.24 0.0487 0.0230 Neptune 20167-07-07 10:19 G 9087092.69 9087092.93 9087093.19 0.0090 0.0025 Neptune 20168-07-08 23:45 G 9087460.24 9087460.49 9087460.74 0.0090 0.0025 Neptune 20169-07-11 12:43 G 9087827.79 9087828.03 9087828.28 0.0090 0.0026 Saturn 20170-05-25 11:45 G 9088145.94 9088145.99 9088146.08 0.0284 0.0272 Neptune 20170-07-14 01:55 G 9088195.34 9088195.58 9088195.84 0.0090 0.0026 Saturn 20171-06-08 04:48 G 9088524.53 9088524.70 9088524.88 0.0283 0.0196 Neptune 20171-07-16 15:21 G 9088562.89 9088563.14 9088563.39 0.0090 0.0027 Jupiter 20172-06-12 20:38 G 9088895.15 9088895.36 9088895.57 0.0534 0.0243 Neptune 20172-07-18 04:33 G 9088930.45 9088930.69 9088930.94 0.0090 0.0028 Neptune 20173-07-20 17:31 G 9089298.00 9089298.23 9089298.49 0.0090 0.0029 Neptune 20174-07-23 06:57 G 9089665.56 9089665.79 9089666.05 0.0090 0.0029 9090033.35 9090033.60 0.0090 0.0029 Neptune 20175-07-25 20:24 G 9090033.11

Neptune 20176-07-27 09:21 G 9090400.66 9090400.89 9090401.15 0.0090 0.0030 Neptune 20177-07-29 22:33 G 9090768.20 9090768.44 9090768.69 0.0090 0.0030 Jupiter 20177-12-09 05:02 G 9090900.52 9090900.71 9090900.91 0.0496 0.0278 Neptune 20178-08-01 11:31 G 9091135.75 9091135.98 9091136.23 0.0090 0.0030 Jupiter 20179-01-08 16:04 G 9091295.99 9091296.17 9091296.35 0.0486 0.0309 Neptune 20179-08-04 00:28 G 9091503.29 9091503.52 9091503.78 0.0090 0.0031 Neptune 20180-08-05 13:26 G 9091870.83 9091871.06 9091871.31 0.0090 0.0030 Neptune 20181-08-08 02:24 G 9092238.37 9092238.60 9092238.86 0.0090 0.0031 Neptune 20182-08-10 15:07 G 9092605.90 9092606.13 9092606.39 0.0090 0.0031 Neptune 20183-08-13 04:19 G 9092973.45 9092973.68 9092973.93 0.0090 0.0031 Jupiter 20184-06-18 04:04 G 9093283.44 9093283.67 9093283.90 0.0535 0.0131 Neptune 20184-08-14 17:02 G 9093340.98 9093341.21 9093341.47 0.0090 0.0031 Neptune 20185-08-17 06:00 G 9093708.52 9093708.75 9093709.00 0.0090 0.0030 Saturn 20185-11-28 23:45 G 9093812.26 9093812.49 9093812.73 0.0275 0.0083 Neptune 20186-08-19 18:43 G 9094076.06 9094076.28 9094076.54 0.0089 0.0031 Neptune 20187-08-22 07:40 G 9094443.59 9094443.82 9094444.08 0.0089 0.0030 Neptune 20188-08-23 20:38 G 9094811.12 9094811.36 9094811.61 0.0089 0.0030 Neptune 20189-08-26 09:07 G 9095178.64 9095178.88 9095179.13 0.0089 0.0030 Jupiter 20189-12-13 13:12 G 9095287.84 9095288.05 9095288.27 0.0494 0.0192 Neptune 20190-08-28 21:36 G 9095546.17 9095546.40 9095546.65 0.0089 0.0029 Jupiter 20191-01-12 21:07 G 9095683.25 9095683.38 9095683.53 0.0486 0.0386 Neptune 20191-08-31 10:04 G 9095913.68 9095913.92 9095914.17 0.0089 0.0029 Neptune 20192-09-01 22:33 G 9096281.20 9096281.44 9096281.69 0.0089 0.0028 Uranus 20192-10-18 19:55 G 9096328.18 9096328.33 9096328.50 0.0143 0.0108 Neptune 20193-09-04 10:48 G 9096648.71 9096648.95 9096649.20 0.0089 0.0028 Uranus 20193-10-23 17:16 G 9096697.99 9096698.22 9096698.47 0.0144 0.0044 Neptune 20194-09-06 23:02 G 9097016.23 9097016.46 9097016.72 0.0089 0.0028 Uranus 20194-10-28 15:07 G 9097067.88 9097068.13 9097068.38 0.0144 0.0023 Neptune 20195-09-09 11:31 G 9097383.74 9097383.98 9097384.23 0.0089 0.0027 Uranus 20195-11-02 13:12 G 9097437.87 9097438.05 9097438.26 0.0144 0.0090

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Neptune 20217-10-29 04:04 G 9105468.42 9105468.67 9105468.93 0.0089 0.0007 Neptune 20218-10-31 15:07 G 9105835.87 9105836.13 9105836.39 0.0089 0.0005 Neptune 20219-11-03 02:09 G 9106203.33 9106203.59 9106203.84 0.0089 0.0004 Jupiter 20220-07-04 20:52 G 9106448.16 9106448.37 9106448.59 0.0540 0.0208 Neptune 20220-11-04 12:43 G 9106570.78 9106571.03 9106571.29 0.0088 0.0003 Neptune 20221-11-06 23:31 G 9106938.23 9106938.48 9106938.74 0.0088 0.0002 Neptune 20222-11-09 10:33 G 9107305.68 9107305.94 9107306.19 0.0088 0.0001 Neptune 20223-11-11 21:07 G 9107673.13 9107673.38 9107673.64 0.0088 0.0002 Neptune 20224-11-13 07:55 G 9108040.58 9108040.83 9108041.09 0.0088 0.0003 Neptune 20225-11-15 18:43 G 9108408.02 9108408.28 9108408.54 0.0088 0.0003 Jupiter 20225-12-27 11:45 G 9108449.76 9108449.99 9108450.23 0.0490 0.0060 Neptune 20226-11-18 05:16 G 9108775.47 9108775.72 9108775.98 0.0088 0.0005 Neptune 20227-11-20 15:50 G 9109142.91 9109143.16 9109143.42 0.0088 0.0006 Neptune 20228-11-22 02:24 G 9109510.34 9109510.60 9109510.85 0.0088 0.0007 Saturn 20229-05-27 16:33 G 9109697.04 9109697.19 9109697.36 0.0285 0.0218 Neptune 20229-11-24 12:28 G 9109877.77 9109878.02 9109878.28 0.0088 0.0008 Saturn 20230-06-10 09:36 G 9110075.79 9110075.90 9110076.02 0.0283 0.0248 Neptune 20230-11-26 23:02 G 9110245.21 9110245.46 9110245.72 0.0088 0.0009 Jupiter 20231-06-03 15:21 G 9110434.04 9110434.14 9110434.26 0.0529 0.0464 Neptune 20231-11-29 09:21 G 9110612.64 9110612.89 9110613.15 0.0088 0.0010 Uranus 20232-04-17 06:28 G 9110752.73 9110752.77 9110752.82 0.0135 0.0133 Jupiter 20232-07-10 09:07 G 9110836.69 9110836.88 9110837.06 0.0541 0.0327 Neptune 20232-11-30 19:26 G 9110980.07 9110980.31 9110980.57 0.0088 0.0011 Uranus 20233-04-21 17:31 G 9111122.03 9111122.23 9111122.45 0.0135 0.0078 Neptune 20233-12-03 06:00 G 9111347.50 9111347.75 9111348.01 0.0088 0.0012 Uranus 20234-04-26 04:19 G 9111491.43 9111491.68 9111491.94 0.0135 0.0023 Neptune 20234-12-05 16:04 G 9111714.92 9111715.17 9111715.43 0.0088 0.0013 Uranus 20235-04-30 14:09 G 9111860.85 9111861.09 9111861.35 0.0135 0.0033 Neptune 20235-12-08 02:38 G 9112082.36 9112082.61 9112082.86 0.0088 0.0014 Uranus 20236-05-04 00:00 G 9112230.32 9112230.50 9112230.71 0.0134 0.0087

Jupiter 20236-11-30 19:26 G 9112441.22 9112441.31 9112441.41 0.0500 0.0454 Neptune 20236-12-09 12:43 G 9112449.78 9112450.03 9112450.29 0.0088 0.0015 Neptune 20237-12-11 23:16 G 9112817.22 9112817.47 9112817.72 0.0088 0.0016 Jupiter 20237-12-31 16:19 G 9112836.96 9112837.18 9112837.41 0.0489 0.0141 Neptune 20238-12-14 09:21 G 9113184.65 9113184.89 9113185.15 0.0088 0.0017 Neptune 20239-12-16 19:40 G 9113552.07 9113552.32 9113552.57 0.0088 0.0018 Neptune 20240-12-18 05:45 G 9113919.50 9113919.74 9113920.00 0.0088 0.0019 Neptune 20241-12-20 15:50 G 9114286.92 9114287.16 9114287.42 0.0088 0.0020 Neptune 20242-12-23 01:55 G 9114654.34 9114654.58 9114654.84 0.0088 0.0021 Jupiter 20243-06-08 20:52 G 9114822.20 9114822.37 9114822.55 0.0531 0.0361 Neptune 20243-12-25 12:00 G 9115021.76 9115022.00 9115022.26 0.0088 0.0022 Jupiter 20244-07-15 19:40 G 9115225.19 9115225.32 9115225.45 0.0542 0.0442 Saturn 20244-11-30 23:16 G 9115363.23 9115363.47 9115363.71 0.0275 0.0039 Neptune 20244-12-26 22:04 G 9115389.18 9115389.42 9115389.68 0.0088 0.0023 Neptune 20245-12-29 08:24 G 9115756.60 9115756.85 9115757.10 0.0088 0.0023 Neptune 20246-12-31 18:28 G 9116124.03 9116124.27 9116124.52 0.0088 0.0024 Neptune 20248-01-03 04:19 G 9116491.45 9116491.68 9116491.94 0.0088 0.0025 Jupiter 20248-12-05 05:31 G 9116828.58 9116828.73 9116828.89 0.0498 0.0370 Neptune 20249-01-04 14:52 G 9116858.87 9116859.12 9116859.37 0.0088 0.0025 Jupiter 20250-01-04 22:19 G 9117224.22 9117224.43 9117224.64 0.0488 0.0223 Neptune 20250-01-07 00:57 G 9117226.30 9117226.54 9117226.79 0.0088 0.0026 Neptune 20251-01-09 11:02 G 9117593.72 9117593.96 9117594.21 0.0088 0.0027 Neptune 20252-01-11 21:36 G 9117961.15 9117961.40 9117961.64 0.0088 0.0027 Neptune 20253-01-13 07:12 G 9118328.57 9118328.80 9118329.06 0.0088 0.0028 Neptune 20254-01-15 17:45 G 9118696.00 9118696.24 9118696.49 0.0088 0.0028 Neptune 20255-01-18 03:36 G 9119063.42 9119063.65 9119063.91 0.0088 0.0029 Jupiter 20255-06-13 22:33 G 9119210.24 9119210.44 9119210.65 0.0532 0.0261 Neptune 20256-01-20 13:55 G 9119430.84 9119431.08 9119431.33 0.0088 0.0029 Neptune 20257-01-22 00:00 G 9119798.27 9119798.50 9119798.75 0.0088 0.0029 Neptune 20258-01-24 10:04 G 9120165.69 9120165.92 9120166.17 0.0088 0.0030

Neptune 20259-01-26 20:09 G 9120533.11 9120533.34 9120533.59 0.0088 0.0030 Saturn 20259-06-04 18:43 G 9120662.04 9120662.28 9120662.53 0.0285 0.0050 Neptune 20260-01-29 06:28 G 9120900.53 9120900.77 9120901.02 0.0088 0.0030 Jupiter 20260-12-09 13:40 G 9121215.89 9121216.07 9121216.26 0.0497 0.0289 Neptune 20261-01-30 16:48 G 9121267.97 9121268.20 9121268.45 0.0088 0.0030 Jupiter 20262-01-09 03:36 G 9121611.48 9121611.65 9121611.84 0.0487 0.0300 Neptune 20262-02-02 02:52 G 9121635.40 9121635.62 9121635.88 0.0088 0.0031 Neptune 20263-02-04 13:26 G 9122002.83 9122003.06 9122003.32 0.0088 0.0031 Neptune 20264-02-06 23:45 G 9122370.26 9122370.49 9122370.74 0.0088 0.0031 Neptune 20265-02-08 10:33 G 9122737.70 9122737.94 9122738.18 0.0088 0.0030 Neptune 20266-02-10 20:38 G 9123105.14 9123105.36 9123105.62 0.0088 0.0031 Neptune 20267-02-13 07:12 G 9123472.56 9123472.80 9123473.05 0.0088 0.0030 Jupiter 20267-06-19 02:52 G 9123598.40 9123598.62 9123598.85 0.0534 0.0151 20267-09-21 21:50 G 9123693.23 9123693.41 9123693.59 0.1872 0.0724 Mars Neptune 20268-02-15 17:45 G 9123840.00 9123840.24 9123840.49 0.0088 0.0030 Neptune 20269-02-17 04:04 G 9124207.44 9124207.67 9124207.92 0.0088 0.0030 Neptune 20270-02-19 14:24 G 9124574.88 9124575.10 9124575.36 0.0088 0.0030 Neptune 20271-02-22 01:12 G 9124942.31 9124942.55 9124942.80 0.0088 0.0029 Neptune 20272-02-24 11:45 G 9125309.76 9125309.99 9125310.24 0.0088 0.0029 Jupiter 20272-12-13 23:16 G 9125603.26 9125603.47 9125603.68 0.0495 0.0203 Neptune 20273-02-25 22:19 G 9125677.20 9125677.43 9125677.69 0.0088 0.0029 Saturn 20273-11-25 23:45 G 9125950.35 9125950.49 9125950.65 0.0274 0.0211 Jupiter 20274-01-13 08:52 G 9125998.73 9125998.87 9125999.02 0.0486 0.0375 Neptune 20274-02-28 09:36 G 9126044.65 9126044.90 9126045.14 0.0088 0.0028 Saturn 20274-12-08 11:02 G 9126327.80 9126327.96 9126328.13 0.0275 0.0201 Neptune 20275-03-02 19:55 G 9126412.10 9126412.33 9126412.59 0.0088 0.0028 Neptune 20276-03-04 07:12 G 9126779.56 9126779.80 9126780.05 0.0088 0.0027 Uranus 20276-10-20 09:50 G 9127009.74 9127009.91 9127010.08 0.0143 0.0104 Neptune 20277-03-06 18:00 G 9127147.02 9127147.25 9127147.51 0.0088 0.0027 Uranus 20277-10-25 06:57 G 9127379.56 9127379.79 9127380.05 0.0144 0.0039

Neptune 20278-03-09 05:16 G 9127514.47 9127514.72 9127514.97 0.0088 0.0026 Uranus 20278-10-30 04:48 G 9127749.46 9127749.70 9127749.96 0.0144 0.0028 Neptune 20279-03-11 16:04 G 9127881.94 9127882.17 9127882.43 0.0088 0.0026 Jupiter 20279-06-24 08:38 G 9127986.63 9127986.86 9127987.10 0.0536 0.0039 Uranus 20279-11-04 03:07 G 9128119.45 9128119.63 9128119.83 0.0144 0.0095 Neptune 20280-03-13 03:07 G 9128249.39 9128249.63 9128249.89 0.0088 0.0025 Neptune 20281-03-15 14:24 G 9128616.86 9128617.10 9128617.36 0.0088 0.0024 Neptune 20282-03-18 01:40 G 9128984.32 9128984.57 9128984.82 0.0088 0.0023 Neptune 20283-03-20 12:28 G 9129351.79 9129352.02 9129352.29 0.0088 0.0023 Neptune 20284-03-21 23:45 G 9129719.26 9129719.49 9129719.76 0.0088 0.0023 Jupiter 20284-12-18 08:09 G 9129990.62 9129990.84 9129991.07 0.0493 0.0116 Neptune 20285-03-24 11:16 G 9130086.73 9130086.97 9130087.23 0.0088 0.0021 Jupiter 20286-01-17 13:55 G 9130386.00 9130386.08 9130386.17 0.0485 0.0450 Neptune 20286-03-26 22:48 G 9130454.20 9130454.45 9130454.71 0.0088 0.0020 Neptune 20287-03-29 10:19 G 9130821.68 9130821.93 9130822.19 0.0088 0.0019 Neptune 20288-03-30 22:04 G 9131189.17 9131189.42 9131189.68 0.0088 0.0018 Saturn 20288-05-28 19:26 G 9131248.12 9131248.31 9131248.52 0.0285 0.0167 Neptune 20289-04-02 09:36 G 9131556.65 9131556.90 9131557.16 0.0088 0.0017 Neptune 20290-04-04 21:21 G 9131924.15 9131924.39 9131924.66 0.0088 0.0017 Neptune 20291-04-07 09:07 G 9132291.63 9132291.88 9132292.14 0.0088 0.0015 Jupiter 20291-06-29 18:43 G 9132375.05 9132375.28 9132375.52 0.0538 0.0081 Neptune 20292-04-08 20:52 G 9132659.12 9132659.37 9132659.64 0.0088 0.0015 20293-03-21 21:36 G 9133006.21 9133006.40 9133006.59 0.1666 0.0276 Mars Neptune 20293-04-11 08:38 G 9133026.62 9133026.86 9133027.13 0.0088 0.0014 Neptune 20294-04-13 20:24 G 9133394.10 9133394.35 9133394.62 0.0088 0.0012 Neptune 20295-04-16 08:38 G 9133761.60 9133761.86 9133762.11 0.0088 0.0011 Neptune 20296-04-17 20:24 G 9134129.10 9134129.35 9134129.61 0.0089 0.0010 Jupiter 20296-12-22 14:38 G 9134377.88 9134378.11 9134378.35 0.0492 0.0034 Neptune 20297-04-20 08:24 G 9134496.60 9134496.85 9134497.11 0.0089 0.0009 Neptune 20298-04-22 20:24 G 9134864.10 9134864.35 9134864.61 0.0089 0.0008

Neptune 20299-04-25 08:38 G 9135231.60 9135231.86 9135232.12 0.0089 0.0006 Neptune 20300-04-27 20:52 G 9135599.12 9135599.37 9135599.63 0.0089 0.0005 Neptune 20301-04-30 09:21 G 9135966.63 9135966.89 9135967.15 0.0089 0.0004 Neptune 20302-05-02 21:50 G 9136334.15 9136334.41 9136334.67 0.0089 0.0003 Pluto 20303-03-18 16:33 G 9136653.99 9136654.19 9136654.42 0.0080 0.0046 Neptune 20303-05-05 10:19 G 9136701.67 9136701.93 9136702.19 0.0089 0.0002 Jupiter 20303-07-06 04:48 G 9136763.48 9136763.70 9136763.92 0.0540 0.0198 Saturn 20303-12-03 22:48 G 9136914.20 9136914.45 9136914.69 0.0275 0.0006 Neptune 20304-05-06 22:48 G 9137069.19 9137069.45 9137069.71 0.0089 0.0001 Neptune 20305-05-09 11:16 G 9137436.71 9137436.97 9137437.23 0.0089 0.0002 Neptune 20306-05-11 23:45 G 9137804.23 9137804.49 9137804.75 0.0089 0.0002 Neptune 20307-05-14 12:14 G 9138171.75 9138172.01 9138172.27 0.0089 0.0004 Neptune 20308-05-16 00:57 G 9138539.28 9138539.54 9138539.80 0.0089 0.0005 Jupiter 20308-12-27 21:36 G 9138765.16 9138765.40 9138765.63 0.0490 0.0053 Neptune 20309-05-18 13:26 G 9138906.80 9138907.06 9138907.32 0.0089 0.0006 Neptune 20310-05-21 02:09 G 9139274.33 9139274.59 9139274.85 0.0089 0.0007 Neptune 20311-05-23 14:52 G 9139641.87 9139642.12 9139642.38 0.0089 0.0009 Neptune 20312-05-25 03:36 G 9140009.40 9140009.65 9140009.92 0.0089 0.0011 Neptune 20313-05-27 16:33 G 9140376.94 9140377.19 9140377.46 0.0089 0.0011 Neptune 20314-05-30 05:31 G 9140744.48 9140744.73 9140745.00 0.0089 0.0013 Jupiter 20314-06-03 20:24 G 9140749.26 9140749.35 9140749.45 0.0528 0.0476 Neptune 20315-06-01 18:57 G 9141112.03 9141112.29 9141112.55 0.0089 0.0013 Jupiter 20315-07-11 09:21 G 9141151.70 9141151.89 9141152.09 0.0540 0.0305 Uranus 20316-04-18 19:40 G 9141434.27 9141434.32 9141434.43 0.0135 0.0129 Neptune 20316-06-03 07:55 G 9141479.58 9141479.83 9141480.09 0.0089 0.0015 Uranus 20317-04-23 06:57 G 9141803.59 9141803.79 9141804.02 0.0135 0.0074 Neptune 20317-06-05 21:07 G 9141847.13 9141847.38 9141847.64 0.0089 0.0016 Uranus 20318-04-27 17:45 G 9142172.99 9142173.24 9142173.50 0.0135 0.0018 Saturn 20318-06-06 20:09 G 9142213.11 9142213.34 9142213.57 0.0285 0.0099 Neptune 20318-06-08 10:04 G 9142214.66 9142214.92 9142215.17 0.0089 0.0017

Uranus 20319-05-02 03:50 G 9142542.42 9142542.66 9142542.91 0.0134 0.0037 Neptune 20319-06-10 22:48 G 9142582.21 9142582.45 9142582.72 0.0089 0.0019 Jupiter 20319-12-02 02:38 G 9142756.53 9142756.61 9142756.70 0.0501 0.0466 Uranus 20320-05-05 13:26 G 9142911.89 9142912.06 9142912.26 0.0134 0.0091 Neptune 20320-06-12 12:00 G 9142949.76 9142950.00 9142950.27 0.0089 0.0019 Jupiter 20321-01-01 03:07 G 9143152.41 9143152.63 9143152.86 0.0490 0.0132 Neptune 20321-06-15 00:57 G 9143317.30 9143317.54 9143317.80 0.0089 0.0020 Neptune 20322-06-17 14:24 G 9143684.85 9143685.10 9143685.35 0.0089 0.0021 Neptune 20323-06-20 03:36 G 9144052.40 9144052.65 9144052.90 0.0089 0.0022 Neptune 20324-06-21 16:48 G 9144419.95 9144420.20 9144420.45 0.0089 0.0023 Neptune 20325-06-24 05:45 G 9144787.50 9144787.74 9144788.00 0.0089 0.0024 Jupiter 20326-06-08 22:33 G 9145137.28 9145137.44 9145137.61 0.0530 0.0376 Neptune 20326-06-26 19:12 G 9145155.06 9145155.30 9145155.56 0.0089 0.0025 Neptune 20327-06-29 08:24 G 9145522.62 9145522.85 9145523.11 0.0089 0.0026 Jupiter 20327-07-16 17:02 G 9145540.07 9145540.21 9145540.37 0.0541 0.0419 Neptune 20328-06-30 21:50 G 9145890.17 9145890.41 9145890.67 0.0089 0.0026 Neptune 20329-07-03 11:02 G 9146257.72 9146257.96 9146258.22 0.0089 0.0027 Neptune 20330-07-06 00:14 G 9146625.27 9146625.51 9146625.77 0.0090 0.0028 Neptune 20331-07-08 13:26 G 9146992.83 9146993.06 9146993.32 0.0090 0.0029 Jupiter 20331-12-06 13:55 G 9147143.94 9147144.08 9147144.24 0.0499 0.0382 Neptune 20332-07-10 02:38 G 9147360.37 9147360.61 9147360.86 0.0090 0.0029 Saturn 20332-11-28 00:00 G 9147501.32 9147501.50 9147501.70 0.0274 0.0166 Jupiter 20333-01-05 09:21 G 9147539.68 9147539.89 9147540.10 0.0488 0.0212 Neptune 20333-07-12 15:36 G 9147727.92 9147728.15 9147728.41 0.0090 0.0030 Saturn 20333-12-10 11:02 G 9147878.87 9147878.96 9147879.08 0.0275 0.0246 Neptune 20334-07-15 05:02 G 9148095.47 9148095.71 9148095.96 0.0090 0.0030 Neptune 20335-07-17 18:00 G 9148463.02 9148463.25 9148463.51 0.0090 0.0031 Neptune 20336-07-19 07:12 G 9148830.57 9148830.80 9148831.06 0.0090 0.0031 Neptune 20337-07-21 20:24 G 9149198.12 9149198.35 9149198.60 0.0090 0.0031 Jupiter 20338-06-14 01:12 G 9149525.35 9149525.55 9149525.75 0.0532 0.0273

Neptune 20338-07-24 09:36 G 9149565.67 9149565.90 9149566.15 0.0090 0.0032 Jupiter 20339-07-22 02:24 G 9149928.55 9149928.60 9149928.66 0.0543 0.0528 Neptune 20339-07-26 22:48 G 9149933.23 9149933.45 9149933.71 0.0090 0.0032 Neptune 20340-07-28 12:14 G 9150300.78 9150301.01 9150301.26 0.0090 0.0032 Neptune 20341-07-31 01:26 G 9150668.32 9150668.56 9150668.81 0.0090 0.0032 Neptune 20342-08-02 14:52 G 9151035.88 9151036.12 9151036.36 0.0090 0.0032 Neptune 20343-08-05 03:50 G 9151403.42 9151403.66 9151403.90 0.0090 0.0032 Jupiter 20343-12-11 01:12 G 9151531.37 9151531.55 9151531.74 0.0497 0.0294 Neptune 20344-08-06 16:48 G 9151770.96 9151771.20 9151771.44 0.0090 0.0032 Jupiter 20345-01-09 15:21 G 9151926.96 9151927.14 9151927.33 0.0487 0.0291 Neptune 20345-08-09 05:31 G 9152138.49 9152138.73 9152138.97 0.0090 0.0032 Neptune 20346-08-11 18:28 G 9152506.03 9152506.27 9152506.52 0.0090 0.0032 Saturn 20347-05-31 21:50 G 9152799.19 9152799.41 9152799.64 0.0285 0.0116 Neptune 20347-08-14 07:12 G 9152873.57 9152873.80 9152874.05 0.0090 0.0032 Neptune 20348-08-15 19:55 G 9153241.10 9153241.33 9153241.58 0.0090 0.0032 Neptune 20349-08-18 08:38 G 9153608.64 9153608.86 9153609.12 0.0090 0.0032 Jupiter 20350-06-19 08:24 G 9153913.63 9153913.85 9153914.08 0.0534 0.0161 Neptune 20350-08-20 21:36 G 9153976.18 9153976.40 9153976.66 0.0090 0.0032 Neptune 20351-08-23 10:48 G 9154343.72 9154343.95 9154344.20 0.0089 0.0031 Neptune 20352-08-24 23:31 G 9154711.25 9154711.48 9154711.73 0.0089 0.0031 Neptune 20353-08-27 12:28 G 9155078.78 9155079.02 9155079.27 0.0089 0.0030 Neptune 20354-08-30 00:57 G 9155446.31 9155446.54 9155446.80 0.0089 0.0030 Neptune 20355-09-01 13:55 G 9155813.84 9155814.08 9155814.33 0.0089 0.0029 Jupiter 20355-12-15 09:50 G 9155918.70 9155918.91 9155919.12 0.0495 0.0209 Neptune 20356-09-03 02:09 G 9156181.36 9156181.59 9156181.85 0.0089 0.0029 Jupiter 20357-01-13 19:26 G 9156314.16 9156314.31 9156314.46 0.0486 0.0367 Neptune 20357-09-05 14:38 G 9156548.88 9156549.11 9156549.37 0.0089 0.0028 Neptune 20358-09-08 03:21 G 9156916.40 9156916.64 9156916.89 0.0089 0.0027 Neptune 20359-09-10 15:21 G 9157283.91 9157284.14 9157284.40 0.0089 0.0026 Neptune 20360-09-12 03:50 G 9157651.42 9157651.66 9157651.92 0.0089 0.0026

Uranus 20360-10-21 21:36 G 9157691.23 9157691.40 9157691.59 0.0143 0.0099 Neptune 20361-09-14 16:04 G 9158018.93 9158019.17 9158019.42 0.0089 0.0024 Uranus 20361-10-26 18:57 G 9158061.05 9158061.29 9158061.54 0.0143 0.0034 Jupiter 20362-06-24 17:02 G 9158301.98 9158302.21 9158302.45 0.0536 0.0047 Neptune 20362-09-17 04:33 G 9158386.44 9158386.69 9158386.94 0.0089 0.0024 Uranus 20362-10-31 16:48 G 9158430.95 9158431.20 9158431.45 0.0144 0.0032 Saturn 20362-12-04 22:48 G 9158465.22 9158465.45 9158465.70 0.0274 0.0052 Neptune 20363-09-19 16:33 G 9158753.95 9158754.19 9158754.45 0.0089 0.0023 Uranus 20363-11-05 14:38 G 9158800.95 9158801.11 9158801.32 0.0144 0.0100 Neptune 20364-09-21 04:33 G 9159121.45 9159121.69 9159121.95 0.0089 0.0022 Neptune 20365-09-23 16:48 G 9159488.96 9159489.20 9159489.46 0.0089 0.0021 Neptune 20366-09-26 05:02 G 9159856.47 9159856.71 9159856.97 0.0089 0.0020 Neptune 20367-09-28 16:48 G 9160223.96 9160224.20 9160224.47 0.0089 0.0019 Jupiter 20367-12-19 18:00 G 9160306.02 9160306.25 9160306.47 0.0494 0.0123 Neptune 20368-09-30 04:48 G 9160591.46 9160591.70 9160591.96 0.0089 0.0018 Jupiter 20369-01-18 00:43 G 9160701.43 9160701.53 9160701.62 0.0486 0.0442 Neptune 20369-10-02 16:48 G 9160958.95 9160959.20 9160959.45 0.0089 0.0017 Neptune 20370-10-05 04:04 G 9161326.43 9161326.67 9161326.94 0.0089 0.0016 Neptune 20371-10-07 16:04 G 9161693.92 9161694.17 9161694.43 0.0089 0.0014 20372-03-25 04:04 G 9161863.56 9161863.67 9161863.79 0.1671 0.1307 Mars Neptune 20372-10-09 03:21 G 9162061.39 9162061.64 9162061.90 0.0089 0.0013 Neptune 20373-10-11 15:07 G 9162428.88 9162429.13 9162429.39 0.0089 0.0012 Jupiter 20374-06-29 21:50 G 9162690.18 9162690.41 9162690.64 0.0537 0.0062 Neptune 20374-10-14 02:38 G 9162796.36 9162796.61 9162796.87 0.0089 0.0011 Neptune 20375-10-16 13:55 G 9163163.83 9163164.08 9163164.34 0.0089 0.0010 Neptune 20376-10-18 01:26 G 9163531.31 9163531.56 9163531.82 0.0089 0.0009 Saturn 20377-06-07 20:52 G 9163764.16 9163764.37 9163764.58 0.0285 0.0147 Neptune 20377-10-20 12:43 G 9163898.78 9163899.03 9163899.30 0.0089 0.0008 Neptune 20378-10-23 00:14 G 9164266.26 9164266.51 9164266.77 0.0089 0.0006 Neptune 20379-10-25 11:31 G 9164633.73 9164633.98 9164634.24 0.0089 0.0005

Jupiter 20379-12-23 23:45 G 9164693.26 9164693.49 9164693.72 0.0493 0.0044 Neptune 20380-10-26 22:48 G 9165001.19 9165001.45 9165001.71 0.0089 0.0004 Neptune 20381-10-29 09:50 G 9165368.66 9165368.91 9165369.17 0.0089 0.0002 Neptune 20382-10-31 21:07 G 9165736.12 9165736.38 9165736.63 0.0089 0.0002 Neptune 20383-11-03 07:40 G 9166103.57 9166103.82 9166104.08 0.0089 0.0002 Neptune 20384-11-04 18:43 G 9166471.03 9166471.28 9166471.54 0.0089 0.0001 Neptune 20385-11-07 05:45 G 9166838.48 9166838.74 9166838.99 0.0089 0.0003 Jupiter 20386-07-05 03:50 G 9167078.44 9167078.66 9167078.89 0.0539 0.0175 Neptune 20386-11-09 16:19 G 9167205.93 9167206.18 9167206.44 0.0088 0.0004 Neptune 20387-11-12 03:21 G 9167573.38 9167573.64 9167573.90 0.0088 0.0005 Neptune 20388-11-13 13:55 G 9167940.83 9167941.08 9167941.34 0.0088 0.0006 Neptune 20389-11-16 00:57 G 9168308.29 9168308.54 9168308.80 0.0088 0.0008 Neptune 20390-11-18 11:45 G 9168675.73 9168675.99 9168676.24 0.0088 0.0009 Neptune 20391-11-20 22:19 G 9169043.18 9169043.43 9169043.69 0.0088 0.0010 Saturn 20391-11-30 01:40 G 9169052.35 9169052.57 9169052.79 0.0273 0.0119 Jupiter 20391-12-28 07:12 G 9169080.57 9169080.80 9169081.04 0.0491 0.0041 Neptune 20392-11-22 08:52 G 9169410.62 9169410.87 9169411.13 0.0088 0.0012 Neptune 20393-11-24 19:40 G 9169778.07 9169778.32 9169778.58 0.0088 0.0012 Neptune 20394-11-27 06:00 G 9170145.50 9170145.75 9170146.01 0.0088 0.0014 Neptune 20395-11-29 16:33 G 9170512.94 9170513.19 9170513.44 0.0088 0.0015 Neptune 20396-12-01 02:38 G 9170880.37 9170880.61 9170880.88 0.0088 0.0016 Jupiter 20397-06-02 22:48 G 9171064.37 9171064.45 9171064.55 0.0527 0.0486 Neptune 20397-12-03 12:57 G 9171247.80 9171248.04 9171248.30 0.0088 0.0017 Jupiter 20398-07-10 10:48 G 9171466.76 9171466.95 9171467.16 0.0540 0.0290 Neptune 20398-12-05 23:31 G 9171615.24 9171615.48 9171615.74 0.0088 0.0018 Neptune 20399-12-08 09:36 G 9171982.66 9171982.90 9171983.16 0.0088 0.0019 Uranus 20400-04-19 07:55 G 9172115.75 9172115.83 9172115.95 0.0136 0.0125 Neptune 20400-12-09 19:55 G 9172350.09 9172350.33 9172350.59 0.0088 0.0020 Uranus 20401-04-23 19:12 G 9172485.09 9172485.30 9172485.53 0.0135 0.0069 Neptune 20401-12-12 06:14 G 9172717.53 9172717.76 9172718.02 0.0088 0.0021

Uranus 20402-04-28 06:00 G 9172854.50 9172854.75 9172855.01 0.0135 0.0014 Jupiter 20402-12-01 13:40 G 9173071.99 9173072.07 9173072.14 0.0502 0.0470 Neptune 20402-12-14 16:33 G 9173084.95 9173085.19 9173085.45 0.0088 0.0022 Uranus 20403-05-02 16:04 G 9173223.93 9173224.17 9173224.42 0.0135 0.0042 Neptune 20403-12-17 02:52 G 9173452.39 9173452.62 9173452.88 0.0088 0.0023 Jupiter 20404-01-01 14:38 G 9173467.88 9173468.11 9173468.33 0.0490 0.0124 Uranus 20404-05-06 01:40 G 9173593.41 9173593.57 9173593.77 0.0134 0.0096 Neptune 20404-12-18 13:12 G 9173819.81 9173820.05 9173820.31 0.0088 0.0024 Neptune 20405-12-20 23:45 G 9174187.24 9174187.49 9174187.74 0.0088 0.0024 Saturn 20406-06-02 00:28 G 9174350.28 9174350.52 9174350.76 0.0285 0.0065 Neptune 20406-12-23 09:36 G 9174554.66 9174554.90 9174555.16 0.0088 0.0025 Neptune 20407-12-25 19:40 G 9174922.09 9174922.32 9174922.58 0.0088 0.0026 Neptune 20408-12-27 05:45 G 9175289.51 9175289.74 9175290.00 0.0088 0.0027 Jupiter 20409-06-08 02:52 G 9175452.47 9175452.62 9175452.79 0.0530 0.0386 Neptune 20409-12-29 16:04 G 9175656.93 9175657.17 9175657.42 0.0088 0.0027 Jupiter 20410-07-15 22:19 G 9175855.27 9175855.43 9175855.58 0.0542 0.0405 Neptune 20411-01-01 01:55 G 9176024.35 9176024.58 9176024.83 0.0088 0.0028 Neptune 20412-01-03 11:45 G 9176391.77 9176391.99 9176392.25 0.0088 0.0029 Neptune 20413-01-04 22:04 G 9176759.19 9176759.42 9176759.67 0.0088 0.0029 Neptune 20414-01-07 07:55 G 9177126.61 9177126.83 9177127.09 0.0088 0.0030 Jupiter 20414-12-06 00:28 G 9177459.38 9177459.52 9177459.67 0.0499 0.0386 Neptune 20415-01-09 18:28 G 9177494.04 9177494.27 9177494.52 0.0088 0.0030 Jupiter 20416-01-05 19:40 G 9177855.11 9177855.32 9177855.53 0.0488 0.0204 Neptune 20416-01-12 04:19 G 9177861.46 9177861.68 9177861.94 0.0088 0.0031 Neptune 20417-01-13 14:52 G 9178228.89 9178229.12 9178229.37 0.0088 0.0031 Neptune 20418-01-16 01:12 G 9178596.31 9178596.55 9178596.79 0.0088 0.0031 Neptune 20419-01-18 11:02 G 9178963.74 9178963.96 9178964.22 0.0088 0.0032 Neptune 20420-01-20 21:21 G 9179331.16 9179331.39 9179331.64 0.0088 0.0032 Neptune 20421-01-22 07:40 G 9179698.59 9179698.82 9179699.06 0.0088 0.0032 Jupiter 20421-06-13 09:21 G 9179840.69 9179840.89 9179841.09 0.0532 0.0281

Saturn 20421-12-06 00:28 G 9180016.29 9180016.52 9180016.75 0.0274 0.0099 Neptune 20422-01-24 17:45 G 9180066.01 9180066.24 9180066.49 0.0088 0.0032 Jupiter 20422-07-21 09:50 G 9180243.85 9180243.91 9180243.99 0.0543 0.0517 Neptune 20423-01-27 04:04 G 9180433.43 9180433.67 9180433.91 0.0088 0.0032 Neptune 20424-01-29 13:55 G 9180800.86 9180801.08 9180801.34 0.0088 0.0033 Neptune 20425-01-31 00:00 G 9181168.28 9181168.50 9181168.76 0.0088 0.0033 Neptune 20426-02-02 10:19 G 9181535.71 9181535.93 9181536.19 0.0088 0.0033 Jupiter 20426-12-10 10:19 G 9181846.75 9181846.93 9181847.12 0.0498 0.0301 Neptune 20427-02-04 21:07 G 9181903.14 9181903.38 9181903.62 0.0088 0.0032 Jupiter 20428-01-10 01:26 G 9182242.37 9182242.56 9182242.75 0.0487 0.0283 Neptune 20428-02-07 07:26 G 9182270.58 9182270.81 9182271.06 0.0088 0.0032 Neptune 20429-02-08 17:45 G 9182638.02 9182638.24 9182638.49 0.0088 0.0032 Neptune 20430-02-11 04:04 G 9183005.45 9183005.67 9183005.93 0.0088 0.0032 Neptune 20431-02-13 14:38 G 9183372.89 9183373.11 9183373.37 0.0088 0.0032 Neptune 20432-02-16 01:26 G 9183740.32 9183740.56 9183740.80 0.0088 0.0031 Neptune 20433-02-17 11:45 G 9184107.76 9184107.99 9184108.24 0.0088 0.0031 Jupiter 20433-06-18 13:40 G 9184228.85 9184229.07 9184229.29 0.0533 0.0176 Neptune 20434-02-19 22:33 G 9184475.20 9184475.44 9184475.68 0.0088 0.0030 Neptune 20435-02-22 08:52 G 9184842.63 9184842.87 9184843.12 0.0088 0.0030 Saturn 20435-05-27 02:09 G 9184936.54 9184936.59 9184936.66 0.0286 0.0278 Neptune 20436-02-24 19:40 G 9185210.08 9185210.32 9185210.56 0.0088 0.0029 Saturn 20436-06-08 22:33 G 9185315.27 9185315.44 9185315.63 0.0285 0.0197 Neptune 20437-02-26 06:00 G 9185577.52 9185577.75 9185578.01 0.0088 0.0029 Neptune 20438-02-28 16:48 G 9185944.96 9185945.20 9185945.45 0.0088 0.0028 Jupiter 20438-12-14 16:48 G 9186234.00 9186234.20 9186234.41 0.0496 0.0221 Neptune 20439-03-03 03:07 G 9186312.40 9186312.63 9186312.89 0.0088 0.0028 Jupiter 20440-01-14 05:16 G 9186629.57 9186629.72 9186629.89 0.0487 0.0357 Neptune 20440-03-04 14:09 G 9186679.86 9186680.09 9186680.35 0.0088 0.0027 Neptune 20441-03-07 01:12 G 9187047.31 9187047.55 9187047.80 0.0088 0.0026 Neptune 20442-03-09 12:00 G 9187414.77 9187415.00 9187415.26 0.0088 0.0026

Neptune 20443-03-11 22:48 G 9187782.22 9187782.45 9187782.72 0.0088 0.0025 Neptune 20444-03-13 10:04 G 9188149.69 9188149.92 9188150.18 0.0088 0.0024 Uranus 20444-10-22 09:21 G 9188372.70 9188372.89 9188373.08 0.0143 0.0096 Neptune 20445-03-15 21:07 G 9188517.14 9188517.38 9188517.64 0.0088 0.0023 Jupiter 20445-06-23 18:00 G 9188617.02 9188617.25 9188617.48 0.0535 0.0066 Uranus 20445-10-27 06:43 G 9188742.53 9188742.78 9188743.03 0.0143 0.0030 Neptune 20446-03-18 08:09 G 9188884.60 9188884.84 9188885.10 0.0088 0.0022 Uranus 20446-11-01 04:19 G 9189112.44 9189112.68 9189112.93 0.0144 0.0036 Neptune 20447-03-20 19:26 G 9189252.07 9189252.31 9189252.57 0.0088 0.0021 Uranus 20447-11-06 02:24 G 9189482.44 9189482.60 9189482.79 0.0144 0.0103 Neptune 20448-03-22 06:28 G 9189619.53 9189619.77 9189620.03 0.0088 0.0020 Neptune 20449-03-24 17:45 G 9189986.99 9189987.24 9189987.50 0.0088 0.0019 Neptune 20450-03-27 04:48 G 9190354.46 9190354.70 9190354.97 0.0088 0.0019 Saturn 20450-12-01 04:19 G 9190603.45 9190603.68 9190603.92 0.0273 0.0071 Jupiter 20450-12-19 01:26 G 9190621.34 9190621.56 9190621.78 0.0495 0.0135 Neptune 20451-03-29 16:19 G 9190721.94 9190722.18 9190722.44 0.0088 0.0017 Jupiter 20452-01-18 10:33 G 9191016.83 9191016.94 9191017.05 0.0486 0.0430 Neptune 20452-03-31 03:36 G 9191089.41 9191089.65 9191089.92 0.0088 0.0017 Neptune 20453-04-02 15:21 G 9191456.89 9191457.14 9191457.40 0.0088 0.0015 Neptune 20454-04-05 03:07 G 9191824.37 9191824.63 9191824.88 0.0088 0.0014 Neptune 20455-04-07 14:52 G 9192191.86 9192192.12 9192192.38 0.0088 0.0013 Neptune 20456-04-09 02:38 G 9192559.36 9192559.61 9192559.87 0.0088 0.0011 Neptune 20457-04-11 14:09 G 9192926.84 9192927.09 9192927.36 0.0088 0.0011 Jupiter 20457-06-28 22:04 G 9193005.18 9193005.42 9193005.65 0.0537 0.0046 Neptune 20458-04-14 02:24 G 9193294.34 9193294.60 9193294.85 0.0088 0.0009 Neptune 20459-04-16 14:09 G 9193661.83 9193662.09 9193662.35 0.0088 0.0008 Neptune 20460-04-18 01:55 G 9194029.33 9194029.58 9194029.85 0.0088 0.0007 Neptune 20461-04-20 13:55 G 9194396.82 9194397.08 9194397.34 0.0089 0.0005 Pluto 20461-09-19 08:52 G 9194548.64 9194548.87 9194549.13 0.0064 0.0021 Neptune 20462-04-23 01:55 G 9194764.32 9194764.58 9194764.84 0.0089 0.0004

Pluto 20462-09-20 20:38 G 9194915.33 9194915.36 9194915.45 0.0064 0.0063 Jupiter 20462-12-23 10:33 G 9195008.71 9195008.94 9195009.17 0.0493 0.0050 Neptune 20463-04-25 14:09 G 9195131.83 9195132.09 9195132.35 0.0089 0.0003 Neptune 20464-04-27 02:24 G 9195499.34 9195499.60 9195499.85 0.0089 0.0002 Neptune 20465-04-29 14:24 G 9195866.84 9195867.10 9195867.36 0.0089 0.0000 Saturn 20465-06-03 03:50 G 9195901.41 9195901.66 9195901.90 0.0285 0.0014 Neptune 20466-05-02 02:52 G 9196234.36 9196234.62 9196234.88 0.0089 0.0002 Neptune 20467-05-04 15:21 G 9196601.88 9196602.14 9196602.40 0.0089 0.0003 Neptune 20468-05-06 03:36 G 9196969.40 9196969.65 9196969.91 0.0089 0.0005 Neptune 20469-05-08 16:19 G 9197336.92 9197337.18 9197337.44 0.0089 0.0005 Jupiter 20469-07-04 07:12 G 9197393.58 9197393.80 9197394.03 0.0539 0.0161 Neptune 20470-05-11 04:33 G 9197704.44 9197704.69 9197704.96 0.0089 0.0007 Neptune 20471-05-13 17:16 G 9198071.97 9198072.22 9198072.48 0.0089 0.0008 Neptune 20472-05-15 05:45 G 9198439.49 9198439.74 9198440.00 0.0089 0.0010 Neptune 20473-05-17 18:14 G 9198807.01 9198807.26 9198807.52 0.0089 0.0011 Neptune 20474-05-20 06:57 G 9199174.54 9199174.79 9199175.05 0.0089 0.0012 Jupiter 20474-12-27 17:02 G 9199395.98 9199396.21 9199396.45 0.0491 0.0033 Neptune 20475-05-22 19:40 G 9199542.06 9199542.32 9199542.58 0.0089 0.0013 Neptune 20476-05-24 08:24 G 9199909.59 9199909.85 9199910.11 0.0089 0.0015 Neptune 20477-05-26 20:52 G 9200277.12 9200277.37 9200277.64 0.0089 0.0016 Neptune 20478-05-29 09:50 G 9200644.66 9200644.91 9200645.17 0.0089 0.0017 Neptune 20479-05-31 22:48 G 9201012.20 9201012.45 9201012.71 0.0089 0.0018 Saturn 20479-11-25 18:57 G 9201190.22 9201190.29 9201190.38 0.0273 0.0258 Jupiter 20480-06-02 06:28 G 9201379.69 9201379.77 9201379.85 0.0527 0.0492 Neptune 20480-06-02 12:00 G 9201379.75 9201380.00 9201380.26 0.0089 0.0019 \* Saturn 20480-12-07 04:19 G 9201567.48 9201567.68 9201567.89 0.0274 0.0148 Neptune 20481-06-05 00:43 G 9201747.29 9201747.53 9201747.79 0.0089 0.0021 Jupiter 20481-07-09 17:31 G 9201782.04 9201782.23 9201782.44 0.0540 0.0278 Neptune 20482-06-07 13:55 G 9202114.84 9202115.08 9202115.34 0.0089 0.0022 Neptune 20483-06-10 03:07 G 9202482.38 9202482.63 9202482.89 0.0089 0.0022

Uranus 20484-04-19 20:52 G 9202797.26 9202797.37 9202797.50 0.0136 0.0120 Neptune 20484-06-11 16:04 G 9202849.92 9202850.17 9202850.42 0.0089 0.0024 Uranus 20485-04-24 07:55 G 9203166.62 9203166.83 9203167.06 0.0135 0.0064 Neptune 20485-06-14 05:02 G 9203217.47 9203217.71 9203217.97 0.0089 0.0024 Jupiter 20485-11-30 21:50 G 9203387.34 9203387.41 9203387.48 0.0502 0.0476 Uranus 20486-04-28 18:43 G 9203536.03 9203536.28 9203536.54 0.0135 0.0009 Neptune 20486-06-16 18:00 G 9203585.01 9203585.25 9203585.51 0.0089 0.0026 Jupiter 20486-12-31 23:45 G 9203783.26 9203783.49 9203783.71 0.0490 0.0116 Uranus 20487-05-03 04:48 G 9203905.47 9203905.70 9203905.95 0.0135 0.0047 Neptune 20487-06-19 06:57 G 9203952.56 9203952.79 9203953.05 0.0089 0.0027 Uranus 20488-05-06 14:52 G 9204274.96 9204275.12 9204275.29 0.0134 0.0101 Neptune 20488-06-20 19:55 G 9204320.10 9204320.33 9204320.59 0.0089 0.0028 Neptune 20489-06-23 09:21 G 9204687.65 9204687.89 9204688.14 0.0089 0.0028 Neptune 20490-06-25 22:33 G 9205055.20 9205055.44 9205055.69 0.0089 0.0029 Neptune 20491-06-28 11:45 G 9205422.75 9205422.99 9205423.24 0.0089 0.0029 Jupiter 20492-06-07 09:21 G 9205767.74 9205767.89 9205768.05 0.0528 0.0396 Neptune 20492-06-30 00:43 G 9205790.31 9205790.53 9205790.79 0.0089 0.0031 Neptune 20493-07-02 14:24 G 9206157.86 9206158.10 9206158.35 0.0089 0.0031 Jupiter 20493-07-15 00:28 G 9206170.37 9206170.52 9206170.69 0.0541 0.0385 Saturn 20494-05-28 04:48 G 9206487.55 9206487.70 9206487.85 0.0286 0.0228 Neptune 20494-07-05 03:50 G 9206525.42 9206525.66 9206525.91 0.0089 0.0032 Saturn 20495-06-11 01:12 G 9206866.44 9206866.55 9206866.68 0.0285 0.0246 Neptune 20495-07-07 17:16 G 9206892.98 9206893.22 9206893.46 0.0089 0.0032 Neptune 20496-07-09 06:14 G 9207260.53 9207260.76 9207261.02 0.0090 0.0033 Neptune 20497-07-11 19:40 G 9207628.08 9207628.32 9207628.56 0.0090 0.0033 Jupiter 20497-12-05 05:02 G 9207774.58 9207774.71 9207774.85 0.0500 0.0399 20498-03-21 15:07 G 9207881.00 9207881.13 9207881.26 0.1657 0.1211 Mars Neptune 20498-07-14 08:38 G 9207995.64 9207995.86 9207996.12 0.0090 0.0034 Jupiter 20499-01-05 03:36 G 9208170.44 9208170.65 9208170.87 0.0489 0.0193 Neptune 20499-07-16 21:50 G 9208363.18 9208363.41 9208363.66 0.0090 0.0034

Neptune 20500-07-19 11:02 G 9208730.73 9208730.96 9208731.21 0.0090 0.0034 Neptune 20501-07-22 00:28 G 9209098.28 9209098.52 9209098.76 0.0090 0.0034 Neptune 20502-07-24 13:12 G 9209465.83 9209466.05 9209466.31 0.0090 0.0035 Neptune 20503-07-27 02:24 G 9209833.38 9209833.60 9209833.86 0.0090 0.0035 Jupiter 20504-06-13 11:45 G 9210155.80 9210155.99 9210156.19 0.0530 0.0295 Neptune 20504-07-28 15:36 G 9210200.93 9210201.15 9210201.40 0.0090 0.0035 Jupiter 20505-07-21 07:40 G 9210558.73 9210558.82 9210558.92 0.0542 0.0492 Neptune 20505-07-31 05:02 G 9210568.48 9210568.71 9210568.96 0.0090 0.0035 Neptune 20506-08-02 18:14 G 9210936.03 9210936.26 9210936.51 0.0090 0.0035 Neptune 20507-08-05 07:26 G 9211303.59 9211303.81 9211304.06 0.0090 0.0035 Neptune 20508-08-06 20:09 G 9211671.12 9211671.34 9211671.60 0.0090 0.0035 Neptune 20509-08-09 09:36 G 9212038.67 9212038.90 9212039.15 0.0090 0.0034 Saturn 20509-12-03 08:52 G 9212154.63 9212154.87 9212155.11 0.0273 0.0020 Jupiter 20509-12-10 15:07 G 9212161.96 9212162.13 9212162.32 0.0499 0.0314 Neptune 20510-08-11 22:33 G 9212406.21 9212406.44 9212406.69 0.0090 0.0034 Jupiter 20511-01-10 09:07 G 9212557.69 9212557.88 9212558.08 0.0488 0.0271 Neptune 20511-08-14 11:16 G 9212773.75 9212773.97 9212774.23 0.0090 0.0034 Neptune 20512-08-16 00:28 G 9213141.28 9213141.52 9213141.76 0.0090 0.0033 Neptune 20513-08-18 12:57 G 9213508.81 9213509.04 9213509.30 0.0090 0.0033 Neptune 20514-08-21 02:09 G 9213876.35 9213876.59 9213876.83 0.0090 0.0032 Neptune 20515-08-23 14:38 G 9214243.88 9214244.11 9214244.37 0.0090 0.0032 Jupiter 20516-06-18 12:43 G 9214543.81 9214544.03 9214544.25 0.0533 0.0191 Neptune 20516-08-25 03:36 G 9214611.41 9214611.65 9214611.90 0.0090 0.0031 Neptune 20517-08-27 16:04 G 9214978.94 9214979.17 9214979.43 0.0089 0.0031 Neptune 20518-08-30 05:02 G 9215346.48 9215346.71 9215346.97 0.0089 0.0030 Neptune 20519-09-01 17:45 G 9215714.01 9215714.24 9215714.49 0.0089 0.0029 Neptune 20520-09-03 06:14 G 9216081.53 9216081.76 9216082.02 0.0089 0.0029 Neptune 20521-09-05 18:57 G 9216449.06 9216449.29 9216449.55 0.0089 0.0028 Jupiter 20521-12-15 02:09 G 9216549.38 9216549.59 9216549.80 0.0497 0.0226 Neptune 20522-09-08 07:26 G 9216816.58 9216816.81 9216817.07 0.0089 0.0027

Jupiter 20523-01-14 15:07 G 9216944.97 9216945.13 9216945.30 0.0487 0.0348 Neptune 20523-09-10 19:55 G 9217184.09 9217184.33 9217184.59 0.0089 0.0026 Saturn 20524-06-05 09:21 G 9217452.65 9217452.89 9217453.14 0.0285 0.0041 Neptune 20524-09-12 08:09 G 9217551.60 9217551.84 9217552.10 0.0089 0.0025 Neptune 20525-09-14 20:38 G 9217919.12 9217919.36 9217919.61 0.0089 0.0023 Neptune 20526-09-17 08:52 G 9218286.63 9218286.87 9218287.12 0.0089 0.0022 Neptune 20527-09-19 20:52 G 9218654.13 9218654.37 9218654.63 0.0089 0.0022 Jupiter 20528-06-23 19:12 G 9218932.07 9218932.30 9218932.53 0.0535 0.0079 Neptune 20528-09-21 09:07 G 9219021.64 9219021.88 9219022.14 0.0089 0.0021 Uranus 20528-10-23 20:24 G 9219054.17 9219054.35 9219054.55 0.0143 0.0091 Neptune 20529-09-23 21:21 G 9219389.15 9219389.39 9219389.65 0.0089 0.0019 Uranus 20529-10-28 17:45 G 9219424.00 9219424.24 9219424.50 0.0143 0.0026 Neptune 20530-09-26 09:36 G 9219756.66 9219756.90 9219757.16 0.0089 0.0018 Uranus 20530-11-02 15:21 G 9219793.91 9219794.14 9219794.39 0.0144 0.0041 Neptune 20531-09-28 21:36 G 9220124.16 9220124.40 9220124.67 0.0089 0.0017 Uranus 20531-11-07 13:40 G 9220163.92 9220164.07 9220164.25 0.0144 0.0107 Neptune 20532-09-30 10:04 G 9220491.67 9220491.92 9220492.17 0.0089 0.0016 Neptune 20533-10-02 21:50 G 9220859.16 9220859.41 9220859.67 0.0089 0.0014 Jupiter 20533-12-19 10:48 G 9220936.73 9220936.95 9220937.17 0.0495 0.0142 Neptune 20534-10-05 09:50 G 9221226.66 9221226.91 9221227.17 0.0089 0.0013 Jupiter 20535-01-18 19:12 G 9221332.19 9221332.30 9221332.42 0.0486 0.0421 Neptune 20535-10-07 21:21 G 9221594.14 9221594.39 9221594.65 0.0089 0.0012 Neptune 20536-10-09 09:07 G 9221961.63 9221961.88 9221962.14 0.0089 0.0011 Neptune 20537-10-11 20:52 G 9222329.11 9222329.37 9222329.63 0.0089 0.0009 Neptune 20538-10-14 08:24 G 9222696.59 9222696.85 9222697.11 0.0089 0.0008 Saturn 20538-11-28 00:57 G 9222741.39 9222741.54 9222741.70 0.0273 0.0206 Neptune 20539-10-16 19:55 G 9223064.07 9223064.33 9223064.59 0.0089 0.0007 Saturn 20539-12-10 10:04 G 9223118.76 9223118.92 9223119.09 0.0274 0.0200 Jupiter 20540-06-29 03:50 G 9223320.42 9223320.66 9223320.89 0.0537 0.0034 Neptune 20540-10-18 07:26 G 9223431.55 9223431.81 9223432.06 0.0089 0.0005

Neptune 20541-10-20 18:57 G 9223799.03 9223799.29 9223799.54 0.0089 0.0004 Neptune 20542-10-23 06:14 G 9224166.50 9224166.76 9224167.02 0.0089 0.0003 Neptune 20543-10-25 17:45 G 9224533.98 9224534.24 9224534.49 0.0089 0.0002 Neptune 20544-10-27 05:02 G 9224901.45 9224901.71 9224901.97 0.0089 0.0000 Neptune 20545-10-29 16:19 G 9225268.93 9225269.18 9225269.44 0.0089 0.0002 Jupiter 20545-12-23 18:28 G 9225324.04 9225324.27 9225324.50 0.0493 0.0058 Neptune 20546-11-01 03:21 G 9225636.39 9225636.64 9225636.90 0.0089 0.0003 Neptune 20547-11-03 14:24 G 9226003.85 9226004.10 9226004.36 0.0089 0.0005 Neptune 20548-11-05 01:40 G 9226371.31 9226371.57 9226371.82 0.0089 0.0006 Neptune 20549-11-07 12:28 G 9226738.76 9226739.02 9226739.28 0.0089 0.0007 Neptune 20550-11-09 23:16 G 9227106.22 9227106.47 9227106.73 0.0089 0.0008 20551-03-22 12:00 G 9227238.82 9227239.00 9227239.19 0.0080 0.0054 Pluto Mars 20551-09-23 12:00 G 9227423.84 9227424.00 9227424.16 0.1881 0.1109 Neptune 20551-11-12 09:50 G 9227473.66 9227473.91 9227474.17 0.0089 0.0010 Jupiter 20552-07-04 10:33 G 9227708.72 9227708.94 9227709.17 0.0538 0.0144 Neptune 20552-11-13 20:52 G 9227841.12 9227841.37 9227841.63 0.0088 0.0011 Saturn 20553-05-30 09:07 G 9228038.70 9228038.88 9228039.09 0.0286 0.0176 Neptune 20553-11-16 07:26 G 9228208.56 9228208.81 9228209.07 0.0088 0.0012 Neptune 20554-11-18 18:14 G 9228576.01 9228576.26 9228576.52 0.0088 0.0013 Neptune 20555-11-21 05:02 G 9228943.46 9228943.71 9228943.97 0.0088 0.0014 Neptune 20556-11-22 15:50 G 9229310.91 9229311.16 9229311.42 0.0088 0.0016 Neptune 20557-11-25 02:24 G 9229678.36 9229678.60 9229678.86 0.0088 0.0017 Jupiter 20557-12-27 22:33 G 9229711.21 9229711.44 9229711.68 0.0492 0.0021 Neptune 20558-11-27 12:57 G 9230045.80 9230046.04 9230046.30 0.0088 0.0018 Neptune 20559-11-29 23:31 G 9230413.24 9230413.48 9230413.74 0.0088 0.0019 Neptune 20560-12-01 10:04 G 9230780.67 9230780.92 9230781.17 0.0088 0.0020 Neptune 20561-12-03 20:38 G 9231148.11 9231148.36 9231148.61 0.0088 0.0021 Neptune 20562-12-06 06:43 G 9231515.54 9231515.78 9231516.04 0.0088 0.0023 Jupiter 20563-06-03 09:50 G 9231694.85 9231694.91 9231694.99 0.0526 0.0501 Neptune 20563-12-08 17:16 G 9231882.98 9231883.22 9231883.47 0.0088 0.0023

Jupiter 20564-07-09 16:33 G 9232096.99 9232097.19 9232097.40 0.0539 0.0256 Neptune 20564-12-10 03:36 G 9232250.41 9232250.65 9232250.90 0.0088 0.0024 Neptune 20565-12-12 13:40 G 9232617.84 9232618.07 9232618.33 0.0088 0.0026 Neptune 20566-12-15 00:14 G 9232985.27 9232985.51 9232985.76 0.0088 0.0026 Neptune 20567-12-17 10:19 G 9233352.70 9233352.93 9233353.19 0.0088 0.0027 Uranus 20568-04-21 07:12 G 9233478.70 9233478.80 9233478.95 0.0136 0.0117 Jupiter 20568-11-30 23:45 G 9233702.45 9233702.49 9233702.55 0.0503 0.0489 Saturn 20568-12-04 15:21 G 9233705.90 9233706.14 9233706.38 0.0273 0.0032 Neptune 20568-12-18 20:52 G 9233720.13 9233720.37 9233720.62 0.0088 0.0028 Uranus 20569-04-25 18:28 G 9233848.06 9233848.27 9233848.51 0.0135 0.0061 Neptune 20569-12-21 06:57 G 9234087.56 9234087.79 9234088.05 0.0088 0.0029 Jupiter 20570-01-01 05:16 G 9234098.49 9234098.72 9234098.95 0.0491 0.0103 Uranus 20570-04-30 05:45 G 9234217.48 9234217.74 9234218.00 0.0135 0.0005 Neptune 20570-12-23 17:16 G 9234455.00 9234455.22 9234455.48 0.0088 0.0030 Uranus 20571-05-04 16:04 G 9234586.94 9234587.17 9234587.41 0.0135 0.0051 Neptune 20571-12-26 03:50 G 9234822.42 9234822.66 9234822.91 0.0088 0.0030 Uranus 20572-05-08 01:40 G 9234956.43 9234956.57 9234956.75 0.0134 0.0106 Neptune 20572-12-27 13:55 G 9235189.85 9235190.08 9235190.34 0.0088 0.0031 Neptune 20573-12-30 00:00 G 9235557.27 9235557.50 9235557.75 0.0088 0.0032 Neptune 20575-01-01 10:19 G 9235924.70 9235924.93 9235925.18 0.0088 0.0032 Jupiter 20575-06-08 07:55 G 9236082.68 9236082.83 9236082.97 0.0528 0.0408 Neptune 20576-01-03 20:09 G 9236292.12 9236292.34 9236292.60 0.0088 0.0033 Jupiter 20576-07-14 21:21 G 9236485.22 9236485.39 9236485.56 0.0541 0.0365 Neptune 20577-01-05 06:28 G 9236659.54 9236659.77 9236660.02 0.0088 0.0033 Mars 20577-03-24 20:52 G 9236738.19 9236738.37 9236738.56 0.1661 0.0332 Neptune 20578-01-07 16:48 G 9237026.97 9237027.20 9237027.44 0.0088 0.0033 Neptune 20579-01-10 02:38 G 9237394.38 9237394.61 9237394.86 0.0088 0.0034 Neptune 20580-01-12 12:57 G 9237761.81 9237762.04 9237762.29 0.0088 0.0034 Jupiter 20580-12-05 12:43 G 9238089.91 9238090.03 9238090.18 0.0501 0.0405 Neptune 20581-01-13 22:48 G 9238129.24 9238129.45 9238129.71 0.0088 0.0035

Jupiter 20582-01-05 12:14 G 9238485.80 9238486.01 9238486.23 0.0489 0.0184 Neptune 20582-01-16 09:07 G 9238496.66 9238496.88 9238497.13 0.0088 0.0035 Neptune 20583-01-18 19:26 G 9238864.09 9238864.31 9238864.56 0.0088 0.0035 Saturn 20583-06-07 16:33 G 9239003.96 9239004.19 9239004.42 0.0285 0.0097 Neptune 20584-01-21 05:45 G 9239231.52 9239231.74 9239231.99 0.0088 0.0035 Neptune 20585-01-22 16:04 G 9239598.94 9239599.17 9239599.41 0.0088 0.0035 Neptune 20586-01-25 02:09 G 9239966.36 9239966.59 9239966.84 0.0088 0.0035 Neptune 20587-01-27 12:14 G 9240333.79 9240334.01 9240334.26 0.0088 0.0035 Jupiter 20587-06-13 11:02 G 9240470.77 9240470.96 9240471.15 0.0530 0.0308 Neptune 20588-01-29 22:19 G 9240701.21 9240701.43 9240701.68 0.0088 0.0035 Jupiter 20588-07-20 07:12 G 9240873.70 9240873.80 9240873.91 0.0542 0.0476 Neptune 20589-01-31 08:38 G 9241068.64 9241068.86 9241069.11 0.0088 0.0035 Neptune 20590-02-02 18:57 G 9241436.06 9241436.29 9241436.53 0.0088 0.0034 Neptune 20591-02-05 05:16 G 9241803.49 9241803.72 9241803.96 0.0088 0.0034 Neptune 20592-02-07 15:21 G 9242170.92 9242171.14 9242171.39 0.0088 0.0034 Jupiter 20592-12-09 23:31 G 9242477.31 9242477.48 9242477.66 0.0499 0.0320 Neptune 20593-02-09 01:26 G 9242538.34 9242538.56 9242538.82 0.0088 0.0034 Jupiter 20594-01-09 17:31 G 9242873.04 9242873.23 9242873.43 0.0488 0.0261 Neptune 20594-02-11 12:14 G 9242905.78 9242906.01 9242906.26 0.0088 0.0033 Neptune 20595-02-13 22:33 G 9243273.21 9243273.44 9243273.69 0.0088 0.0033 Neptune 20596-02-16 09:21 G 9243640.65 9243640.89 9243641.13 0.0088 0.0032 Neptune 20597-02-17 19:40 G 9244008.09 9244008.32 9244008.57 0.0088 0.0032 Saturn 20597-11-29 08:38 G 9244292.67 9244292.86 9244293.07 0.0273 0.0153 Neptune 20598-02-20 06:14 G 9244375.53 9244375.76 9244376.01 0.0088 0.0031 Saturn 20598-12-11 17:45 G 9244670.16 9244670.24 9244670.34 0.0274 0.0254 Neptune 20599-02-22 16:33 G 9244742.97 9244743.19 9244743.45 0.0088 0.0031 Jupiter 20599-06-18 17:02 G 9244858.99 9244859.21 9244859.42 0.0533 0.0202 Neptune 20600-02-25 03:21 G 9245110.41 9245110.64 9245110.89 0.0088 0.0030 Neptune 20601-02-27 13:55 G 9245477.85 9245478.08 9245478.33 0.0088 0.0029 Neptune 20602-03-02 00:43 G 9245845.29 9245845.53 9245845.77 0.0088 0.0028

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Neptune 20623-04-17 20:52 G 9253562.12 9253562.37 9253562.64 0.0088 0.0005 Jupiter 20623-06-30 03:36 G 9253635.42 9253635.65 9253635.89 0.0536 0.0017 Neptune 20624-04-19 08:52 G 9253929.61 9253929.87 9253930.13 0.0088 0.0003 Neptune 20625-04-21 20:38 G 9254297.10 9254297.36 9254297.62 0.0088 0.0002 Neptune 20626-04-24 08:38 G 9254664.60 9254664.86 9254665.12 0.0089 0.0001 Neptune 20627-04-26 20:38 G 9255032.10 9255032.36 9255032.62 0.0089 0.0002 Saturn 20627-12-07 23:16 G 9255257.24 9255257.47 9255257.70 0.0274 0.0086 Neptune 20628-04-28 08:24 G 9255399.59 9255399.85 9255400.11 0.0089 0.0003 Jupiter 20628-12-23 21:36 G 9255639.17 9255639.40 9255639.63 0.0494 0.0072 Neptune 20629-04-30 20:24 G 9255767.09 9255767.35 9255767.61 0.0089 0.0004 Jupiter 20630-01-23 05:31 G 9256034.71 9256034.73 9256034.77 0.0486 0.0481 Neptune 20630-05-03 08:38 G 9256134.60 9256134.86 9256135.12 0.0089 0.0006 Neptune 20631-05-05 20:52 G 9256502.11 9256502.37 9256502.63 0.0089 0.0007 Neptune 20632-05-07 09:07 G 9256869.63 9256869.88 9256870.15 0.0089 0.0009 Neptune 20633-05-09 21:36 G 9257237.14 9257237.40 9257237.66 0.0089 0.0010 Neptune 20634-05-12 10:19 G 9257604.67 9257604.93 9257605.19 0.0089 0.0011 Neptune 20635-05-14 22:48 G 9257972.20 9257972.45 9257972.71 0.0089 0.0013 Jupiter 20635-07-05 05:45 G 9258023.52 9258023.74 9258023.97 0.0537 0.0125 Neptune 20636-05-16 11:16 G 9258339.72 9258339.97 9258340.23 0.0089 0.0014 Neptune 20637-05-19 00:00 G 9258707.24 9258707.50 9258707.76 0.0089 0.0015 Neptune 20638-05-21 12:14 G 9259074.77 9259075.01 9259075.28 0.0089 0.0017 Neptune 20639-05-24 00:57 G 9259442.30 9259442.54 9259442.81 0.0089 0.0018 Neptune 20640-05-25 13:40 G 9259809.82 9259810.07 9259810.33 0.0089 0.0019 Jupiter 20640-12-28 06:14 G 9260026.52 9260026.76 9260026.99 0.0492 0.0014 Neptune 20641-05-28 02:24 G 9260177.36 9260177.60 9260177.86 0.0089 0.0020 Neptune 20642-05-30 14:52 G 9260544.89 9260545.12 9260545.39 0.0089 0.0023 Saturn 20642-06-10 02:09 G 9260555.38 9260555.59 9260555.80 0.0285 0.0156 Neptune 20643-06-02 03:50 G 9260912.43 9260912.66 9260912.93 0.0089 0.0023 Neptune 20644-06-03 16:48 G 9261279.96 9261280.20 9261280.46 0.0089 0.0024 Neptune 20645-06-06 05:45 G 9261647.50 9261647.74 9261648.00 0.0089 0.0025

Jupiter 20646-06-03 07:26 G 9262009.77 9262009.81 9262009.86 0.0525 0.0513 Neptune 20646-06-08 18:57 G 9262015.05 9262015.29 9262015.55 0.0089 0.0026 Neptune 20647-06-11 07:55 G 9262382.59 9262382.83 9262383.09 0.0089 0.0027 Jupiter 20647-07-10 13:26 G 9262411.85 9262412.06 9262412.27 0.0539 0.0237 Neptune 20648-06-12 21:07 G 9262750.14 9262750.38 9262750.64 0.0089 0.0028 Neptune 20649-06-15 10:04 G 9263117.69 9263117.92 9263118.18 0.0089 0.0029 Neptune 20650-06-17 23:16 G 9263485.24 9263485.47 9263485.73 0.0089 0.0030 Neptune 20651-06-20 12:14 G 9263852.78 9263853.01 9263853.27 0.0089 0.0031 Jupiter 20651-12-02 07:12 G 9264017.77 9264017.80 9264017.84 0.0503 0.0496 Uranus 20652-04-22 18:57 G 9264160.17 9264160.29 9264160.45 0.0136 0.0113 Neptune 20652-06-22 01:26 G 9264220.32 9264220.56 9264220.81 0.0089 0.0032 Jupiter 20653-01-01 12:43 G 9264413.80 9264414.03 9264414.26 0.0491 0.0093 Uranus 20653-04-27 06:28 G 9264529.55 9264529.77 9264530.01 0.0135 0.0057 Neptune 20653-06-24 14:24 G 9264587.87 9264588.10 9264588.35 0.0089 0.0033 Uranus 20654-05-01 17:31 G 9264898.98 9264899.23 9264899.49 0.0135 0.0003 Neptune 20654-06-27 03:21 G 9264955.42 9264955.64 9264955.90 0.0089 0.0034 Uranus 20655-05-06 04:04 G 9265268.44 9265268.67 9265268.90 0.0135 0.0055 Neptune 20655-06-29 16:48 G 9265322.96 9265323.20 9265323.44 0.0089 0.0034 Uranus 20656-05-09 13:55 G 9265637.95 9265638.08 9265638.24 0.0134 0.0110 Neptune 20656-07-01 05:31 G 9265690.51 9265690.73 9265690.99 0.0089 0.0035 Saturn 20656-12-01 18:00 G 9265844.03 9265844.25 9265844.49 0.0273 0.0097 Neptune 20657-07-03 18:43 G 9266058.06 9266058.28 9266058.54 0.0089 0.0036 Jupiter 20658-06-08 10:19 G 9266397.79 9266397.93 9266398.08 0.0528 0.0419 Neptune 20658-07-06 08:09 G 9266425.62 9266425.84 9266426.09 0.0089 0.0036 Neptune 20659-07-08 21:50 G 9266793.17 9266793.41 9266793.65 0.0089 0.0036 Jupiter 20659-07-15 23:45 G 9266800.32 9266800.49 9266800.67 0.0541 0.0350 Neptune 20660-07-10 10:33 G 9267160.72 9267160.94 9267161.19 0.0089 0.0037 Neptune 20661-07-13 00:00 G 9267528.28 9267528.50 9267528.75 0.0090 0.0037 Neptune 20662-07-15 13:26 G 9267895.83 9267896.06 9267896.30 0.0090 0.0037 Neptune 20663-07-18 02:09 G 9268263.38 9268263.59 9268263.85 0.0090 0.0038

Jupiter 20663-12-06 18:28 G 9268405.15 9268405.27 9268405.41 0.0501 0.0413 Neptune 20664-07-19 15:21 G 9268630.92 9268631.14 9268631.39 0.0090 0.0038 Jupiter 20665-01-05 18:43 G 9268801.06 9268801.28 9268801.50 0.0489 0.0174 Neptune 20665-07-22 04:33 G 9268998.47 9268998.69 9268998.94 0.0090 0.0038 Neptune 20666-07-24 17:45 G 9269366.02 9269366.24 9269366.49 0.0090 0.0038 Neptune 20667-07-27 06:43 G 9269733.56 9269733.78 9269734.03 0.0090 0.0038 Neptune 20668-07-28 19:55 G 9270101.11 9270101.33 9270101.58 0.0090 0.0038 Neptune 20669-07-31 09:07 G 9270468.66 9270468.88 9270469.13 0.0090 0.0037 Jupiter 20670-06-13 15:07 G 9270785.95 9270786.13 9270786.32 0.0530 0.0319 Neptune 20670-08-02 22:33 G 9270836.21 9270836.44 9270836.69 0.0090 0.0037 Saturn 20671-06-04 02:38 G 9271141.37 9271141.61 9271141.85 0.0286 0.0060 Jupiter 20671-07-21 08:38 G 9271188.75 9271188.86 9271188.99 0.0541 0.0457 Neptune 20671-08-05 11:31 G 9271203.76 9271203.98 9271204.23 0.0090 0.0037 Neptune 20672-08-07 00:43 G 9271571.31 9271571.53 9271571.78 0.0090 0.0037 Neptune 20673-08-09 14:24 G 9271938.86 9271939.10 9271939.34 0.0090 0.0036 Neptune 20674-08-12 03:07 G 9272306.41 9272306.63 9272306.88 0.0090 0.0036 Neptune 20675-08-14 16:04 G 9272673.95 9272674.17 9272674.43 0.0090 0.0036 Jupiter 20675-12-11 00:57 G 9272792.37 9272792.54 9272792.71 0.0499 0.0332 Neptune 20676-08-16 05:02 G 9273041.48 9273041.71 9273041.96 0.0090 0.0035 Jupiter 20677-01-09 21:21 G 9273188.19 9273188.39 9273188.59 0.0489 0.0249 Neptune 20677-08-18 18:14 G 9273409.03 9273409.26 9273409.50 0.0090 0.0034 Neptune 20678-08-21 06:43 G 9273776.56 9273776.78 9273777.04 0.0090 0.0034 Neptune 20679-08-23 19:40 G 9274144.09 9274144.32 9274144.57 0.0090 0.0033 Neptune 20680-08-25 08:24 G 9274511.62 9274511.85 9274512.10 0.0090 0.0032 Neptune 20681-08-27 21:36 G 9274879.16 9274879.40 9274879.64 0.0089 0.0031 Jupiter 20682-06-18 17:45 G 9275174.03 9275174.24 9275174.46 0.0531 0.0215 Neptune 20682-08-30 10:19 G 9275246.68 9275246.93 9275247.17 0.0089 0.0030 Neptune 20683-09-01 22:33 G 9275614.22 9275614.44 9275614.70 0.0089 0.0030 Neptune 20684-09-03 11:31 G 9275981.75 9275981.98 9275982.24 0.0089 0.0028 Neptune 20685-09-06 00:14 G 9276349.28 9276349.51 9276349.77 0.0089 0.0028

Saturn 20685-11-26 22:33 G 9276431.40 9276431.44 9276431.52 0.0273 0.0264 Neptune 20686-09-08 12:57 G 9276716.81 9276717.04 9276717.30 0.0089 0.0027 Saturn 20686-12-09 08:09 G 9276808.63 9276808.84 9276809.05 0.0274 0.0141 Neptune 20687-09-11 01:12 G 9277084.32 9277084.55 9277084.82 0.0089 0.0026 Jupiter 20687-12-15 09:50 G 9277179.71 9277179.91 9277180.11 0.0498 0.0248 Neptune 20688-09-12 14:09 G 9277451.84 9277452.09 9277452.34 0.0089 0.0024 Jupiter 20689-01-14 02:24 G 9277575.43 9277575.60 9277575.77 0.0488 0.0325 Neptune 20689-09-15 02:24 G 9277819.36 9277819.60 9277819.86 0.0089 0.0023 Neptune 20690-09-17 14:38 G 9278186.87 9278187.11 9278187.37 0.0089 0.0021 Neptune 20691-09-20 02:38 G 9278554.37 9278554.61 9278554.88 0.0089 0.0021 Neptune 20692-09-21 15:07 G 9278921.88 9278922.13 9278922.38 0.0089 0.0019 Neptune 20693-09-24 03:21 G 9279289.39 9279289.64 9279289.89 0.0089 0.0018 Jupiter 20694-06-23 17:16 G 9279561.99 9279562.22 9279562.45 0.0533 0.0112 Neptune 20694-09-26 15:07 G 9279656.89 9279657.13 9279657.39 0.0089 0.0017 Neptune 20695-09-29 03:07 G 9280024.39 9280024.63 9280024.90 0.0089 0.0016 Neptune 20696-09-30 15:21 G 9280391.89 9280392.14 9280392.40 0.0089 0.0014 Uranus 20696-10-25 21:50 G 9280417.21 9280417.41 9280417.63 0.0143 0.0082 Neptune 20697-10-03 03:36 G 9280759.40 9280759.65 9280759.91 0.0089 0.0012 Uranus 20697-10-30 19:12 G 9280787.05 9280787.30 9280787.55 0.0143 0.0016 Neptune 20698-10-05 15:21 G 9281126.89 9281127.14 9281127.40 0.0089 0.0011 Uranus 20698-11-04 16:33 G 9281156.96 9281157.19 9281157.43 0.0144 0.0051 Neptune 20699-10-08 03:36 G 9281494.39 9281494.65 9281494.90 0.0089 0.0009 Uranus 20699-11-09 14:38 G 9281526.98 9281527.11 9281527.27 0.0144 0.0117 Jupiter 20699-12-19 20:09 G 9281567.12 9281567.34 9281567.56 0.0496 0.0163 Saturn 20700-05-29 17:02 G 9281728.12 9281728.21 9281728.34 0.0286 0.0256 Neptune 20700-10-10 15:21 G 9281861.88 9281862.14 9281862.40 0.0089 0.0008 Jupiter 20701-01-19 08:09 G 9281962.71 9281962.84 9281962.97 0.0487 0.0400 Saturn 20701-06-12 13:40 G 9282106.92 9282107.07 9282107.23 0.0285 0.0217 Neptune 20701-10-13 02:52 G 9282229.37 9282229.62 9282229.88 0.0089 0.0007 Neptune 20702-10-15 14:38 G 9282596.86 9282597.11 9282597.37 0.0089 0.0005

Neptune 20703-10-18 01:55 G 9282964.33 9282964.58 9282964.84 0.0089 0.0004 Neptune 20704-10-19 13:40 G 9283331.82 9283332.07 9283332.33 0.0089 0.0002 Neptune 20705-10-22 01:12 G 9283699.29 9283699.55 9283699.81 0.0089 0.0001 Jupiter 20706-06-29 22:33 G 9283950.21 9283950.44 9283950.68 0.0535 0.0004 Neptune 20706-10-24 12:28 G 9284066.77 9284067.02 9284067.28 0.0089 0.0001 Neptune 20707-10-26 23:45 G 9284434.24 9284434.49 9284434.75 0.0089 0.0003 Pluto 20708-09-23 02:09 G 9284766.54 9284766.59 9284766.68 0.0064 0.0061 Neptune 20708-10-28 11:31 G 9284801.72 9284801.98 9284802.23 0.0089 0.0004 Pluto 20709-09-24 14:24 G 9285132.86 9285133.10 9285133.35 0.0064 0.0021 Neptune 20709-10-30 22:33 G 9285169.19 9285169.44 9285169.70 0.0089 0.0006 Neptune 20710-11-02 10:04 G 9285536.66 9285536.92 9285537.18 0.0089 0.0007 Neptune 20711-11-04 21:07 G 9285904.14 9285904.38 9285904.65 0.0089 0.0009 Jupiter 20711-12-25 04:33 G 9285954.46 9285954.69 9285954.92 0.0494 0.0081 Neptune 20712-11-06 08:24 G 9286271.60 9286271.85 9286272.11 0.0089 0.0010 Jupiter 20713-01-23 12:00 G 9286349.95 9286350.00 9286350.06 0.0486 0.0470 Neptune 20713-11-08 19:40 G 9286639.07 9286639.32 9286639.58 0.0089 0.0011 Neptune 20714-11-11 06:28 G 9287006.52 9287006.77 9287007.02 0.0089 0.0013 Neptune 20715-11-13 17:31 G 9287373.98 9287374.23 9287374.48 0.0089 0.0014 Saturn 20715-12-05 04:19 G 9287395.44 9287395.68 9287395.92 0.0273 0.0039 Neptune 20716-11-15 04:04 G 9287741.43 9287741.67 9287741.94 0.0089 0.0016 Neptune 20717-11-17 15:07 G 9288108.88 9288109.13 9288109.39 0.0088 0.0017 Jupiter 20718-07-05 06:43 G 9288338.55 9288338.78 9288339.01 0.0537 0.0109 Neptune 20718-11-20 01:55 G 9288476.33 9288476.58 9288476.83 0.0088 0.0018 Neptune 20719-11-22 12:28 G 9288843.78 9288844.02 9288844.28 0.0088 0.0019 Neptune 20720-11-23 23:16 G 9289211.23 9289211.47 9289211.73 0.0088 0.0021 Neptune 20721-11-26 10:04 G 9289578.68 9289578.92 9289579.18 0.0088 0.0022 Neptune 20722-11-28 20:38 G 9289946.13 9289946.36 9289946.62 0.0088 0.0023 Neptune 20723-12-01 07:26 G 9290313.57 9290313.81 9290314.07 0.0088 0.0024 Jupiter 20723-12-29 11:45 G 9290341.76 9290341.99 9290342.22 0.0492 0.0005 Neptune 20724-12-02 18:14 G 9290681.02 9290681.26 9290681.51 0.0088 0.0025

Neptune 20725-12-05 04:33 G 9291048.46 9291048.69 9291048.95 0.0088 0.0026 Neptune 20726-12-07 15:07 G 9291415.89 9291416.13 9291416.38 0.0088 0.0027 Neptune 20727-12-10 01:26 G 9291783.33 9291783.56 9291783.82 0.0088 0.0028 Neptune 20728-12-11 11:45 G 9292150.76 9292150.99 9292151.24 0.0088 0.0029 Jupiter 20729-06-03 11:16 G 9292324.95 9292324.97 9292325.00 0.0525 0.0520 Neptune 20729-12-13 22:04 G 9292518.19 9292518.42 9292518.68 0.0088 0.0030 Saturn 20730-06-06 14:52 G 9292692.87 9292693.12 9292693.36 0.0286 0.0004 Jupiter 20730-07-10 15:36 G 9292726.94 9292727.15 9292727.36 0.0538 0.0221 Neptune 20730-12-16 08:09 G 9292885.62 9292885.84 9292886.10 0.0088 0.0031 Neptune 20731-12-18 18:28 G 9293253.05 9293253.27 9293253.53 0.0088 0.0032 Neptune 20732-12-20 05:02 G 9293620.48 9293620.71 9293620.96 0.0088 0.0033 Neptune 20733-12-22 15:07 G 9293987.91 9293988.13 9293988.38 0.0088 0.0033 Neptune 20734-12-25 01:26 G 9294355.34 9294355.56 9294355.81 0.0088 0.0034 Neptune 20735-12-27 12:14 G 9294722.77 9294723.01 9294723.25 0.0088 0.0034 Jupiter 20736-01-02 15:07 G 9294728.90 9294729.13 9294729.36 0.0491 0.0081 Uranus 20736-04-24 05:02 G 9294841.58 9294841.71 9294841.88 0.0136 0.0110 Neptune 20736-12-28 22:19 G 9295090.20 9295090.43 9295090.67 0.0088 0.0035 Uranus 20737-04-28 16:33 G 9295210.97 9295211.19 9295211.44 0.0135 0.0054 Neptune 20737-12-31 08:24 G 9295457.63 9295457.85 9295458.10 0.0088 0.0036 Uranus 20738-05-03 04:04 G 9295580.41 9295580.67 9295580.93 0.0135 0.0003 Neptune 20739-01-02 18:43 G 9295825.06 9295825.28 9295825.53 0.0088 0.0036 Uranus 20739-05-07 14:24 G 9295949.88 9295950.10 9295950.34 0.0135 0.0059 Neptune 20740-01-05 04:33 G 9296192.48 9296192.69 9296192.95 0.0088 0.0037 Uranus 20740-05-11 00:28 G 9296319.40 9296319.52 9296319.67 0.0134 0.0114 Neptune 20741-01-06 15:07 G 9296559.91 9296560.13 9296560.37 0.0088 0.0037 Jupiter 20741-06-08 12:00 G 9296712.87 9296713.00 9296713.14 0.0527 0.0428 Neptune 20742-01-09 01:12 G 9296927.32 9296927.55 9296927.79 0.0088 0.0037 Jupiter 20742-07-15 21:50 G 9297115.23 9297115.41 9297115.60 0.0540 0.0331 Neptune 20743-01-11 11:02 G 9297294.75 9297294.96 9297295.22 0.0088 0.0038 Neptune 20744-01-13 21:21 G 9297662.18 9297662.39 9297662.64 0.0088 0.0038 Saturn 20744-11-29 07:40 G 9297982.68 9297982.82 9297982.99 0.0273 0.0210 Neptune 20745-01-15 07:26 G 9298029.60 9298029.81 9298030.06 0.0088 0.0038 Saturn 20745-12-11 17:31 G 9298360.07 9298360.23 9298360.41 0.0274 0.0197 Neptune 20746-01-17 17:45 G 9298397.02 9298397.24 9298397.48 0.0088 0.0038 Jupiter 20746-12-06 18:00 G 9298720.13 9298720.25 9298720.37 0.0502 0.0424 Neptune 20747-01-20 04:04 G 9298764.45 9298764.67 9298764.91 0.0088 0.0038 Jupiter 20748-01-06 20:52 G 9299116.15 9299116.37 9299116.59 0.0490 0.0162 Neptune 20748-01-22 14:24 G 9299131.88 9299132.10 9299132.34 0.0088 0.0038 Neptune 20749-01-24 00:43 G 9299499.31 9299499.53 9299499.77 0.0088 0.0038 Neptune 20750-01-26 10:48 G 9299866.74 9299866.95 9299867.20 0.0088 0.0038 Neptune 20751-01-28 21:07 G 9300234.16 9300234.38 9300234.63 0.0088 0.0038 Neptune 20752-01-31 07:26 G 9300601.60 9300601.81 9300602.06 0.0088 0.0038 Neptune 20753-02-01 17:45 G 9300969.02 9300969.24 9300969.48 0.0088 0.0037 Jupiter 20753-06-13 09:07 G 9301100.70 9301100.88 9301101.06 0.0529 0.0335 Neptune 20754-02-04 03:50 G 9301336.44 9301336.66 9301336.91 0.0088 0.0037 Jupiter 20754-07-21 00:28 G 9301503.39 9301503.52 9301503.66 0.0541 0.0435 Neptune 20755-02-06 14:09 G 9301703.87 9301704.09 9301704.34 0.0088 0.0037 Neptune 20756-02-09 00:28 G 9302071.30 9302071.52 9302071.77 0.0088 0.0036 Neptune 20757-02-10 10:48 G 9302438.73 9302438.95 9302439.20 0.0088 0.0036 Neptune 20758-02-12 21:07 G 9302806.15 9302806.38 9302806.62 0.0088 0.0035 Jupiter 20758-12-11 05:45 G 9303107.58 9303107.74 9303107.91 0.0500 0.0341 Neptune 20759-02-15 07:55 G 9303173.59 9303173.83 9303174.06 0.0088 0.0034 Saturn 20759-06-01 06:28 G 9303279.60 9303279.77 9303279.96 0.0286 0.0191 Jupiter 20760-01-11 03:50 G 9303503.46 9303503.66 9303503.86 0.0489 0.0239 Neptune 20760-02-17 18:00 G 9303541.02 9303541.25 9303541.50 0.0088 0.0034 Saturn 20760-06-14 02:24 G 9303658.57 9303658.60 9303658.65 0.0285 0.0280 Neptune 20761-02-19 04:33 G 9303908.46 9303908.69 9303908.94 0.0088 0.0033 Neptune 20762-02-21 15:07 G 9304275.90 9304276.13 9304276.38 0.0088 0.0032 Neptune 20763-02-24 01:26 G 9304643.34 9304643.56 9304643.82 0.0088 0.0032 Neptune 20764-02-26 12:14 G 9305010.78 9305011.01 9305011.26 0.0088 0.0031

Neptune 20765-02-27 22:48 G 9305378.22 9305378.45 9305378.70 0.0088 0.0030 Jupiter 20765-06-18 11:31 G 9305488.77 9305488.98 9305489.19 0.0531 0.0233 Neptune 20766-03-02 09:21 G 9305745.66 9305745.89 9305746.15 0.0088 0.0029 Jupiter 20766-07-26 09:21 G 9305891.88 9305891.89 9305891.91 0.0542 0.0541 Neptune 20767-03-04 19:55 G 9306113.10 9306113.33 9306113.59 0.0088 0.0028 Neptune 20768-03-06 06:43 G 9306480.55 9306480.78 9306481.04 0.0088 0.0027 Neptune 20769-03-08 17:16 G 9306847.98 9306848.22 9306848.48 0.0088 0.0026 Neptune 20770-03-11 04:19 G 9307215.43 9307215.68 9307215.93 0.0088 0.0024 Jupiter 20770-12-15 16:19 G 9307494.98 9307495.18 9307495.38 0.0498 0.0257 Neptune 20771-03-13 15:07 G 9307582.88 9307583.13 9307583.38 0.0088 0.0023 Jupiter 20772-01-15 08:52 G 9307890.69 9307890.87 9307891.05 0.0488 0.0314 Neptune 20772-03-15 01:55 G 9307950.33 9307950.58 9307950.83 0.0088 0.0022 Neptune 20773-03-17 12:57 G 9308317.79 9308318.04 9308318.30 0.0088 0.0021 Neptune 20774-03-19 23:45 G 9308685.25 9308685.49 9308685.76 0.0088 0.0020 Saturn 20774-12-06 14:38 G 9308946.87 9308947.11 9308947.35 0.0273 0.0018 Neptune 20775-03-22 11:16 G 9309052.72 9309052.97 9309053.23 0.0088 0.0018 Neptune 20776-03-23 22:19 G 9309420.18 9309420.43 9309420.69 0.0088 0.0017 Neptune 20777-03-26 09:21 G 9309787.65 9309787.89 9309788.16 0.0088 0.0016 Jupiter 20777-06-23 17:02 G 9309876.99 9309877.21 9309877.44 0.0533 0.0127 Neptune 20778-03-28 20:52 G 9310155.12 9310155.37 9310155.63 0.0088 0.0014 Neptune 20779-03-31 08:09 G 9310522.59 9310522.84 9310523.10 0.0088 0.0013 Uranus 20779-10-23 14:09 G 9310729.09 9310729.09 9310729.11 0.0142 0.0142 Neptune 20780-04-01 19:26 G 9310890.05 9310890.31 9310890.56 0.0088 0.0012 Uranus 20780-10-27 10:48 G 9311098.75 9311098.95 9311099.17 0.0143 0.0078 Neptune 20781-04-04 06:43 G 9311257.52 9311257.78 9311258.04 0.0088 0.0010 Uranus 20781-11-01 08:09 G 9311468.59 9311468.84 9311469.09 0.0143 0.0012 20782-03-25 15:50 G 9311612.98 9311613.16 9311613.33 0.1652 0.0588 Mars Neptune 20782-04-06 18:14 G 9311625.00 9311625.26 9311625.52 0.0088 0.0009 Uranus 20782-11-06 05:45 G 9311838.51 9311838.74 9311838.97 0.0144 0.0055 Jupiter 20782-12-20 01:26 G 9311882.34 9311882.56 9311882.78 0.0496 0.0173

Neptune 20783-04-09 05:31 G 9311992.48 9311992.73 9311992.99 0.0088 0.0007 Uranus 20783-11-11 03:36 G 9312208.53 9312208.65 9312208.79 0.0144 0.0122 Jupiter 20784-01-19 13:40 G 9312277.93 9312278.07 9312278.21 0.0487 0.0388 Neptune 20784-04-10 17:16 G 9312359.96 9312360.22 9312360.48 0.0088 0.0006 Neptune 20785-04-13 04:48 G 9312727.44 9312727.70 9312727.96 0.0088 0.0004 Neptune 20786-04-15 16:33 G 9313094.94 9313095.19 9313095.45 0.0088 0.0003 Neptune 20787-04-18 04:33 G 9313462.43 9313462.69 9313462.95 0.0088 0.0001 Neptune 20788-04-19 16:19 G 9313829.92 9313830.18 9313830.44 0.0088 0.0000 Neptune 20789-04-22 04:19 G 9314197.42 9314197.68 9314197.94 0.0088 0.0002 Saturn 20789-06-08 03:50 G 9314244.43 9314244.66 9314244.91 0.0285 0.0067 Jupiter 20789-06-29 00:43 G 9314265.30 9314265.53 9314265.77 0.0535 0.0019 Neptune 20790-04-24 16:19 G 9314564.92 9314565.18 9314565.44 0.0088 0.0004 Neptune 20791-04-27 04:04 G 9314932.42 9314932.67 9314932.93 0.0089 0.0005 Neptune 20792-04-28 16:04 G 9315299.91 9315300.17 9315300.43 0.0089 0.0007 Neptune 20793-05-01 04:04 G 9315667.42 9315667.67 9315667.93 0.0089 0.0008 Neptune 20794-05-03 16:04 G 9316034.92 9316035.17 9316035.43 0.0089 0.0010 Jupiter 20794-12-24 06:00 G 9316269.52 9316269.75 9316269.98 0.0495 0.0093 Neptune 20795-05-06 04:19 G 9316402.43 9316402.68 9316402.94 0.0089 0.0011 Jupiter 20796-01-23 15:21 G 9316665.08 9316665.14 9316665.23 0.0486 0.0459 Neptune 20796-05-07 16:19 G 9316769.93 9316770.18 9316770.44 0.0089 0.0013 Neptune 20797-05-10 04:48 G 9317137.45 9317137.70 9317137.96 0.0089 0.0014 Pluto 20798-03-24 19:55 G 9317456.10 9317456.33 9317456.58 0.0080 0.0030 Neptune 20798-05-12 17:02 G 9317504.96 9317505.21 9317505.47 0.0089 0.0016 Neptune 20799-05-15 05:31 G 9317872.48 9317872.73 9317872.99 0.0089 0.0017 Neptune 20800-05-16 18:00 G 9318240.01 9318240.25 9318240.51 0.0089 0.0019 Neptune 20801-05-19 06:28 G 9318607.53 9318607.77 9318608.03 0.0089 0.0020 Jupiter 20801-07-04 06:14 G 9318653.53 9318653.76 9318653.99 0.0536 0.0093 Neptune 20802-05-21 19:26 G 9318975.06 9318975.31 9318975.56 0.0089 0.0021 Neptune 20803-05-24 07:40 G 9319342.58 9319342.82 9319343.08 0.0089 0.0023 Saturn 20803-12-01 16:33 G 9319533.99 9319534.19 9319534.39 0.0273 0.0155

Neptune 20804-05-25 20:09 G 9319710.10 9319710.34 9319710.60 0.0089 0.0024 Saturn 20804-12-13 02:24 G 9319911.51 9319911.60 9319911.70 0.0274 0.0252 Neptune 20805-05-28 08:52 G 9320077.63 9320077.87 9320078.13 0.0089 0.0025 Neptune 20806-05-30 21:36 G 9320445.16 9320445.40 9320445.66 0.0089 0.0027 Jupiter 20806-12-28 12:57 G 9320656.81 9320657.04 9320657.28 0.0493 0.0013 Neptune 20807-06-02 10:19 G 9320812.69 9320812.93 9320813.18 0.0089 0.0028 Neptune 20808-06-03 23:02 G 9321180.22 9321180.46 9321180.71 0.0089 0.0029 Neptune 20809-06-06 11:45 G 9321547.76 9321547.99 9321548.25 0.0089 0.0030 Neptune 20810-06-09 00:28 G 9321915.30 9321915.52 9321915.78 0.0089 0.0031 Neptune 20811-06-11 13:40 G 9322282.84 9322283.07 9322283.33 0.0089 0.0032 Neptune 20812-06-13 02:24 G 9322650.38 9322650.60 9322650.86 0.0089 0.0034 Neptune 20813-06-15 15:50 G 9323017.94 9323018.16 9323018.41 0.0089 0.0034 Jupiter 20813-07-09 07:12 G 9323041.58 9323041.80 9323042.02 0.0538 0.0199 Neptune 20814-06-18 05:16 G 9323385.48 9323385.72 9323385.96 0.0089 0.0035 Neptune 20815-06-20 18:14 G 9323753.03 9323753.26 9323753.50 0.0089 0.0036 Neptune 20816-06-22 06:57 G 9324120.57 9324120.79 9324121.05 0.0089 0.0037 Neptune 20817-06-24 20:09 G 9324488.12 9324488.34 9324488.59 0.0089 0.0037 Saturn 20818-06-02 20:52 G 9324831.15 9324831.37 9324831.59 0.0286 0.0124 Neptune 20818-06-27 09:21 G 9324855.66 9324855.89 9324856.13 0.0089 0.0038 Jupiter 20819-01-01 21:07 G 9325044.15 9325044.38 9325044.61 0.0492 0.0072 Neptune 20819-06-29 22:19 G 9325223.21 9325223.43 9325223.68 0.0089 0.0038 Uranus 20820-04-24 16:48 G 9325523.05 9325523.20 9325523.36 0.0136 0.0106 Neptune 20820-07-01 11:31 G 9325590.76 9325590.98 9325591.22 0.0089 0.0039 Uranus 20821-04-29 04:33 G 9325892.45 9325892.69 9325892.93 0.0135 0.0050 Neptune 20821-07-04 00:28 G 9325958.30 9325958.52 9325958.77 0.0089 0.0040 Uranus 20822-05-03 15:36 G 9326261.90 9326262.15 9326262.41 0.0135 0.0007 Neptune 20822-07-06 13:55 G 9326325.86 9326326.08 9326326.32 0.0089 0.0040 Uranus 20823-05-08 01:55 G 9326631.37 9326631.58 9326631.82 0.0135 0.0063 Neptune 20823-07-09 02:38 G 9326693.40 9326693.61 9326693.87 0.0089 0.0041 Uranus 20824-05-11 12:14 G 9327000.90 9327001.01 9327001.15 0.0134 0.0117

Jupiter 20824-06-07 05:45 G 9327027.62 9327027.74 9327027.87 0.0526 0.0444 Neptune 20824-07-10 16:19 G 9327060.96 9327061.18 9327061.42 0.0089 0.0040 Neptune 20825-07-13 05:45 G 9327428.52 9327428.74 9327428.98 0.0089 0.0041 Jupiter 20825-07-14 13:55 G 9327429.89 9327430.08 9327430.28 0.0540 0.0309 Neptune 20826-07-15 18:57 G 9327796.07 9327796.29 9327796.53 0.0089 0.0041 Neptune 20827-07-18 08:38 G 9328163.63 9328163.86 9328164.09 0.0090 0.0041 Neptune 20828-07-19 21:36 G 9328531.18 9328531.40 9328531.64 0.0090 0.0041 Neptune 20829-07-22 11:02 G 9328898.73 9328898.96 9328899.19 0.0090 0.0041 Jupiter 20829-12-05 23:45 G 9329035.38 9329035.49 9329035.61 0.0503 0.0434 Neptune 20830-07-25 00:00 G 9329266.28 9329266.50 9329266.74 0.0090 0.0041 Jupiter 20831-01-06 03:36 G 9329431.43 9329431.65 9329431.88 0.0490 0.0151 Neptune 20831-07-27 12:57 G 9329633.82 9329634.04 9329634.28 0.0090 0.0041 Neptune 20832-07-29 01:55 G 9330001.37 9330001.58 9330001.83 0.0090 0.0041 Neptune 20833-07-31 15:36 G 9330368.92 9330369.15 9330369.38 0.0090 0.0040 Saturn 20833-12-08 00:28 G 9330498.28 9330498.52 9330498.75 0.0274 0.0074 Neptune 20834-08-03 04:04 G 9330736.45 9330736.67 9330736.92 0.0090 0.0040 Neptune 20835-08-05 17:02 G 9331104.00 9331104.21 9331104.46 0.0090 0.0040 20835-09-24 22:48 G 9331154.35 9331154.45 9331154.54 0.1890 0.1646 Mars Jupiter 20836-06-12 08:24 G 9331415.67 9331415.85 9331416.02 0.0528 0.0348 Neptune 20836-08-07 06:28 G 9331471.55 9331471.77 9331472.01 0.0090 0.0039 Jupiter 20837-07-20 00:00 G 9331818.36 9331818.50 9331818.65 0.0541 0.0418 Neptune 20837-08-09 19:26 G 9331839.09 9331839.31 9331839.56 0.0090 0.0039 Neptune 20838-08-12 08:52 G 9332206.65 9332206.87 9332207.11 0.0090 0.0038 Neptune 20839-08-14 21:50 G 9332574.18 9332574.41 9332574.65 0.0090 0.0037 Neptune 20840-08-16 11:16 G 9332941.73 9332941.97 9332942.21 0.0090 0.0036 Neptune 20841-08-18 23:45 G 9333309.27 9333309.49 9333309.74 0.0090 0.0036 Jupiter 20841-12-10 11:02 G 9333422.81 9333422.96 9333423.14 0.0500 0.0350 Neptune 20842-08-21 12:43 G 9333676.80 9333677.03 9333677.28 0.0090 0.0035 Jupiter 20843-01-10 09:21 G 9333818.69 9333818.89 9333819.10 0.0489 0.0229 Neptune 20843-08-24 01:26 G 9334044.34 9334044.56 9334044.81 0.0090 0.0034

Neptune 20844-08-25 14:24 G 9334411.87 9334412.10 9334412.35 0.0090 0.0033 Neptune 20845-08-28 03:07 G 9334779.40 9334779.63 9334779.88 0.0090 0.0032 Neptune 20846-08-30 15:50 G 9335146.93 9335147.16 9335147.41 0.0090 0.0031 Neptune 20847-09-02 04:33 G 9335514.46 9335514.69 9335514.94 0.0089 0.0030 Saturn 20848-06-09 17:31 G 9335796.02 9335796.23 9335796.45 0.0285 0.0131 Jupiter 20848-06-17 14:09 G 9335803.88 9335804.09 9335804.30 0.0531 0.0244 Neptune 20848-09-03 17:16 G 9335881.98 9335882.22 9335882.47 0.0089 0.0028 Jupiter 20849-07-25 10:48 G 9336206.90 9336206.95 9336207.01 0.0542 0.0525 Neptune 20849-09-06 06:00 G 9336249.52 9336249.75 9336250.01 0.0089 0.0028 Neptune 20850-09-08 18:28 G 9336617.04 9336617.27 9336617.53 0.0089 0.0026 Neptune 20851-09-11 07:26 G 9336984.57 9336984.81 9336985.07 0.0089 0.0025 Neptune 20852-09-12 19:55 G 9337352.10 9337352.33 9337352.59 0.0089 0.0024 Neptune 20853-09-15 08:24 G 9337719.61 9337719.85 9337720.11 0.0089 0.0023 Jupiter 20853-12-14 17:45 G 9337810.05 9337810.24 9337810.44 0.0498 0.0268 Neptune 20854-09-17 21:07 G 9338087.13 9338087.38 9338087.63 0.0089 0.0021 Jupiter 20855-01-14 11:45 G 9338205.82 9338205.99 9338206.18 0.0488 0.0303 Neptune 20855-09-20 09:07 G 9338454.64 9338454.88 9338455.14 0.0089 0.0020 Neptune 20856-09-21 21:50 G 9338822.16 9338822.41 9338822.66 0.0089 0.0018 Neptune 20857-09-24 09:50 G 9339189.66 9339189.91 9339190.17 0.0089 0.0016 Neptune 20858-09-26 22:04 G 9339557.17 9339557.42 9339557.67 0.0089 0.0015 Neptune 20859-09-29 10:04 G 9339924.67 9339924.92 9339925.18 0.0089 0.0013 Jupiter 20860-06-22 18:00 G 9340192.03 9340192.25 9340192.48 0.0532 0.0139 Neptune 20860-09-30 22:19 G 9340292.18 9340292.43 9340292.69 0.0089 0.0012 20861-03-27 20:38 G 9340470.21 9340470.36 9340470.52 0.1656 0.0936 Mars Neptune 20861-10-03 10:04 G 9340659.67 9340659.92 9340660.19 0.0089 0.0011 Neptune 20862-10-05 22:19 G 9341027.18 9341027.43 9341027.69 0.0089 0.0009 Saturn 20862-12-03 00:00 G 9341085.28 9341085.50 9341085.73 0.0273 0.0101 Neptune 20863-10-08 10:19 G 9341394.68 9341394.93 9341395.19 0.0089 0.0007 Uranus 20863-10-24 02:09 G 9341410.55 9341410.59 9341410.66 0.0142 0.0139 Neptune 20864-10-09 22:33 G 9341762.18 9341762.44 9341762.69 0.0089 0.0005

Uranus 20864-10-27 22:48 G 9341780.25 9341780.45 9341780.68 0.0143 0.0074 Neptune 20865-10-12 10:19 G 9342129.68 9342129.93 9342130.19 0.0089 0.0004 Uranus 20865-11-01 20:09 G 9342150.09 9342150.34 9342150.60 0.0143 0.0008 Jupiter 20865-12-19 02:24 G 9342197.38 9342197.60 9342197.82 0.0497 0.0184 Neptune 20866-10-14 21:50 G 9342497.16 9342497.41 9342497.67 0.0089 0.0003 Uranus 20866-11-06 17:31 G 9342520.01 9342520.23 9342520.47 0.0144 0.0060 Jupiter 20867-01-18 16:48 G 9342593.06 9342593.20 9342593.35 0.0487 0.0378 Neptune 20867-10-17 09:50 G 9342864.65 9342864.91 9342865.16 0.0089 0.0001 Uranus 20867-11-11 15:50 G 9342890.04 9342890.16 9342890.28 0.0144 0.0126 Neptune 20868-10-18 21:21 G 9343232.13 9343232.39 9343232.64 0.0089 0.0002 Neptune 20869-10-21 08:38 G 9343599.61 9343599.86 9343600.12 0.0089 0.0003 Neptune 20870-10-23 19:55 G 9343967.08 9343967.33 9343967.60 0.0089 0.0005 Neptune 20871-10-26 07:40 G 9344334.56 9344334.82 9344335.07 0.0089 0.0006 Jupiter 20872-06-27 17:31 G 9344579.99 9344580.23 9344580.46 0.0534 0.0038 Neptune 20872-10-27 18:43 G 9344702.03 9344702.28 9344702.54 0.0089 0.0008 Neptune 20873-10-30 06:14 G 9345069.50 9345069.76 9345070.02 0.0089 0.0009 Neptune 20874-11-01 17:31 G 9345436.98 9345437.23 9345437.49 0.0089 0.0011 Neptune 20875-11-04 04:33 G 9345804.45 9345804.69 9345804.96 0.0089 0.0013 Neptune 20876-11-05 16:04 G 9346171.92 9346172.17 9346172.43 0.0089 0.0014 Saturn 20877-06-04 10:19 G 9346382.69 9346382.93 9346383.17 0.0286 0.0059 Neptune 20877-11-08 03:07 G 9346539.38 9346539.63 9346539.89 0.0089 0.0015 Jupiter 20877-12-23 11:45 G 9346584.77 9346584.99 9346585.22 0.0495 0.0103 Neptune 20878-11-10 14:24 G 9346906.85 9346907.10 9346907.36 0.0089 0.0017 Jupiter 20879-01-22 22:33 G 9346980.36 9346980.44 9346980.54 0.0487 0.0450 Neptune 20879-11-13 01:12 G 9347274.31 9347274.55 9347274.81 0.0089 0.0019 Neptune 20880-11-14 12:14 G 9347641.77 9347642.01 9347642.27 0.0089 0.0020 Neptune 20881-11-16 23:16 G 9348009.22 9348009.47 9348009.72 0.0089 0.0021 Neptune 20882-11-19 09:50 G 9348376.67 9348376.91 9348377.17 0.0088 0.0022 Neptune 20883-11-21 20:38 G 9348744.12 9348744.36 9348744.62 0.0088 0.0024 Jupiter 20884-07-02 22:19 G 9348968.19 9348968.43 9348968.66 0.0536 0.0071

Neptune 20884-11-23 07:12 G 9349111.57 9349111.80 9349112.06 0.0088 0.0025 Neptune 20885-11-25 18:00 G 9349479.02 9349479.25 9349479.51 0.0088 0.0026 Neptune 20886-11-28 04:48 G 9349846.46 9349846.70 9349846.95 0.0088 0.0027 Neptune 20887-11-30 15:36 G 9350213.92 9350214.15 9350214.40 0.0088 0.0029 Neptune 20888-12-02 02:24 G 9350581.36 9350581.60 9350581.84 0.0088 0.0030 Neptune 20889-12-04 12:43 G 9350948.81 9350949.03 9350949.29 0.0088 0.0031 Jupiter 20889-12-27 20:09 G 9350972.11 9350972.34 9350972.57 0.0493 0.0021 Neptune 20890-12-06 23:31 G 9351316.25 9351316.48 9351316.73 0.0088 0.0032 Saturn 20891-11-28 00:00 G 9351672.50 9351672.50 9351672.53 0.0273 0.0273 Neptune 20891-12-09 10:04 G 9351683.69 9351683.92 9351684.17 0.0088 0.0033 Saturn 20892-12-09 08:52 G 9352049.66 9352049.87 9352050.09 0.0274 0.0129 Neptune 20892-12-10 20:38 G 9352051.14 9352051.36 9352051.61 0.0088 0.0034 Neptune 20893-12-13 06:43 G 9352418.57 9352418.78 9352419.04 0.0088 0.0035 Neptune 20894-12-15 17:45 G 9352786.00 9352786.24 9352786.47 0.0088 0.0036 Neptune 20895-12-18 03:50 G 9353153.44 9353153.66 9353153.90 0.0088 0.0036 Jupiter 20896-07-08 06:00 G 9353356.54 9353356.75 9353356.98 0.0538 0.0182 Neptune 20896-12-19 13:55 G 9353520.87 9353521.08 9353521.33 0.0088 0.0038 Neptune 20897-12-22 00:14 G 9353888.30 9353888.51 9353888.76 0.0088 0.0038 Neptune 20898-12-24 10:48 G 9354255.73 9354255.95 9354256.19 0.0088 0.0038 Neptune 20899-12-26 21:07 G 9354623.16 9354623.38 9354623.62 0.0088 0.0039 Neptune 20900-12-29 07:40 G 9354990.59 9354990.82 9354991.05 0.0088 0.0039 Neptune 20901-12-31 17:45 G 9355358.02 9355358.24 9355358.48 0.0088 0.0040 Jupiter 20902-01-02 03:21 G 9355359.41 9355359.64 9355359.88 0.0492 0.0063 Neptune 20903-01-03 04:19 G 9355725.45 9355725.68 9355725.91 0.0088 0.0040 Neptune 20904-01-05 14:24 G 9356092.89 9356093.10 9356093.34 0.0088 0.0041 Uranus 20904-04-26 02:38 G 9356204.46 9356204.61 9356204.79 0.0136 0.0104 Neptune 20905-01-07 00:28 G 9356460.31 9356460.52 9356460.76 0.0088 0.0041 Uranus 20905-04-30 14:38 G 9356573.87 9356574.11 9356574.35 0.0135 0.0047 Neptune 20906-01-09 11:02 G 9356827.74 9356827.96 9356828.19 0.0088 0.0041 Uranus 20906-05-05 01:40 G 9356943.32 9356943.57 9356943.83 0.0135 0.0010

Saturn 20906-05-30 10:04 G 9356968.86 9356968.92 9356969.00 0.0286 0.0275 Neptune 20907-01-11 21:07 G 9357195.16 9357195.38 9357195.61 0.0088 0.0041 Uranus 20907-05-09 12:14 G 9357312.80 9357313.01 9357313.24 0.0135 0.0066 Jupiter 20907-06-08 08:52 G 9357342.76 9357342.87 9357342.99 0.0526 0.0453 Saturn 20907-06-13 06:28 G 9357347.60 9357347.77 9357347.96 0.0285 0.0195 Neptune 20908-01-14 06:43 G 9357562.58 9357562.78 9357563.03 0.0088 0.0042 Uranus 20908-05-12 22:19 G 9357682.34 9357682.43 9357682.56 0.0134 0.0121 Jupiter 20908-07-14 16:33 G 9357745.00 9357745.19 9357745.39 0.0539 0.0295 Neptune 20909-01-15 17:02 G 9357930.00 9357930.21 9357930.46 0.0088 0.0042 Neptune 20910-01-18 03:07 G 9358297.42 9358297.63 9358297.88 0.0088 0.0042 Neptune 20911-01-20 13:40 G 9358664.85 9358665.07 9358665.30 0.0088 0.0041 Neptune 20912-01-22 23:45 G 9359032.27 9359032.49 9359032.72 0.0088 0.0041 Jupiter 20912-12-06 02:24 G 9359350.49 9359350.60 9359350.71 0.0503 0.0442 Neptune 20913-01-24 09:50 G 9359399.70 9359399.91 9359400.15 0.0088 0.0041 Jupiter 20914-01-06 07:12 G 9359746.58 9359746.80 9359747.02 0.0491 0.0140 Neptune 20914-01-26 20:09 G 9359767.12 9359767.34 9359767.58 0.0088 0.0041 Mars 20914-09-29 09:36 G 9360012.83 9360012.90 9360012.97 0.1883 0.1744 Neptune 20915-01-29 06:14 G 9360134.56 9360134.76 9360135.01 0.0088 0.0041 Neptune 20916-01-31 16:48 G 9360501.98 9360502.20 9360502.44 0.0088 0.0040 Neptune 20917-02-02 02:52 G 9360869.41 9360869.62 9360869.87 0.0088 0.0040 Neptune 20918-02-04 13:40 G 9361236.84 9361237.07 9361237.30 0.0088 0.0039 Neptune 20919-02-06 23:31 G 9361604.27 9361604.48 9361604.73 0.0088 0.0039 Jupiter 20919-06-13 11:02 G 9361730.79 9361730.96 9361731.14 0.0528 0.0357 Neptune 20920-02-09 10:04 G 9361971.70 9361971.92 9361972.16 0.0088 0.0038 Jupiter 20920-07-20 00:14 G 9362133.36 9362133.51 9362133.67 0.0540 0.0402 Neptune 20921-02-10 20:24 G 9362339.12 9362339.35 9362339.58 0.0088 0.0037 Saturn 20921-12-05 06:00 G 9362636.51 9362636.75 9362636.99 0.0274 0.0050 Neptune 20922-02-13 06:28 G 9362706.55 9362706.77 9362707.02 0.0088 0.0037 Neptune 20923-02-15 16:48 G 9363073.98 9363074.20 9363074.45 0.0088 0.0036 Neptune 20924-02-18 03:21 G 9363441.41 9363441.64 9363441.88 0.0088 0.0035

Jupiter 20924-12-10 12:43 G 9363737.87 9363738.03 9363738.19 0.0501 0.0359 Neptune 20925-02-19 13:55 G 9363808.85 9363809.08 9363809.32 0.0088 0.0034 Jupiter 20926-01-10 12:57 G 9364133.83 9364134.04 9364134.25 0.0490 0.0219 Neptune 20926-02-22 00:00 G 9364176.28 9364176.50 9364176.76 0.0088 0.0034 Neptune 20927-02-24 10:48 G 9364543.73 9364543.95 9364544.20 0.0088 0.0033 Neptune 20928-02-26 21:21 G 9364911.17 9364911.39 9364911.65 0.0088 0.0032 Neptune 20929-02-28 08:24 G 9365278.61 9365278.85 9365279.09 0.0088 0.0030 Neptune 20930-03-02 18:57 G 9365646.05 9365646.29 9365646.54 0.0088 0.0029 Neptune 20931-03-05 05:45 G 9366013.50 9366013.74 9366013.99 0.0088 0.0028 Jupiter 20931-06-18 08:52 G 9366118.67 9366118.87 9366119.07 0.0530 0.0263 Neptune 20932-03-06 16:04 G 9366380.94 9366381.17 9366381.43 0.0088 0.0027 Jupiter 20932-07-25 02:38 G 9366521.53 9366521.61 9366521.70 0.0541 0.0502 Neptune 20933-03-09 02:52 G 9366748.39 9366748.62 9366748.88 0.0088 0.0026 Neptune 20934-03-11 13:55 G 9367115.84 9367116.08 9367116.33 0.0088 0.0024 Neptune 20935-03-14 00:28 G 9367483.28 9367483.52 9367483.78 0.0088 0.0023 Neptune 20936-03-15 11:16 G 9367850.73 9367850.97 9367851.23 0.0088 0.0022 Saturn 20936-06-06 22:33 G 9367934.19 9367934.44 9367934.68 0.0286 0.0005 Jupiter 20936-12-14 23:16 G 9368125.28 9368125.47 9368125.67 0.0499 0.0278 Neptune 20937-03-17 22:19 G 9368218.18 9368218.43 9368218.68 0.0088 0.0020 Jupiter 20938-01-14 19:40 G 9368521.14 9368521.32 9368521.51 0.0489 0.0294 Neptune 20938-03-20 09:21 G 9368585.64 9368585.89 9368586.15 0.0088 0.0019 Neptune 20939-03-22 20:24 G 9368953.10 9368953.35 9368953.61 0.0088 0.0017 Neptune 20940-03-24 07:26 G 9369320.56 9369320.81 9369321.07 0.0088 0.0016 Neptune 20941-03-26 18:43 G 9369688.03 9369688.28 9369688.54 0.0088 0.0014 Neptune 20942-03-29 06:00 G 9370055.50 9370055.75 9370056.01 0.0088 0.0013 Neptune 20943-03-31 17:16 G 9370422.96 9370423.22 9370423.48 0.0088 0.0011 Jupiter 20943-06-23 11:31 G 9370506.76 9370506.98 9370507.21 0.0532 0.0159 Neptune 20944-04-02 04:33 G 9370790.43 9370790.69 9370790.95 0.0088 0.0010 Neptune 20945-04-04 15:50 G 9371157.90 9371158.16 9371158.42 0.0088 0.0008 Neptune 20946-04-07 03:07 G 9371525.37 9371525.63 9371525.89 0.0088 0.0006

Neptune 20947-04-09 14:38 G 9371892.85 9371893.11 9371893.37 0.0088 0.0005 Uranus 20947-10-25 12:43 G 9372091.97 9372092.03 9372092.12 0.0142 0.0136 Neptune 20948-04-11 01:55 G 9372260.32 9372260.58 9372260.84 0.0088 0.0003 Uranus 20948-10-29 09:21 G 9372461.68 9372461.89 9372462.12 0.0143 0.0071 Jupiter 20948-12-19 09:50 G 9372512.70 9372512.91 9372513.13 0.0497 0.0195 Neptune 20949-04-13 13:26 G 9372627.80 9372628.06 9372628.32 0.0088 0.0001 Uranus 20949-11-03 06:28 G 9372831.52 9372831.77 9372832.02 0.0143 0.0004 Jupiter 20950-01-19 00:57 G 9372908.39 9372908.54 9372908.69 0.0487 0.0367 Neptune 20950-04-16 00:57 G 9372995.29 9372995.54 9372995.80 0.0088 0.0001 Uranus 20950-11-08 03:50 G 9373201.44 9373201.66 9373201.89 0.0144 0.0063 Saturn 20950-11-30 06:43 G 9373223.65 9373223.78 9373223.93 0.0273 0.0220 Neptune 20951-04-18 12:43 G 9373362.77 9373363.03 9373363.29 0.0088 0.0002 Uranus 20951-11-13 01:26 G 9373571.48 9373571.56 9373571.69 0.0144 0.0130 Saturn 20951-12-12 15:36 G 9373600.97 9373601.15 9373601.33 0.0274 0.0182 Neptune 20952-04-20 00:28 G 9373730.26 9373730.52 9373730.78 0.0088 0.0003 Neptune 20953-04-22 12:14 G 9374097.76 9374098.01 9374098.27 0.0088 0.0005 Neptune 20954-04-25 00:14 G 9374465.26 9374465.51 9374465.77 0.0088 0.0007 Neptune 20955-04-27 12:14 G 9374832.75 9374833.01 9374833.27 0.0088 0.0009 Jupiter 20955-06-28 16:48 G 9374894.97 9374895.20 9374895.44 0.0534 0.0054 Neptune 20956-04-29 00:00 G 9375200.25 9375200.50 9375200.77 0.0089 0.0011 Pluto 20956-09-26 02:09 G 9375350.40 9375350.59 9375350.84 0.0064 0.0034 Neptune 20957-05-01 12:14 G 9375567.75 9375568.01 9375568.27 0.0089 0.0012 Pluto 20957-09-27 14:09 G 9375716.94 9375717.09 9375717.27 0.0064 0.0050 Neptune 20958-05-04 00:14 G 9375935.26 9375935.51 9375935.77 0.0089 0.0014 Neptune 20959-05-06 12:14 G 9376302.76 9376303.01 9376303.27 0.0089 0.0015 Neptune 20960-05-08 00:14 G 9376670.26 9376670.51 9376670.77 0.0089 0.0017 Jupiter 20960-12-23 18:57 G 9376900.07 9376900.29 9376900.52 0.0495 0.0111 Neptune 20961-05-10 12:28 G 9377037.77 9377038.02 9377038.28 0.0089 0.0018 Jupiter 20962-01-23 06:00 G 9377295.65 9377295.75 9377295.85 0.0486 0.0439 Neptune 20962-05-13 00:43 G 9377405.28 9377405.53 9377405.79 0.0089 0.0020

Neptune 20963-05-15 12:57 G 9377772.80 9377773.04 9377773.31 0.0089 0.0022 Neptune 20964-05-17 01:26 G 9378140.32 9378140.56 9378140.82 0.0089 0.0023 Neptune 20965-05-19 13:55 G 9378507.85 9378508.08 9378508.35 0.0089 0.0025 Saturn 20965-05-31 21:36 G 9378520.24 9378520.40 9378520.57 0.0286 0.0212 Neptune 20966-05-22 02:38 G 9378875.37 9378875.61 9378875.87 0.0089 0.0026 Saturn 20966-06-14 18:14 G 9378899.16 9378899.26 9378899.36 0.0285 0.0256 Neptune 20967-05-24 15:21 G 9379242.90 9379243.14 9379243.39 0.0089 0.0027 Jupiter 20967-07-04 01:26 G 9379283.33 9379283.56 9379283.80 0.0536 0.0059 Neptune 20968-05-26 03:50 G 9379610.43 9379610.66 9379610.92 0.0089 0.0029 Neptune 20969-05-28 16:33 G 9379977.96 9379978.19 9379978.45 0.0089 0.0030 Neptune 20970-05-31 05:16 G 9380345.49 9380345.72 9380345.98 0.0089 0.0031 Neptune 20971-06-02 18:14 G 9380713.02 9380713.26 9380713.50 0.0089 0.0032 Neptune 20972-06-04 06:57 G 9381080.55 9381080.79 9381081.03 0.0089 0.0033 Jupiter 20972-12-28 00:43 G 9381287.30 9381287.53 9381287.77 0.0494 0.0031 Neptune 20973-06-06 19:12 G 9381448.08 9381448.30 9381448.56 0.0089 0.0035 Neptune 20974-06-09 08:09 G 9381815.62 9381815.84 9381816.09 0.0089 0.0036 Neptune 20975-06-11 20:38 G 9382183.15 9382183.36 9382183.62 0.0089 0.0038 Neptune 20976-06-13 10:04 G 9382550.69 9382550.92 9382551.16 0.0089 0.0038 Neptune 20977-06-15 23:02 G 9382918.23 9382918.46 9382918.70 0.0089 0.0039 Neptune 20978-06-18 12:00 G 9383285.78 9383286.00 9383286.24 0.0089 0.0039 Neptune 20979-06-21 00:57 G 9383653.32 9383653.54 9383653.79 0.0089 0.0041 Jupiter 20979-07-09 08:38 G 9383671.64 9383671.86 9383672.09 0.0537 0.0169 Neptune 20980-06-22 13:55 G 9384020.87 9384021.08 9384021.33 0.0089 0.0042 Saturn 20980-12-06 10:33 G 9384187.69 9384187.94 9384188.18 0.0274 0.0001 Neptune 20981-06-25 03:36 G 9384388.42 9384388.65 9384388.88 0.0089 0.0042 Neptune 20982-06-27 16:19 G 9384755.97 9384756.18 9384756.42 0.0089 0.0042 Neptune 20983-06-30 05:45 G 9385123.51 9385123.74 9385123.96 0.0089 0.0043 Neptune 20984-07-01 18:14 G 9385491.05 9385491.26 9385491.51 0.0089 0.0044 Jupiter 20985-01-01 07:40 G 9385674.59 9385674.82 9385675.05 0.0492 0.0053 Neptune 20985-07-04 07:40 G 9385858.60 9385858.82 9385859.05 0.0089 0.0044

Neptune 20986-07-06 20:52 G 9386226.14 9386226.37 9386226.59 0.0089 0.0044 20987-03-25 12:28 G 9386487.93 9386488.02 9386488.12 0.1643 0.1427 Mars Neptune 20987-07-09 09:21 G 9386593.69 9386593.89 9386594.14 0.0089 0.0045 Uranus 20988-04-26 13:26 G 9386885.91 9386886.06 9386886.25 0.0136 0.0101 Neptune 20988-07-10 22:48 G 9386961.24 9386961.45 9386961.69 0.0089 0.0045 Uranus 20989-05-01 01:26 G 9387255.33 9387255.56 9387255.81 0.0135 0.0044 Neptune 20989-07-13 12:00 G 9387328.79 9387329.00 9387329.24 0.0089 0.0045 Uranus 20990-05-05 12:43 G 9387624.78 9387625.03 9387625.29 0.0135 0.0013 Jupiter 20990-06-07 06:57 G 9387657.69 9387657.79 9387657.90 0.0524 0.0467 Neptune 20990-07-16 01:12 G 9387696.34 9387696.55 9387696.79 0.0089 0.0045 Uranus 20991-05-09 23:02 G 9387994.25 9387994.46 9387994.69 0.0135 0.0069 Jupiter 20991-07-14 10:19 G 9388059.73 9388059.93 9388060.13 0.0539 0.0272 Neptune 20991-07-18 14:24 G 9388063.89 9388064.10 9388064.34 0.0089 0.0045 Uranus 20992-05-13 08:52 G 9388363.80 9388363.87 9388363.99 0.0134 0.0125 Neptune 20992-07-20 03:50 G 9388431.45 9388431.66 9388431.90 0.0090 0.0045 Neptune 20993-07-22 17:02 G 9388799.00 9388799.21 9388799.45 0.0090 0.0045 Neptune 20994-07-25 06:00 G 9389166.55 9389166.75 9389167.00 0.0090 0.0045 Saturn 20995-06-09 08:09 G 9389485.60 9389485.84 9389486.08 0.0286 0.0066 Neptune 20995-07-27 19:40 G 9389534.10 9389534.32 9389534.55 0.0090 0.0044 Jupiter 20995-12-06 07:12 G 9389665.71 9389665.80 9389665.91 0.0504 0.0454 Neptune 20996-07-29 08:38 G 9389901.65 9389901.86 9389902.10 0.0090 0.0044 Jupiter 20997-01-05 15:21 G 9390061.92 9390062.14 9390062.37 0.0491 0.0131 Neptune 20997-07-31 21:36 G 9390269.19 9390269.40 9390269.65 0.0090 0.0044 Neptune 20998-08-03 10:48 G 9390636.74 9390636.95 9390637.19 0.0090 0.0043 Neptune 20999-08-06 00:14 G 9391004.28 9391004.51 9391004.74 0.0090 0.0042 Neptune 21000-08-08 12:57 G 9391371.83 9391372.04 9391372.29 0.0090 0.0042

## 22ND MILLENNIUM CE

## This is a list of transits of Earth in the 22nd millennium CE.

FROM MAX- C START MAX END SUNRAD DEPTH S

TRANSIT

TIME

Neptune 21001-08-11 02:09 G 9391739.38 9391739.59 9391739.84 0.0090 0.0041 Jupiter 21002-06-13 07:12 G 9392045.64 9392045.80 9392045.96 0.0527 0.0374 Neptune 21002-08-13 15:21 G 9392106.91 9392107.14 9392107.38 0.0090 0.0040 Jupiter 21003-07-20 17:16 G 9392448.06 9392448.22 9392448.39 0.0540 0.0379 Neptune 21003-08-16 04:48 G 9392474.47 9392474.70 9392474.93 0.0090 0.0039 Neptune 21004-08-17 17:31 G 9392842.01 9392842.23 9392842.48 0.0090 0.0039 Neptune 21005-08-20 06:28 G 9393209.56 9393209.77 9393210.03 0.0090 0.0038 Neptune 21006-08-22 19:40 G 9393577.10 9393577.32 9393577.57 0.0090 0.0037 Neptune 21007-08-25 08:38 G 9393944.64 9393944.86 9393945.11 0.0090 0.0035 Jupiter 21007-12-11 19:55 G 9394053.18 9394053.33 9394053.49 0.0502 0.0370 Neptune 21008-08-26 21:50 G 9394312.17 9394312.41 9394312.65 0.0090 0.0034 Jupiter 21009-01-10 22:04 G 9394449.21 9394449.42 9394449.63 0.0490 0.0208 Neptune 21009-08-29 10:19 G 9394679.70 9394679.93 9394680.18 0.0090 0.0033 Saturn 21009-12-02 11:16 G 9394774.79 9394774.97 9394775.17 0.0273 0.0170 Neptune 21010-08-31 23:02 G 9395047.23 9395047.46 9395047.71 0.0090 0.0032 Saturn 21010-12-14 19:55 G 9395152.21 9395152.33 9395152.46 0.0274 0.0232 Neptune 21011-09-03 11:31 G 9395414.76 9395414.98 9395415.24 0.0090 0.0031 Neptune 21012-09-05 00:43 G 9395782.29 9395782.53 9395782.78 0.0089 0.0029 Neptune 21013-09-07 12:57 G 9396149.81 9396150.04 9396150.30 0.0089 0.0028 Jupiter 21014-06-18 09:36 G 9396433.70 9396433.90 9396434.10 0.0529 0.0276 Neptune 21014-09-10 01:40 G 9396517.34 9396517.57 9396517.83 0.0089 0.0026 Jupiter 21015-07-26 02:52 G 9396836.52 9396836.62 9396836.73 0.0541 0.0486

Neptune 21015-09-12 14:24 G 9396884.86 9396885.10 9396885.36 0.0089 0.0025 Neptune 21016-09-14 02:52 G 9397252.39 9397252.62 9397252.89 0.0089 0.0024 Neptune 21017-09-16 15:50 G 9397619.92 9397620.16 9397620.42 0.0089 0.0022 Neptune 21018-09-19 04:04 G 9397987.43 9397987.67 9397987.93 0.0089 0.0020 Neptune 21019-09-21 16:48 G 9398354.95 9398355.20 9398355.46 0.0089 0.0018 Jupiter 21019-12-16 07:40 G 9398440.64 9398440.82 9398441.02 0.0500 0.0285 Neptune 21020-09-23 05:16 G 9398722.47 9398722.72 9398722.97 0.0089 0.0017 Jupiter 21021-01-15 04:04 G 9398836.49 9398836.67 9398836.86 0.0489 0.0285 Neptune 21021-09-25 17:16 G 9399089.97 9399090.22 9399090.48 0.0089 0.0015 Neptune 21022-09-28 05:31 G 9399457.48 9399457.73 9399457.99 0.0089 0.0013 Neptune 21023-09-30 17:45 G 9399824.99 9399825.24 9399825.50 0.0089 0.0011 Saturn 21024-06-03 07:40 G 9400071.61 9400071.82 9400072.03 0.0286 0.0151 Neptune 21024-10-02 05:31 G 9400192.48 9400192.73 9400193.00 0.0089 0.0010 Neptune 21025-10-04 17:45 G 9400559.98 9400560.24 9400560.50 0.0089 0.0008 Jupiter 21026-06-23 15:36 G 9400821.93 9400822.15 9400822.37 0.0532 0.0170 Neptune 21026-10-07 05:45 G 9400927.48 9400927.74 9400928.00 0.0089 0.0006 Neptune 21027-10-09 17:45 G 9401294.98 9401295.24 9401295.50 0.0089 0.0005 Neptune 21028-10-11 05:45 G 9401662.49 9401662.74 9401663.00 0.0089 0.0003 Neptune 21029-10-13 17:31 G 9402029.98 9402030.23 9402030.49 0.0089 0.0002 Neptune 21030-10-16 05:45 G 9402397.48 9402397.74 9402397.99 0.0089 0.0001 Neptune 21031-10-18 17:31 G 9402764.97 9402765.23 9402765.49 0.0089 0.0002 Uranus 21031-10-26 23:02 G 9402773.38 9402773.46 9402773.56 0.0142 0.0133 Jupiter 21031-12-20 15:50 G 9402827.95 9402828.16 9402828.37 0.0498 0.0202 Neptune 21032-10-20 05:16 G 9403132.46 9403132.72 9403132.98 0.0089 0.0004 Uranus 21032-10-30 19:12 G 9403143.09 9403143.30 9403143.54 0.0143 0.0068 Jupiter 21033-01-19 07:26 G 9403223.66 9403223.81 9403223.98 0.0488 0.0359 Neptune 21033-10-22 16:48 G 9403499.95 9403500.20 9403500.46 0.0089 0.0006 Uranus 21033-11-04 16:33 G 9403512.93 9403513.19 9403513.44 0.0143 0.0002 Neptune 21034-10-25 04:19 G 9403867.43 9403867.68 9403867.94 0.0089 0.0008 Uranus 21034-11-09 13:40 G 9403882.85 9403883.07 9403883.30 0.0143 0.0066

Neptune 21035-10-27 15:50 G 9404234.91 9404235.16 9404235.42 0.0089 0.0010 Uranus 21035-11-14 11:16 G 9404252.89 9404252.97 9404253.08 0.0144 0.0133 Neptune 21036-10-29 03:21 G 9404602.38 9404602.64 9404602.89 0.0089 0.0011 Neptune 21037-10-31 14:38 G 9404969.86 9404970.11 9404970.36 0.0089 0.0013 Jupiter 21038-06-28 21:50 G 9405210.17 9405210.41 9405210.64 0.0534 0.0064 Neptune 21038-11-03 01:40 G 9405337.33 9405337.57 9405337.83 0.0089 0.0015 Neptune 21039-11-05 13:26 G 9405704.81 9405705.06 9405705.31 0.0089 0.0016 Saturn 21039-12-09 12:57 G 9405738.81 9405739.04 9405739.29 0.0273 0.0049 Neptune 21040-11-07 00:14 G 9406072.27 9406072.51 9406072.77 0.0089 0.0018 Neptune 21041-11-09 11:31 G 9406439.74 9406439.98 9406440.25 0.0089 0.0020 Neptune 21042-11-11 23:02 G 9406807.21 9406807.46 9406807.71 0.0089 0.0021 Neptune 21043-11-14 10:04 G 9407174.68 9407174.92 9407175.18 0.0089 0.0023 Jupiter 21043-12-25 00:28 G 9407215.30 9407215.52 9407215.75 0.0496 0.0119 Neptune 21044-11-15 21:21 G 9407542.15 9407542.39 9407542.64 0.0089 0.0024 Jupiter 21045-01-23 12:43 G 9407610.93 9407611.03 9407611.14 0.0487 0.0431 Neptune 21045-11-18 08:09 G 9407909.60 9407909.84 9407910.09 0.0089 0.0026 Pluto 21046-03-29 03:07 G 9408040.41 9408040.63 9408040.89 0.0080 0.0029 Neptune 21046-11-20 19:12 G 9408277.06 9408277.30 9408277.55 0.0089 0.0027 Neptune 21047-11-23 05:45 G 9408644.51 9408644.74 9408645.00 0.0088 0.0029 Neptune 21048-11-24 16:48 G 9409011.96 9409012.20 9409012.45 0.0088 0.0030 Neptune 21049-11-27 03:07 G 9409379.41 9409379.63 9409379.89 0.0088 0.0032 Jupiter 21050-07-03 22:33 G 9409598.21 9409598.44 9409598.67 0.0535 0.0037 Neptune 21050-11-29 13:55 G 9409746.86 9409747.08 9409747.34 0.0088 0.0033 Neptune 21051-12-02 00:43 G 9410114.30 9410114.53 9410114.78 0.0088 0.0034 Neptune 21052-12-03 11:31 G 9410481.75 9410481.98 9410482.22 0.0088 0.0034 Neptune 21053-12-05 22:19 G 9410849.20 9410849.43 9410849.66 0.0088 0.0036 Saturn 21054-06-11 15:21 G 9411036.92 9411037.14 9411037.36 0.0286 0.0123 Neptune 21054-12-08 08:52 G 9411216.64 9411216.87 9411217.11 0.0088 0.0037 Neptune 21055-12-10 19:40 G 9411584.09 9411584.32 9411584.55 0.0088 0.0038 Jupiter 21055-12-29 08:52 G 9411602.64 9411602.87 9411603.11 0.0495 0.0041

Neptune 21056-12-12 06:00 G 9411951.53 9411951.75 9411951.99 0.0088 0.0039 Neptune 21057-12-14 16:33 G 9412318.97 9412319.19 9412319.43 0.0088 0.0040 Neptune 21058-12-17 02:52 G 9412686.41 9412686.62 9412686.86 0.0088 0.0040 Neptune 21059-12-19 13:12 G 9413053.84 9413054.05 9413054.29 0.0088 0.0041 Neptune 21060-12-20 23:16 G 9413421.27 9413421.47 9413421.72 0.0088 0.0043 Neptune 21061-12-23 10:04 G 9413788.70 9413788.92 9413789.15 0.0088 0.0042 Jupiter 21062-07-09 03:50 G 9413986.43 9413986.66 9413986.88 0.0537 0.0146 Neptune 21062-12-25 20:09 G 9414156.13 9414156.34 9414156.58 0.0088 0.0043 Neptune 21063-12-28 06:57 G 9414523.56 9414523.79 9414524.01 0.0088 0.0044 Neptune 21064-12-29 16:48 G 9414890.99 9414891.20 9414891.44 0.0088 0.0044 Neptune 21066-01-01 03:21 G 9415258.42 9415258.64 9415258.86 0.0088 0.0044 21066-03-28 16:33 G 9415345.00 9415345.19 9415345.38 0.1647 0.0034 Mars Neptune 21067-01-03 13:26 G 9415625.86 9415626.06 9415626.30 0.0088 0.0045 Jupiter 21068-01-02 17:31 G 9415989.99 9415990.23 9415990.46 0.0493 0.0043 Neptune 21068-01-05 23:45 G 9415993.29 9415993.49 9415993.73 0.0088 0.0045 Saturn 21068-12-03 14:09 G 9416325.88 9416326.09 9416326.32 0.0272 0.0122 Neptune 21069-01-07 10:19 G 9416360.72 9416360.93 9416361.16 0.0088 0.0045 Neptune 21070-01-09 20:52 G 9416728.15 9416728.37 9416728.59 0.0088 0.0045 Neptune 21071-01-12 07:12 G 9417095.58 9417095.80 9417096.02 0.0088 0.0045 Neptune 21072-01-14 17:02 G 9417463.01 9417463.21 9417463.45 0.0088 0.0046 Uranus 21072-04-27 22:48 G 9417567.28 9417567.45 9417567.63 0.0136 0.0098 Neptune 21073-01-16 03:36 G 9417830.43 9417830.65 9417830.87 0.0088 0.0045 Uranus 21073-05-02 10:48 G 9417936.71 9417936.95 9417937.19 0.0135 0.0041 Jupiter 21073-06-07 08:38 G 9417972.77 9417972.86 9417972.96 0.0524 0.0477 Neptune 21074-01-18 13:40 G 9418197.86 9418198.07 9418198.30 0.0088 0.0045 Uranus 21074-05-06 21:36 G 9418306.16 9418306.40 9418306.66 0.0135 0.0017 Jupiter 21074-07-14 11:16 G 9418374.77 9418374.97 9418375.18 0.0539 0.0256 Neptune 21075-01-20 23:45 G 9418565.28 9418565.49 9418565.72 0.0088 0.0045 Uranus 21075-05-11 08:24 G 9418675.64 9418675.85 9418676.07 0.0135 0.0072 Neptune 21076-01-23 09:50 G 9418932.71 9418932.91 9418933.15 0.0088 0.0045

Uranus 21076-05-14 18:00 G 9419045.20 9419045.25 9419045.36 0.0135 0.0128 Neptune 21077-01-24 19:55 G 9419300.13 9419300.33 9419300.57 0.0088 0.0045 Neptune 21078-01-27 06:28 G 9419667.56 9419667.77 9419668.00 0.0088 0.0044 Jupiter 21078-12-06 16:33 G 9419981.10 9419981.19 9419981.28 0.0504 0.0459 Neptune 21079-01-29 16:33 G 9420034.98 9420035.19 9420035.43 0.0088 0.0044 Jupiter 21080-01-07 01:12 G 9420377.33 9420377.55 9420377.78 0.0491 0.0123 Neptune 21080-02-01 03:07 G 9420402.41 9420402.63 9420402.86 0.0088 0.0043 Neptune 21081-02-02 13:12 G 9420769.84 9420770.05 9420770.29 0.0088 0.0043 Neptune 21082-02-04 23:45 G 9421137.27 9421137.49 9421137.73 0.0088 0.0042 Neptune 21083-02-07 10:19 G 9421504.71 9421504.93 9421505.16 0.0088 0.0041 Saturn 21083-06-05 14:24 G 9421622.87 9421623.10 9421623.33 0.0286 0.0095 Neptune 21084-02-09 20:09 G 9421872.13 9421872.34 9421872.59 0.0088 0.0041 Neptune 21085-02-11 06:28 G 9422239.56 9422239.77 9422240.02 0.0088 0.0040 Jupiter 21085-06-12 12:14 G 9422360.85 9422361.01 9422361.17 0.0527 0.0382 Neptune 21086-02-13 17:02 G 9422606.99 9422607.21 9422607.45 0.0088 0.0039 Jupiter 21086-07-19 22:19 G 9422763.27 9422763.43 9422763.61 0.0540 0.0367 Neptune 21087-02-16 03:07 G 9422974.42 9422974.63 9422974.88 0.0088 0.0038 Neptune 21088-02-18 13:40 G 9423341.85 9423342.07 9423342.31 0.0088 0.0037 Neptune 21089-02-19 23:45 G 9423709.28 9423709.49 9423709.75 0.0088 0.0036 Neptune 21090-02-22 10:19 G 9424076.71 9424076.93 9424077.18 0.0088 0.0035 Jupiter 21090-12-11 03:36 G 9424368.50 9424368.65 9424368.81 0.0502 0.0376 Neptune 21091-02-24 20:38 G 9424444.14 9424444.36 9424444.62 0.0088 0.0034 Jupiter 21092-01-11 06:00 G 9424764.54 9424764.75 9424764.96 0.0490 0.0200 Neptune 21092-02-27 07:40 G 9424811.58 9424811.82 9424812.06 0.0088 0.0032 Neptune 21093-02-28 18:00 G 9425179.02 9425179.25 9425179.50 0.0088 0.0031 Neptune 21094-03-03 04:48 G 9425546.47 9425546.70 9425546.95 0.0088 0.0030 Neptune 21095-03-05 15:07 G 9425913.91 9425914.13 9425914.40 0.0088 0.0029 Neptune 21096-03-07 02:09 G 9426281.36 9426281.59 9426281.85 0.0088 0.0027 Neptune 21097-03-09 12:43 G 9426648.80 9426649.03 9426649.29 0.0088 0.0026 Jupiter 21097-06-17 16:04 G 9426748.98 9426749.17 9426749.37 0.0529 0.0283

Neptune 21098-03-11 23:45 G 9427016.25 9427016.49 9427016.74 0.0088 0.0024 Jupiter 21098-07-25 08:09 G 9427151.74 9427151.84 9427151.96 0.0541 0.0474 Saturn 21098-12-10 13:55 G 9427289.85 9427290.08 9427290.31 0.0273 0.0093 Neptune 21099-03-14 10:19 G 9427383.70 9427383.93 9427384.19 0.0088 0.0023 Neptune 21100-03-16 21:07 G 9427751.14 9427751.38 9427751.64 0.0088 0.0021 Neptune 21101-03-19 07:55 G 9428118.59 9428118.83 9428119.10 0.0088 0.0020 Neptune 21102-03-21 18:57 G 9428486.04 9428486.29 9428486.55 0.0088 0.0018 Jupiter 21102-12-16 14:09 G 9428755.90 9428756.09 9428756.28 0.0500 0.0292 Neptune 21103-03-24 06:00 G 9428853.50 9428853.75 9428854.01 0.0088 0.0016 Jupiter 21104-01-16 12:14 G 9429151.82 9429152.01 9429152.20 0.0489 0.0277 Neptune 21104-03-25 16:48 G 9429220.96 9429221.20 9429221.47 0.0088 0.0015 Neptune 21105-03-28 04:04 G 9429588.42 9429588.67 9429588.94 0.0088 0.0013 Neptune 21106-03-30 15:36 G 9429955.89 9429956.15 9429956.40 0.0088 0.0011 Neptune 21107-04-02 02:52 G 9430323.36 9430323.62 9430323.87 0.0088 0.0010 Neptune 21108-04-03 14:09 G 9430690.83 9430691.09 9430691.35 0.0088 0.0008 Neptune 21109-04-06 01:26 G 9431058.31 9431058.56 9431058.82 0.0088 0.0006 Jupiter 21109-06-23 16:19 G 9431136.96 9431137.18 9431137.40 0.0530 0.0187 Neptune 21110-04-08 12:57 G 9431425.78 9431426.04 9431426.30 0.0088 0.0004 Neptune 21111-04-11 00:14 G 9431793.25 9431793.51 9431793.77 0.0088 0.0002 Neptune 21112-04-12 11:45 G 9432160.73 9432160.99 9432161.25 0.0088 0.0001 Neptune 21113-04-14 23:16 G 9432528.21 9432528.47 9432528.73 0.0088 0.0001 Saturn 21113-06-13 20:09 G 9432588.16 9432588.34 9432588.55 0.0286 0.0178 Neptune 21114-04-17 10:33 G 9432895.69 9432895.94 9432896.20 0.0088 0.0003 Jupiter 21114-12-20 23:31 G 9433143.28 9433143.48 9433143.69 0.0499 0.0214 Neptune 21115-04-19 22:04 G 9433263.17 9433263.42 9433263.69 0.0088 0.0006 Uranus 21115-10-28 08:09 G 9433454.76 9433454.84 9433454.97 0.0142 0.0131 Jupiter 21116-01-20 18:14 G 9433539.10 9433539.26 9433539.42 0.0488 0.0350 Neptune 21116-04-21 09:50 G 9433630.65 9433630.91 9433631.17 0.0088 0.0007 Uranus 21116-11-01 04:48 G 9433824.49 9433824.70 9433824.94 0.0143 0.0065 Neptune 21117-04-23 21:36 G 9433998.15 9433998.40 9433998.66 0.0088 0.0009

Uranus 21117-11-06 01:40 G 9434194.32 9434194.57 9434194.83 0.0143 0.0002 Neptune 21118-04-26 09:21 G 9434365.64 9434365.89 9434366.15 0.0088 0.0010 Uranus 21118-11-10 22:48 G 9434564.24 9434564.45 9434564.68 0.0143 0.0069 Neptune 21119-04-28 21:07 G 9434733.13 9434733.38 9434733.65 0.0088 0.0013 Uranus 21119-11-15 20:24 G 9434934.29 9434934.35 9434934.45 0.0144 0.0136 Neptune 21120-04-30 09:21 G 9435100.64 9435100.89 9435101.15 0.0088 0.0014 Neptune 21121-05-02 21:21 G 9435468.14 9435468.39 9435468.65 0.0089 0.0016 Jupiter 21121-06-28 19:40 G 9435525.09 9435525.32 9435525.55 0.0532 0.0083 Neptune 21122-05-05 09:07 G 9435835.64 9435835.88 9435836.15 0.0089 0.0018 Neptune 21123-05-07 21:07 G 9436203.14 9436203.38 9436203.65 0.0089 0.0020 Neptune 21124-05-09 09:36 G 9436570.65 9436570.90 9436571.15 0.0089 0.0021 Neptune 21125-05-11 21:21 G 9436938.15 9436938.39 9436938.66 0.0089 0.0023 Neptune 21126-05-14 09:50 G 9437305.66 9437305.91 9437306.16 0.0089 0.0024 Jupiter 21126-12-25 09:50 G 9437530.69 9437530.91 9437531.14 0.0497 0.0130 Neptune 21127-05-16 21:36 G 9437673.17 9437673.40 9437673.66 0.0089 0.0026 Saturn 21127-12-06 15:36 G 9437876.92 9437877.15 9437877.39 0.0272 0.0075 Jupiter 21128-01-25 00:00 G 9437926.39 9437926.50 9437926.62 0.0487 0.0421 Neptune 21128-05-18 10:19 G 9438040.69 9438040.93 9438041.18 0.0089 0.0027 Neptune 21129-05-20 22:19 G 9438408.20 9438408.43 9438408.69 0.0089 0.0029 Neptune 21130-05-23 11:02 G 9438775.72 9438775.96 9438776.21 0.0089 0.0030 Neptune 21131-05-25 23:16 G 9439143.24 9439143.47 9439143.73 0.0089 0.0032 Neptune 21132-05-27 12:14 G 9439510.77 9439511.01 9439511.26 0.0089 0.0033 Neptune 21133-05-30 00:28 G 9439878.30 9439878.52 9439878.78 0.0089 0.0035 Jupiter 21133-07-04 00:28 G 9439913.28 9439913.52 9439913.75 0.0535 0.0025 Neptune 21134-06-01 13:12 G 9440245.83 9440246.05 9440246.31 0.0089 0.0036 Neptune 21135-06-04 02:09 G 9440613.36 9440613.59 9440613.83 0.0089 0.0037 Neptune 21136-06-05 14:52 G 9440980.89 9440981.12 9440981.36 0.0089 0.0038 Neptune 21137-06-08 03:50 G 9441348.43 9441348.66 9441348.90 0.0089 0.0039 Neptune 21138-06-10 16:19 G 9441715.96 9441716.18 9441716.42 0.0089 0.0041 Jupiter 21138-12-29 19:40 G 9441918.09 9441918.32 9441918.55 0.0495 0.0046

Neptune 21139-06-13 05:16 G 9442083.49 9442083.72 9442083.95 0.0089 0.0041 Neptune 21140-06-14 18:00 G 9442451.03 9442451.25 9442451.49 0.0089 0.0043 Neptune 21141-06-17 06:43 G 9442818.57 9442818.78 9442819.02 0.0089 0.0044 Saturn 21142-06-07 18:57 G 9443174.05 9443174.29 9443174.54 0.0286 0.0041 Neptune 21142-06-19 19:40 G 9443186.11 9443186.32 9443186.56 0.0089 0.0045 Neptune 21143-06-22 08:38 G 9443553.65 9443553.86 9443554.10 0.0089 0.0045 Neptune 21144-06-23 21:36 G 9443921.21 9443921.40 9443921.65 0.0089 0.0047 21145-03-31 21:07 G 9444202.31 9444202.38 9444202.44 0.1651 0.1542 Mars Neptune 21145-06-26 11:02 G 9444288.75 9444288.96 9444289.19 0.0089 0.0047 Jupiter 21145-07-09 09:36 G 9444301.68 9444301.90 9444302.13 0.0537 0.0136 Neptune 21146-06-29 00:00 G 9444656.30 9444656.50 9444656.74 0.0089 0.0048 Neptune 21147-07-01 13:26 G 9445023.85 9445024.06 9445024.29 0.0089 0.0048 Neptune 21148-07-03 02:24 G 9445391.40 9445391.60 9445391.84 0.0089 0.0048 Neptune 21149-07-05 15:21 G 9445758.94 9445759.14 9445759.38 0.0089 0.0049 Neptune 21150-07-08 04:33 G 9446126.49 9446126.69 9446126.92 0.0089 0.0049 Jupiter 21151-01-03 02:38 G 9446305.37 9446305.61 9446305.84 0.0493 0.0036 Neptune 21151-07-10 17:45 G 9446494.03 9446494.24 9446494.47 0.0089 0.0049 Neptune 21152-07-12 06:57 G 9446861.58 9446861.79 9446862.01 0.0089 0.0049 Neptune 21153-07-14 20:09 G 9447229.13 9447229.34 9447229.56 0.0089 0.0049 Neptune 21154-07-17 09:07 G 9447596.67 9447596.88 9447597.10 0.0089 0.0049 Neptune 21155-07-19 22:19 G 9447964.22 9447964.43 9447964.66 0.0089 0.0049 Uranus 21156-04-29 08:38 G 9448248.69 9448248.86 9448249.05 0.0136 0.0095 Jupiter 21156-06-07 17:02 G 9448288.12 9448288.21 9448288.30 0.0524 0.0482 Neptune 21156-07-21 11:31 G 9448331.77 9448331.98 9448332.21 0.0089 0.0049 Saturn 21156-11-30 06:28 G 9448463.70 9448463.77 9448463.85 0.0272 0.0259 Uranus 21157-05-03 20:24 G 9448618.12 9448618.35 9448618.61 0.0135 0.0038 Jupiter 21157-07-14 18:14 G 9448690.06 9448690.26 9448690.48 0.0538 0.0247 Neptune 21157-07-24 00:28 G 9448699.33 9448699.52 9448699.76 0.0090 0.0049 Saturn 21157-12-12 13:40 G 9448840.87 9448841.07 9448841.29 0.0273 0.0138 Uranus 21158-05-08 07:40 G 9448987.57 9448987.82 9448988.07 0.0135 0.0019

Neptune 21158-07-26 14:09 G 9449066.88 9449067.09 9449067.31 0.0090 0.0048 Uranus 21159-05-12 18:00 G 9449357.05 9449357.25 9449357.47 0.0135 0.0075 Neptune 21159-07-29 03:07 G 9449434.43 9449434.63 9449434.87 0.0090 0.0048 Uranus 21160-05-16 04:04 G 9449726.63 9449726.67 9449726.75 0.0135 0.0131 Neptune 21160-07-30 16:48 G 9449801.98 9449802.20 9449802.42 0.0090 0.0047 Neptune 21161-08-02 05:31 G 9450169.53 9450169.73 9450169.97 0.0090 0.0047 Jupiter 21161-12-07 00:00 G 9450296.41 9450296.50 9450296.59 0.0505 0.0465 Neptune 21162-08-04 18:43 G 9450537.07 9450537.28 9450537.51 0.0090 0.0046 Jupiter 21163-01-07 09:50 G 9450692.69 9450692.91 9450693.14 0.0492 0.0116 Neptune 21163-08-07 07:40 G 9450904.61 9450904.82 9450905.06 0.0090 0.0045 Neptune 21164-08-08 20:38 G 9451272.16 9451272.36 9451272.61 0.0090 0.0045 Neptune 21165-08-11 09:21 G 9451639.69 9451639.89 9451640.14 0.0090 0.0044 Neptune 21166-08-13 22:33 G 9452007.23 9452007.44 9452007.69 0.0090 0.0043 Neptune 21167-08-16 11:31 G 9452374.77 9452374.98 9452375.23 0.0090 0.0042 Jupiter 21168-06-12 16:19 G 9452676.02 9452676.18 9452676.33 0.0525 0.0395 Neptune 21168-08-18 00:43 G 9452742.32 9452742.53 9452742.78 0.0090 0.0041 Jupiter 21169-07-19 22:04 G 9453078.25 9453078.42 9453078.60 0.0539 0.0346 Neptune 21169-08-20 14:09 G 9453109.86 9453110.09 9453110.32 0.0090 0.0039 Neptune 21170-08-23 03:07 G 9453477.40 9453477.63 9453477.87 0.0090 0.0038 Saturn 21171-06-01 23:16 G 9453760.36 9453760.47 9453760.61 0.0287 0.0247 Neptune 21171-08-25 16:04 G 9453844.95 9453845.17 9453845.42 0.0090 0.0037 Saturn 21172-06-14 22:48 G 9454139.30 9454139.45 9454139.60 0.0286 0.0227 Neptune 21172-08-27 05:02 G 9454212.49 9454212.71 9454212.96 0.0090 0.0036 Neptune 21173-08-29 18:14 G 9454580.02 9454580.26 9454580.50 0.0090 0.0034 Jupiter 21173-12-11 10:04 G 9454683.78 9454683.92 9454684.07 0.0503 0.0388 Neptune 21174-09-01 06:43 G 9454947.55 9454947.78 9454948.04 0.0090 0.0033 Jupiter 21175-01-11 16:19 G 9455079.97 9455080.18 9455080.40 0.0491 0.0191 Neptune 21175-09-03 19:55 G 9455315.09 9455315.33 9455315.58 0.0090 0.0031 Neptune 21176-09-05 08:24 G 9455682.61 9455682.85 9455683.10 0.0089 0.0030 Neptune 21177-09-07 21:21 G 9456050.14 9456050.39 9456050.63 0.0089 0.0028

Neptune 21178-09-10 09:36 G 9456417.67 9456417.90 9456418.16 0.0089 0.0027 Neptune 21179-09-12 22:33 G 9456785.19 9456785.44 9456785.69 0.0089 0.0025 Jupiter 21180-06-17 17:16 G 9457064.03 9457064.22 9457064.42 0.0527 0.0298 Neptune 21180-09-14 11:02 G 9457152.72 9457152.96 9457153.22 0.0089 0.0023 Jupiter 21181-07-25 05:02 G 9457466.59 9457466.71 9457466.84 0.0540 0.0451 Neptune 21181-09-16 23:31 G 9457520.24 9457520.48 9457520.74 0.0089 0.0021 Neptune 21182-09-19 12:14 G 9457887.77 9457888.01 9457888.27 0.0089 0.0020 Neptune 21183-09-22 00:57 G 9458255.29 9458255.54 9458255.79 0.0089 0.0018 Neptune 21184-09-23 13:12 G 9458622.81 9458623.05 9458623.32 0.0089 0.0016 Neptune 21185-09-26 01:40 G 9458990.32 9458990.57 9458990.83 0.0089 0.0014 Jupiter 21185-12-15 22:48 G 9459071.26 9459071.45 9459071.63 0.0501 0.0304 Neptune 21186-09-28 14:09 G 9459357.84 9459358.09 9459358.35 0.0089 0.0012 Saturn 21186-12-07 15:50 G 9459427.92 9459428.16 9459428.41 0.0272 0.0031 Jupiter 21187-01-15 23:16 G 9459467.28 9459467.47 9459467.67 0.0489 0.0267 Neptune 21187-10-01 02:24 G 9459725.35 9459725.60 9459725.86 0.0089 0.0010 Neptune 21188-10-02 14:38 G 9460092.85 9460093.11 9460093.37 0.0089 0.0008 Neptune 21189-10-05 02:38 G 9460460.35 9460460.61 9460460.87 0.0089 0.0006 Neptune 21190-10-07 14:38 G 9460827.85 9460828.11 9460828.37 0.0089 0.0004 Neptune 21191-10-10 02:38 G 9461195.36 9461195.61 9461195.87 0.0089 0.0003 Jupiter 21192-06-22 19:12 G 9461452.08 9461452.30 9461452.51 0.0530 0.0198 Neptune 21192-10-11 14:24 G 9461562.85 9461563.10 9461563.36 0.0089 0.0001 Neptune 21193-10-14 02:24 G 9461930.35 9461930.60 9461930.86 0.0089 0.0002 Neptune 21194-10-16 14:24 G 9462297.84 9462298.10 9462298.36 0.0089 0.0003 Neptune 21195-10-19 02:24 G 9462665.34 9462665.60 9462665.85 0.0089 0.0005 Neptune 21196-10-20 14:09 G 9463032.83 9463033.09 9463033.35 0.0089 0.0007 Neptune 21197-10-23 01:40 G 9463400.32 9463400.57 9463400.83 0.0089 0.0009 Jupiter 21197-12-20 10:33 G 9463458.74 9463458.94 9463459.16 0.0499 0.0219 Mars 21198-09-30 20:09 G 9463743.19 9463743.34 9463743.48 0.1892 0.1243 Neptune 21198-10-25 13:26 G 9463767.81 9463768.06 9463768.32 0.0089 0.0011 Jupiter 21199-01-20 05:45 G 9463854.58 9463854.74 9463854.91 0.0488 0.0343

Neptune 21199-10-28 00:57 G 9464135.29 9464135.54 9464135.80 0.0089 0.0013 Uranus 21199-10-28 19:12 G 9464136.20 9464136.30 9464136.43 0.0142 0.0127 Neptune 21200-10-29 12:14 G 9464502.76 9464503.01 9464503.27 0.0089 0.0015 Uranus 21200-11-01 15:36 G 9464505.92 9464506.15 9464506.38 0.0143 0.0061 Saturn 21201-06-08 22:19 G 9464725.18 9464725.43 9464725.67 0.0286 0.0011 Neptune 21201-10-31 23:31 G 9464870.24 9464870.48 9464870.74 0.0089 0.0017 Uranus 21201-11-06 12:14 G 9464875.76 9464876.01 9464876.27 0.0143 0.0006 Neptune 21202-11-03 11:16 G 9465237.72 9465237.97 9465238.22 0.0089 0.0018 Uranus 21202-11-11 09:21 G 9465245.68 9465245.89 9465246.11 0.0143 0.0073 Neptune 21203-11-05 22:19 G 9465605.18 9465605.43 9465605.68 0.0089 0.0020 Uranus 21203-11-16 06:43 G 9465615.74 9465615.78 9465615.85 0.0144 0.0140 Jupiter 21204-06-28 01:26 G 9465840.33 9465840.56 9465840.79 0.0532 0.0093 Pluto 21204-09-30 00:14 G 9465934.26 9465934.51 9465934.76 0.0064 0.0012 Neptune 21204-11-07 09:21 G 9465972.66 9465972.89 9465973.15 0.0089 0.0022 Neptune 21205-11-09 20:38 G 9466340.12 9466340.36 9466340.62 0.0089 0.0024 Neptune 21206-11-12 08:09 G 9466707.59 9466707.84 9466708.08 0.0089 0.0025 Neptune 21207-11-14 19:12 G 9467075.06 9467075.30 9467075.55 0.0089 0.0027 Neptune 21208-11-16 06:00 G 9467442.53 9467442.75 9467443.01 0.0089 0.0029 Neptune 21209-11-18 17:31 G 9467810.00 9467810.23 9467810.48 0.0089 0.0030 Jupiter 21209-12-24 19:55 G 9467846.11 9467846.33 9467846.56 0.0497 0.0136 Neptune 21210-11-21 04:19 G 9468177.46 9468177.68 9468177.94 0.0089 0.0032 Jupiter 21211-01-24 10:04 G 9468241.80 9468241.92 9468242.04 0.0487 0.0414 Neptune 21211-11-23 15:36 G 9468544.92 9468545.15 9468545.40 0.0088 0.0033 Neptune 21212-11-25 02:09 G 9468912.37 9468912.59 9468912.84 0.0088 0.0035 Neptune 21213-11-27 13:12 G 9469279.83 9469280.05 9469280.30 0.0088 0.0036 Neptune 21214-11-29 23:45 G 9469647.28 9469647.49 9469647.74 0.0088 0.0037 Saturn 21215-12-02 06:00 G 9470014.61 9470014.75 9470014.91 0.0272 0.0216 Neptune 21215-12-02 10:33 G 9470014.72 9470014.94 9470015.19 0.0088 0.0038 \* Jupiter 21216-07-03 08:52 G 9470228.63 9470228.87 9470229.10 0.0534 0.0016 Neptune 21216-12-03 21:21 G 9470382.17 9470382.39 9470382.63 0.0088 0.0039

Saturn 21216-12-13 12:57 G 9470391.86 9470392.04 9470392.22 0.0273 0.0181 Neptune 21217-12-06 07:55 G 9470749.62 9470749.83 9470750.07 0.0088 0.0041 Neptune 21218-12-08 18:43 G 9471117.07 9471117.28 9471117.52 0.0088 0.0042 Neptune 21219-12-11 05:16 G 9471484.51 9471484.72 9471484.95 0.0088 0.0043 Neptune 21220-12-12 16:04 G 9471851.96 9471852.17 9471852.40 0.0088 0.0044 Neptune 21221-12-15 02:38 G 9472219.40 9472219.61 9472219.84 0.0088 0.0045 Jupiter 21221-12-29 05:02 G 9472233.48 9472233.71 9472233.94 0.0495 0.0053 Neptune 21222-12-17 13:12 G 9472586.85 9472587.05 9472587.29 0.0088 0.0045 Jupiter 21223-01-28 15:36 G 9472629.13 9472629.15 9472629.18 0.0487 0.0483 Neptune 21223-12-19 23:45 G 9472954.29 9472954.49 9472954.72 0.0088 0.0046 Neptune 21224-12-21 09:50 G 9473321.72 9473321.91 9473322.15 0.0088 0.0048 Neptune 21225-12-23 20:38 G 9473689.16 9473689.36 9473689.59 0.0088 0.0047 Neptune 21226-12-26 06:43 G 9474056.59 9474056.78 9474057.02 0.0088 0.0048 Neptune 21227-12-28 17:16 G 9474424.02 9474424.22 9474424.45 0.0088 0.0048 Jupiter 21228-07-08 12:14 G 9474616.78 9474617.01 9474617.24 0.0535 0.0117 Neptune 21228-12-30 03:21 G 9474791.45 9474791.64 9474791.87 0.0088 0.0049 Neptune 21230-01-01 13:40 G 9475158.88 9475159.07 9475159.31 0.0088 0.0049 Saturn 21230-06-03 00:00 G 9475311.34 9475311.50 9475311.69 0.0288 0.0200 Neptune 21231-01-04 00:00 G 9475526.30 9475526.50 9475526.73 0.0088 0.0049 Saturn 21231-06-16 23:31 G 9475690.42 9475690.48 9475690.56 0.0286 0.0275 Neptune 21232-01-06 10:33 G 9475893.73 9475893.94 9475894.16 0.0088 0.0049 Neptune 21233-01-07 20:24 G 9476261.16 9476261.35 9476261.59 0.0088 0.0050 Jupiter 21234-01-02 11:45 G 9476620.76 9476620.99 9476621.23 0.0494 0.0026 Neptune 21234-01-10 06:43 G 9476628.59 9476628.78 9476629.02 0.0088 0.0050 Neptune 21235-01-12 17:16 G 9476996.03 9476996.22 9476996.45 0.0088 0.0050 Neptune 21236-01-15 03:21 G 9477363.45 9477363.64 9477363.87 0.0088 0.0050 Neptune 21237-01-16 14:09 G 9477730.88 9477731.09 9477731.31 0.0088 0.0049 Neptune 21238-01-19 00:14 G 9478098.31 9478098.51 9478098.73 0.0088 0.0049 Neptune 21239-01-21 10:19 G 9478465.73 9478465.93 9478466.16 0.0088 0.0049 Jupiter 21239-06-07 21:07 G 9478603.31 9478603.38 9478603.46 0.0522 0.0492

Neptune 21240-01-23 20:52 G 9478833.15 9478833.37 9478833.58 0.0088 0.0048 Uranus 21240-04-29 17:16 G 9478930.04 9478930.22 9478930.41 0.0136 0.0093 Jupiter 21240-07-13 17:45 G 9479005.03 9479005.24 9479005.46 0.0537 0.0225 Neptune 21241-01-25 06:43 G 9479200.58 9479200.78 9479201.01 0.0088 0.0048 Uranus 21241-05-04 05:02 G 9479299.46 9479299.71 9479299.96 0.0136 0.0036 Neptune 21242-01-27 16:48 G 9479568.00 9479568.20 9479568.43 0.0088 0.0048 Uranus 21242-05-08 15:50 G 9479668.91 9479669.16 9479669.42 0.0135 0.0021 Neptune 21243-01-30 03:07 G 9479935.43 9479935.63 9479935.86 0.0088 0.0047 Uranus 21243-05-13 02:09 G 9480038.40 9480038.59 9480038.82 0.0135 0.0078 Neptune 21244-02-01 13:26 G 9480302.85 9480303.06 9480303.29 0.0088 0.0046 Uranus 21244-05-16 12:43 G 9480408.00 9480408.03 9480408.07 0.0135 0.0133 Jupiter 21244-12-06 06:28 G 9480611.70 9480611.77 9480611.85 0.0506 0.0477 Neptune 21245-02-02 23:31 G 9480670.28 9480670.48 9480670.72 0.0088 0.0046 Saturn 21245-12-08 16:04 G 9480978.93 9480979.17 9480979.41 0.0272 0.0014 Jupiter 21246-01-06 20:09 G 9481008.12 9481008.34 9481008.57 0.0493 0.0106 Neptune 21246-02-05 10:04 G 9481037.72 9481037.92 9481038.16 0.0088 0.0045 Neptune 21247-02-07 20:24 G 9481405.14 9481405.35 9481405.58 0.0088 0.0044 Neptune 21248-02-10 06:57 G 9481772.58 9481772.79 9481773.02 0.0088 0.0043 Neptune 21249-02-11 17:31 G 9482140.01 9482140.23 9482140.46 0.0088 0.0042 Neptune 21250-02-14 03:50 G 9482507.44 9482507.66 9482507.89 0.0088 0.0041 Neptune 21251-02-16 14:09 G 9482874.87 9482875.09 9482875.33 0.0088 0.0040 Jupiter 21251-06-12 19:40 G 9482991.17 9482991.32 9482991.47 0.0525 0.0403 Neptune 21252-02-19 00:14 G 9483242.30 9483242.51 9483242.76 0.0088 0.0039 Jupiter 21252-07-19 00:28 G 9483393.34 9483393.52 9483393.71 0.0539 0.0331 Neptune 21253-02-20 10:48 G 9483609.74 9483609.95 9483610.20 0.0088 0.0038 Neptune 21254-02-22 21:36 G 9483977.17 9483977.40 9483977.64 0.0088 0.0036 Neptune 21255-02-25 07:40 G 9484344.60 9484344.82 9484345.07 0.0088 0.0035 Neptune 21256-02-27 18:00 G 9484712.03 9484712.25 9484712.51 0.0088 0.0034 Jupiter 21256-12-10 21:07 G 9484999.24 9484999.38 9484999.53 0.0504 0.0392 Neptune 21257-03-01 05:02 G 9485079.47 9485079.71 9485079.95 0.0088 0.0032

Jupiter 21258-01-11 04:04 G 9485395.46 9485395.67 9485395.89 0.0491 0.0185 Neptune 21258-03-03 15:21 G 9485446.91 9485447.14 9485447.39 0.0088 0.0031 Neptune 21259-03-06 02:09 G 9485814.36 9485814.59 9485814.84 0.0088 0.0029 Neptune 21260-03-07 12:43 G 9486181.80 9486182.03 9486182.29 0.0088 0.0028 Saturn 21260-06-10 00:00 G 9486276.26 9486276.50 9486276.74 0.0287 0.0060 Neptune 21261-03-09 23:45 G 9486549.25 9486549.49 9486549.74 0.0088 0.0026 Neptune 21262-03-12 10:48 G 9486916.70 9486916.95 9486917.20 0.0088 0.0024 Neptune 21263-03-14 21:07 G 9487284.14 9487284.38 9487284.64 0.0088 0.0023 Jupiter 21263-06-17 22:48 G 9487379.26 9487379.45 9487379.64 0.0527 0.0306 Neptune 21264-03-16 08:09 G 9487651.60 9487651.84 9487652.10 0.0088 0.0021 Jupiter 21264-07-24 11:02 G 9487781.84 9487781.96 9487782.10 0.0541 0.0441 Neptune 21265-03-18 18:57 G 9488019.04 9488019.29 9488019.55 0.0088 0.0019 Neptune 21266-03-21 05:45 G 9488386.49 9488386.74 9488387.00 0.0088 0.0017 Neptune 21267-03-23 16:48 G 9488753.95 9488754.20 9488754.45 0.0088 0.0015 Neptune 21268-03-25 03:21 G 9489121.40 9489121.64 9489121.91 0.0088 0.0014 Jupiter 21268-12-15 09:07 G 9489386.70 9489386.88 9489387.07 0.0501 0.0309 Neptune 21269-03-27 14:38 G 9489488.86 9489489.11 9489489.37 0.0088 0.0012 Jupiter 21270-01-15 10:04 G 9489782.72 9489782.92 9489783.12 0.0490 0.0260 Neptune 21270-03-30 01:40 G 9489856.32 9489856.57 9489856.83 0.0088 0.0010 21271-03-28 14:09 G 9490219.93 9490220.09 9490220.26 0.1638 0.0792 Mars Neptune 21271-04-01 12:57 G 9490223.78 9490224.04 9490224.30 0.0088 0.0008 Neptune 21272-04-03 00:00 G 9490591.25 9490591.50 9490591.77 0.0088 0.0007 Neptune 21273-04-05 11:31 G 9490958.73 9490958.98 9490959.24 0.0088 0.0005 Neptune 21274-04-07 22:48 G 9491326.19 9491326.45 9491326.71 0.0088 0.0002 Saturn 21274-12-03 06:14 G 9491565.57 9491565.76 9491565.95 0.0272 0.0171 Neptune 21275-04-10 10:19 G 9491693.67 9491693.93 9491694.19 0.0088 0.0000 Jupiter 21275-06-23 03:50 G 9491767.45 9491767.66 9491767.88 0.0530 0.0206 Saturn 21275-12-15 12:43 G 9491942.89 9491943.03 9491943.17 0.0273 0.0224 Neptune 21276-04-11 21:36 G 9492061.15 9492061.40 9492061.66 0.0088 0.0003 Neptune 21277-04-14 09:07 G 9492428.62 9492428.88 9492429.14 0.0088 0.0004

Neptune 21278-04-16 20:38 G 9492796.10 9492796.36 9492796.62 0.0088 0.0006 Neptune 21279-04-19 08:09 G 9493163.58 9493163.84 9493164.09 0.0088 0.0008 Neptune 21280-04-20 19:40 G 9493531.07 9493531.32 9493531.58 0.0088 0.0010 Jupiter 21280-12-19 19:55 G 9493774.13 9493774.33 9493774.54 0.0499 0.0225 Neptune 21281-04-23 07:12 G 9493898.55 9493898.80 9493899.06 0.0088 0.0012 Jupiter 21282-01-19 16:04 G 9494170.01 9494170.17 9494170.34 0.0489 0.0336 Neptune 21282-04-25 18:57 G 9494266.04 9494266.29 9494266.55 0.0088 0.0014 Neptune 21283-04-28 06:43 G 9494633.53 9494633.78 9494634.04 0.0088 0.0015 Uranus 21283-10-29 06:00 G 9494817.65 9494817.75 9494817.90 0.0142 0.0124 Neptune 21284-04-29 18:43 G 9495001.03 9495001.28 9495001.54 0.0088 0.0018 Uranus 21284-11-02 02:24 G 9495187.38 9495187.60 9495187.84 0.0143 0.0058 Neptune 21285-05-02 06:28 G 9495368.53 9495368.77 9495369.04 0.0088 0.0020 Uranus 21285-11-06 23:16 G 9495557.22 9495557.47 9495557.72 0.0143 0.0009 Neptune 21286-05-04 18:43 G 9495736.04 9495736.28 9495736.54 0.0089 0.0021 Uranus 21286-11-11 20:09 G 9495927.14 9495927.34 9495927.56 0.0143 0.0076 Neptune 21287-05-07 06:57 G 9496103.55 9496103.79 9496104.05 0.0089 0.0023 Jupiter 21287-06-28 06:57 G 9496155.56 9496155.79 9496156.02 0.0531 0.0107 Uranus 21287-11-16 18:00 G 9496297.25 9496297.25 9496297.26 0.0144 0.0144 Neptune 21288-05-08 19:12 G 9496471.05 9496471.30 9496471.55 0.0089 0.0025 Neptune 21289-05-11 07:12 G 9496838.57 9496838.80 9496839.06 0.0089 0.0027 Saturn 21289-06-04 00:14 G 9496862.31 9496862.51 9496862.73 0.0288 0.0153 Neptune 21290-05-13 19:12 G 9497206.07 9497206.30 9497206.56 0.0089 0.0029 Neptune 21291-05-16 07:40 G 9497573.58 9497573.82 9497574.07 0.0089 0.0030 Neptune 21292-05-17 19:40 G 9497941.09 9497941.32 9497941.58 0.0089 0.0032 Jupiter 21292-12-24 03:36 G 9498161.43 9498161.65 9498161.88 0.0498 0.0148 Neptune 21293-05-20 08:09 G 9498308.60 9498308.84 9498309.08 0.0089 0.0033 Jupiter 21294-01-23 21:21 G 9498557.26 9498557.39 9498557.52 0.0488 0.0404 Pluto 21294-04-01 04:19 G 9498624.55 9498624.68 9498624.85 0.0080 0.0065 Neptune 21294-05-22 20:24 G 9498676.12 9498676.35 9498676.60 0.0089 0.0035 Neptune 21295-05-25 08:38 G 9499043.64 9499043.86 9499044.11 0.0089 0.0037

Neptune 21296-05-26 21:21 G 9499411.17 9499411.39 9499411.63 0.0089 0.0038 Neptune 21297-05-29 10:04 G 9499778.69 9499778.92 9499779.16 0.0089 0.0039 Neptune 21298-05-31 22:19 G 9500146.22 9500146.43 9500146.68 0.0089 0.0041 Neptune 21299-06-03 11:16 G 9500513.75 9500513.97 9500514.21 0.0089 0.0042 Jupiter 21299-07-03 10:33 G 9500543.70 9500543.94 9500544.17 0.0533 0.0004 Neptune 21300-06-06 00:14 G 9500881.29 9500881.51 9500881.75 0.0089 0.0043 Neptune 21301-06-08 12:43 G 9501248.82 9501249.03 9501249.27 0.0089 0.0045 Neptune 21302-06-11 01:40 G 9501616.35 9501616.57 9501616.80 0.0089 0.0046 Neptune 21303-06-13 14:24 G 9501983.89 9501984.10 9501984.33 0.0089 0.0047 Neptune 21304-06-15 03:21 G 9502351.42 9502351.64 9502351.86 0.0089 0.0048 Saturn 21304-12-10 16:19 G 9502529.94 9502530.18 9502530.42 0.0272 0.0058 Jupiter 21304-12-29 13:26 G 9502548.83 9502549.06 9502549.29 0.0496 0.0064 Neptune 21305-06-17 15:50 G 9502718.95 9502719.16 9502719.39 0.0089 0.0048 Jupiter 21306-01-29 02:38 G 9502944.57 9502944.61 9502944.67 0.0487 0.0473 Neptune 21306-06-20 04:19 G 9503086.48 9503086.68 9503086.91 0.0089 0.0050 Neptune 21307-06-22 17:16 G 9503454.03 9503454.22 9503454.46 0.0089 0.0050 Neptune 21308-06-24 06:28 G 9503821.57 9503821.77 9503821.99 0.0089 0.0051 Neptune 21309-06-26 19:12 G 9504189.11 9504189.30 9504189.53 0.0089 0.0051 Neptune 21310-06-29 08:38 G 9504556.65 9504556.86 9504557.07 0.0089 0.0052 Neptune 21311-07-01 21:21 G 9504924.21 9504924.39 9504924.63 0.0089 0.0053 Jupiter 21311-07-09 14:09 G 9504931.87 9504932.09 9504932.33 0.0535 0.0105 Neptune 21312-07-03 10:48 G 9505291.75 9505291.95 9505292.17 0.0089 0.0053 Neptune 21313-07-06 00:14 G 9505659.30 9505659.51 9505659.72 0.0089 0.0053 Neptune 21314-07-08 12:43 G 9506026.85 9506027.03 9506027.26 0.0089 0.0054 Neptune 21315-07-11 01:55 G 9506394.40 9506394.58 9506394.81 0.0089 0.0054 Neptune 21316-07-12 15:07 G 9506761.95 9506762.13 9506762.36 0.0089 0.0054 Jupiter 21317-01-02 23:31 G 9506936.24 9506936.48 9506936.71 0.0494 0.0020 Neptune 21317-07-15 04:04 G 9507129.48 9507129.67 9507129.90 0.0089 0.0053 Neptune 21318-07-17 17:16 G 9507497.03 9507497.22 9507497.45 0.0089 0.0053 Saturn 21319-06-13 01:55 G 9507827.36 9507827.58 9507827.81 0.0287 0.0109

Neptune 21319-07-20 06:43 G 9507864.58 9507864.78 9507864.99 0.0089 0.0053 Neptune 21320-07-21 19:40 G 9508232.13 9508232.32 9508232.54 0.0089 0.0053 Neptune 21321-07-24 08:38 G 9508599.67 9508599.86 9508600.09 0.0089 0.0053 Jupiter 21322-06-08 02:24 G 9508918.53 9508918.60 9508918.67 0.0522 0.0498 Neptune 21322-07-26 22:04 G 9508967.22 9508967.42 9508967.65 0.0089 0.0052 Jupiter 21323-07-14 22:48 G 9509320.24 9509320.45 9509320.67 0.0537 0.0214 Neptune 21323-07-29 11:16 G 9509334.78 9509334.97 9509335.20 0.0089 0.0052 Uranus 21324-05-01 02:38 G 9509611.43 9509611.61 9509611.81 0.0136 0.0091 Neptune 21324-07-31 00:43 G 9509702.33 9509702.53 9509702.76 0.0090 0.0051 Uranus 21325-05-05 14:09 G 9509980.85 9509981.09 9509981.35 0.0136 0.0034 Neptune 21325-08-02 13:55 G 9510069.88 9510070.08 9510070.31 0.0090 0.0050 Uranus 21326-05-10 01:12 G 9510350.31 9510350.55 9510350.81 0.0135 0.0024 Neptune 21326-08-05 03:21 G 9510437.43 9510437.64 9510437.86 0.0090 0.0049 Uranus 21327-05-14 11:45 G 9510719.80 9510719.99 9510720.21 0.0135 0.0080 Neptune 21327-08-07 16:19 G 9510804.98 9510805.18 9510805.42 0.0090 0.0049 Jupiter 21327-12-07 17:31 G 9510927.16 9510927.23 9510927.30 0.0506 0.0480 Neptune 21328-08-09 05:02 G 9511172.52 9511172.71 9511172.96 0.0090 0.0048 Jupiter 21329-01-07 06:57 G 9511323.56 9511323.79 9511324.02 0.0493 0.0098 Neptune 21329-08-11 18:14 G 9511540.06 9511540.26 9511540.51 0.0090 0.0047 Neptune 21330-08-14 07:40 G 9511907.60 9511907.82 9511908.05 0.0090 0.0045 Neptune 21331-08-16 20:38 G 9512275.15 9512275.36 9512275.60 0.0090 0.0044 Neptune 21332-08-18 09:36 G 9512642.69 9512642.90 9512643.14 0.0090 0.0043 Neptune 21333-08-20 22:19 G 9513010.22 9513010.43 9513010.68 0.0090 0.0042 Saturn 21333-12-05 07:12 G 9513116.59 9513116.80 9513117.02 0.0272 0.0126 Jupiter 21334-06-13 04:19 G 9513306.55 9513306.68 9513306.84 0.0525 0.0409 Neptune 21334-08-23 11:45 G 9513377.77 9513377.99 9513378.23 0.0090 0.0040 Saturn 21334-12-17 13:12 G 9513494.02 9513494.05 9513494.10 0.0273 0.0269 Jupiter 21335-07-20 08:38 G 9513708.68 9513708.86 9513709.05 0.0539 0.0321 Neptune 21335-08-26 00:28 G 9513745.31 9513745.52 9513745.77 0.0090 0.0039 Neptune 21336-08-27 13:55 G 9514112.85 9514113.08 9514113.32 0.0090 0.0037

Neptune 21337-08-30 02:38 G 9514480.39 9514480.61 9514480.86 0.0090 0.0036 Neptune 21338-09-01 15:50 G 9514847.93 9514848.16 9514848.41 0.0090 0.0034 Neptune 21339-09-04 04:19 G 9515215.46 9515215.68 9515215.94 0.0090 0.0033 Jupiter 21339-12-12 06:14 G 9515314.63 9515314.76 9515314.91 0.0504 0.0397 Neptune 21340-09-05 17:16 G 9515582.99 9515583.22 9515583.47 0.0090 0.0031 Jupiter 21341-01-11 14:09 G 9515710.88 9515711.09 9515711.31 0.0491 0.0177 Neptune 21341-09-08 06:00 G 9515950.51 9515950.75 9515951.00 0.0089 0.0029 Neptune 21342-09-10 18:43 G 9516318.04 9516318.28 9516318.53 0.0089 0.0027 Neptune 21343-09-13 07:26 G 9516685.56 9516685.81 9516686.06 0.0089 0.0025 Neptune 21344-09-14 19:55 G 9517053.08 9517053.33 9517053.58 0.0089 0.0023 Neptune 21345-09-17 08:09 G 9517420.60 9517420.84 9517421.10 0.0089 0.0022 Jupiter 21346-06-18 06:14 G 9517694.58 9517694.76 9517694.95 0.0526 0.0316 Neptune 21346-09-19 20:38 G 9517788.12 9517788.36 9517788.63 0.0089 0.0020 Jupiter 21347-07-25 14:38 G 9518096.97 9518097.11 9518097.26 0.0539 0.0421 Neptune 21347-09-22 09:21 G 9518155.64 9518155.89 9518156.15 0.0089 0.0017 Saturn 21348-06-06 00:43 G 9518413.31 9518413.53 9518413.77 0.0288 0.0106 Neptune 21348-09-23 21:50 G 9518523.16 9518523.41 9518523.67 0.0089 0.0015 Neptune 21349-09-26 10:19 G 9518890.69 9518890.93 9518891.20 0.0089 0.0014 Mars 21350-03-31 18:43 G 9519077.10 9519077.28 9519077.45 0.1642 0.0675 Neptune 21350-09-28 22:48 G 9519258.21 9519258.45 9519258.72 0.0089 0.0012 Neptune 21351-10-01 11:16 G 9519625.72 9519625.97 9519626.23 0.0089 0.0009 Jupiter 21351-12-16 14:52 G 9519701.94 9519702.12 9519702.30 0.0502 0.0320 Neptune 21352-10-02 23:31 G 9519993.23 9519993.48 9519993.74 0.0089 0.0007 Jupiter 21353-01-15 19:12 G 9520098.10 9520098.30 9520098.50 0.0490 0.0250 Neptune 21353-10-05 11:45 G 9520360.73 9520360.99 9520361.25 0.0089 0.0005 Neptune 21354-10-08 00:00 G 9520728.24 9520728.50 9520728.76 0.0089 0.0003 Neptune 21355-10-10 11:45 G 9521095.74 9521095.99 9521096.25 0.0089 0.0001 Neptune 21356-10-11 23:45 G 9521463.24 9521463.49 9521463.75 0.0089 0.0002 Neptune 21357-10-14 11:45 G 9521830.73 9521830.99 9521831.25 0.0089 0.0004 Jupiter 21358-06-23 07:40 G 9522082.61 9522082.82 9522083.04 0.0528 0.0219

Neptune 21358-10-16 23:31 G 9522198.23 9522198.48 9522198.74 0.0089 0.0006 Jupiter 21359-07-30 21:21 G 9522485.34 9522485.39 9522485.45 0.0540 0.0523 Neptune 21359-10-19 11:31 G 9522565.73 9522565.98 9522566.24 0.0089 0.0008 Neptune 21360-10-20 23:16 G 9522933.22 9522933.47 9522933.73 0.0089 0.0010 Neptune 21361-10-23 11:16 G 9523300.72 9523300.97 9523301.23 0.0089 0.0012 Neptune 21362-10-25 23:02 G 9523668.21 9523668.46 9523668.72 0.0089 0.0014 Neptune 21363-10-28 10:48 G 9524035.70 9524035.95 9524036.21 0.0089 0.0016 Saturn 21363-12-12 17:45 G 9524081.01 9524081.24 9524081.47 0.0272 0.0104 Jupiter 21363-12-21 02:24 G 9524089.39 9524089.60 9524089.80 0.0500 0.0236 Neptune 21364-10-29 22:19 G 9524403.18 9524403.43 9524403.69 0.0089 0.0018 Jupiter 21365-01-20 01:40 G 9524485.40 9524485.57 9524485.74 0.0489 0.0325 Neptune 21365-11-01 09:50 G 9524770.67 9524770.91 9524771.17 0.0089 0.0020 Neptune 21366-11-03 21:21 G 9525138.14 9525138.39 9525138.64 0.0089 0.0022 Uranus 21367-10-30 17:02 G 9525499.09 9525499.21 9525499.36 0.0142 0.0120 Neptune 21367-11-06 08:38 G 9525505.62 9525505.86 9525506.11 0.0089 0.0024 Uranus 21368-11-03 13:12 G 9525868.83 9525869.05 9525869.30 0.0143 0.0055 Neptune 21368-11-07 19:40 G 9525873.09 9525873.32 9525873.58 0.0089 0.0026 Uranus 21369-11-08 10:04 G 9526238.67 9526238.92 9526239.18 0.0143 0.0013 Neptune 21369-11-10 06:57 G 9526240.56 9526240.79 9526241.05 0.0089 0.0028 Jupiter 21370-06-28 08:24 G 9526470.62 9526470.85 9526471.08 0.0531 0.0119 Neptune 21370-11-12 18:14 G 9526608.03 9526608.26 9526608.52 0.0089 0.0030 Uranus 21370-11-13 07:12 G 9526608.60 9526608.80 9526609.02 0.0143 0.0080 Neptune 21371-11-15 05:16 G 9526975.49 9526975.72 9526975.97 0.0089 0.0031 Neptune 21372-11-16 16:33 G 9527342.96 9527343.19 9527343.44 0.0089 0.0033 Neptune 21373-11-19 03:21 G 9527710.43 9527710.64 9527710.90 0.0089 0.0035 Neptune 21374-11-21 14:52 G 9528077.89 9528078.12 9528078.36 0.0089 0.0036 Neptune 21375-11-24 01:40 G 9528445.36 9528445.57 9528445.82 0.0089 0.0038 Jupiter 21375-12-25 14:09 G 9528476.87 9528477.09 9528477.32 0.0498 0.0152 Neptune 21376-11-25 12:57 G 9528812.82 9528813.04 9528813.28 0.0088 0.0039 Jupiter 21377-01-24 08:24 G 9528872.71 9528872.85 9528872.98 0.0488 0.0397

Neptune 21377-11-27 23:31 G 9529180.27 9529180.48 9529180.73 0.0088 0.0041 Saturn 21378-06-14 04:33 G 9529378.49 9529378.69 9529378.89 0.0287 0.0159 Neptune 21378-11-30 10:33 G 9529547.73 9529547.94 9529548.18 0.0088 0.0042 Neptune 21379-12-02 21:36 G 9529915.17 9529915.40 9529915.62 0.0088 0.0043 Neptune 21380-12-04 07:40 G 9530282.62 9530282.82 9530283.06 0.0088 0.0045 Neptune 21381-12-06 18:28 G 9530650.07 9530650.27 9530650.51 0.0088 0.0046 Jupiter 21382-07-03 14:09 G 9530858.85 9530859.09 9530859.32 0.0533 0.0014 Neptune 21382-12-09 05:02 G 9531017.51 9531017.71 9531017.95 0.0088 0.0047 Neptune 21383-12-11 15:50 G 9531384.96 9531385.16 9531385.39 0.0088 0.0047 Neptune 21384-12-13 02:24 G 9531752.40 9531752.60 9531752.83 0.0088 0.0049 Neptune 21385-12-15 12:57 G 9532119.84 9532120.04 9532120.27 0.0088 0.0049 Neptune 21386-12-17 23:31 G 9532487.29 9532487.48 9532487.71 0.0088 0.0051 Neptune 21387-12-20 09:50 G 9532854.73 9532854.91 9532855.15 0.0088 0.0052 Jupiter 21387-12-30 00:00 G 9532864.27 9532864.50 9532864.73 0.0496 0.0070 Neptune 21388-12-21 21:07 G 9533222.18 9533222.38 9533222.59 0.0088 0.0051 Jupiter 21389-01-28 12:43 G 9533259.98 9533260.03 9533260.11 0.0487 0.0465 Neptune 21389-12-24 07:12 G 9533589.62 9533589.80 9533590.03 0.0088 0.0052 Neptune 21390-12-26 18:14 G 9533957.05 9533957.26 9533957.46 0.0088 0.0053 Neptune 21391-12-29 04:04 G 9534324.48 9534324.67 9534324.89 0.0088 0.0053 Saturn 21392-12-06 09:50 G 9534667.68 9534667.91 9534668.14 0.0272 0.0079 Neptune 21392-12-30 14:52 G 9534691.92 9534692.12 9534692.33 0.0088 0.0053 Neptune 21394-01-02 00:28 G 9535059.35 9535059.52 9535059.75 0.0088 0.0054 Jupiter 21394-07-08 21:50 G 9535247.18 9535247.41 9535247.64 0.0535 0.0095 Neptune 21395-01-04 11:02 G 9535426.78 9535426.96 9535427.18 0.0088 0.0054 Neptune 21396-01-06 21:21 G 9535794.21 9535794.39 9535794.61 0.0088 0.0054 Neptune 21397-01-08 07:40 G 9536161.64 9536161.82 9536162.04 0.0088 0.0054 Neptune 21398-01-10 18:00 G 9536529.07 9536529.25 9536529.47 0.0088 0.0054 Neptune 21399-01-13 04:19 G 9536896.49 9536896.68 9536896.90 0.0088 0.0054 Jupiter 21400-01-03 08:38 G 9537251.63 9537251.86 9537252.09 0.0495 0.0012 Neptune 21400-01-15 14:38 G 9537263.93 9537264.11 9537264.34 0.0088 0.0054

Neptune 21401-01-18 00:57 G 9537631.36 9537631.54 9537631.77 0.0088 0.0054 Neptune 21402-01-20 11:45 G 9537998.79 9537998.99 9537999.20 0.0088 0.0053 Neptune 21403-01-22 21:50 G 9538366.22 9538366.41 9538366.63 0.0088 0.0053 Neptune 21404-01-25 08:24 G 9538733.65 9538733.85 9538734.06 0.0088 0.0052 Neptune 21405-01-26 18:14 G 9539101.07 9539101.26 9539101.49 0.0088 0.0052 Jupiter 21405-06-08 10:33 G 9539233.89 9539233.94 9539234.01 0.0521 0.0505 Neptune 21406-01-29 04:33 G 9539468.50 9539468.69 9539468.91 0.0088 0.0051 Jupiter 21406-07-15 03:36 G 9539635.44 9539635.65 9539635.87 0.0536 0.0198 Neptune 21407-01-31 15:07 G 9539835.92 9539836.13 9539836.34 0.0088 0.0050 Saturn 21407-06-09 02:38 G 9539964.37 9539964.61 9539964.86 0.0288 0.0057 Neptune 21408-02-03 00:43 G 9540203.34 9540203.53 9540203.76 0.0088 0.0050 Uranus 21408-05-02 11:16 G 9540292.78 9540292.97 9540293.16 0.0136 0.0089 Neptune 21409-02-04 11:02 G 9540570.77 9540570.96 9540571.20 0.0088 0.0049 Uranus 21409-05-06 22:48 G 9540662.20 9540662.45 9540662.70 0.0136 0.0032 Neptune 21410-02-06 21:07 G 9540938.19 9540938.38 9540938.62 0.0088 0.0048 Uranus 21410-05-11 09:36 G 9541031.65 9541031.90 9541032.16 0.0135 0.0026 Jupiter 21410-12-07 20:52 G 9541242.31 9541242.37 9541242.42 0.0507 0.0491 Neptune 21411-02-09 07:40 G 9541305.62 9541305.82 9541306.05 0.0088 0.0047 Uranus 21411-05-15 20:24 G 9541401.15 9541401.35 9541401.55 0.0135 0.0082 Jupiter 21412-01-08 13:55 G 9541638.85 9541639.08 9541639.31 0.0494 0.0088 Neptune 21412-02-11 18:00 G 9541673.05 9541673.25 9541673.49 0.0088 0.0046 Neptune 21413-02-13 04:19 G 9542040.48 9542040.68 9542040.92 0.0088 0.0045 Neptune 21414-02-15 15:21 G 9542407.91 9542408.14 9542408.36 0.0088 0.0043 Neptune 21415-02-18 01:26 G 9542775.34 9542775.56 9542775.79 0.0088 0.0042 Neptune 21416-02-20 11:45 G 9543142.78 9543142.99 9543143.23 0.0088 0.0041 Neptune 21417-02-21 22:04 G 9543510.21 9543510.42 9543510.67 0.0088 0.0040 Jupiter 21417-06-13 09:50 G 9543621.78 9543621.91 9543622.06 0.0523 0.0416 Neptune 21418-02-24 08:38 G 9543877.64 9543877.86 9543878.10 0.0088 0.0038 Jupiter 21418-07-20 09:07 G 9544023.69 9544023.88 9544024.08 0.0537 0.0302 Neptune 21419-02-26 18:43 G 9544245.07 9544245.28 9544245.53 0.0088 0.0037

Neptune 21420-02-29 05:31 G 9544612.50 9544612.73 9544612.98 0.0088 0.0035 Neptune 21421-03-02 15:36 G 9544979.94 9544980.15 9544980.41 0.0088 0.0034 Saturn 21421-12-02 15:36 G 9545255.04 9545255.15 9545255.27 0.0271 0.0240 Neptune 21422-03-05 02:24 G 9545347.37 9545347.60 9545347.85 0.0088 0.0032 Jupiter 21422-12-12 09:50 G 9545629.78 9545629.91 9545630.05 0.0505 0.0408 Saturn 21422-12-14 20:52 G 9545632.17 9545632.37 9545632.58 0.0272 0.0151 Neptune 21423-03-07 12:57 G 9545714.81 9545715.04 9545715.29 0.0088 0.0030 Jupiter 21424-01-12 21:21 G 9546026.17 9546026.39 9546026.61 0.0492 0.0166 Neptune 21424-03-08 23:45 G 9546082.25 9546082.49 9546082.74 0.0088 0.0028 Neptune 21425-03-11 10:19 G 9546449.70 9546449.93 9546450.19 0.0088 0.0027 Neptune 21426-03-13 21:07 G 9546817.14 9546817.38 9546817.64 0.0088 0.0025 Neptune 21427-03-16 08:09 G 9547184.60 9547184.84 9547185.10 0.0088 0.0023 Neptune 21428-03-17 18:57 G 9547552.05 9547552.29 9547552.55 0.0088 0.0021 Neptune 21429-03-20 06:00 G 9547919.50 9547919.75 9547920.01 0.0088 0.0019 Jupiter 21429-06-18 07:12 G 9548009.62 9548009.80 9548009.99 0.0526 0.0326 Neptune 21430-03-22 16:48 G 9548286.95 9548287.20 9548287.46 0.0088 0.0017 Jupiter 21430-07-25 13:55 G 9548411.93 9548412.08 9548412.24 0.0539 0.0405 Neptune 21431-03-25 03:36 G 9548654.41 9548654.65 9548654.91 0.0088 0.0015 Neptune 21432-03-26 14:38 G 9549021.86 9549022.11 9549022.38 0.0088 0.0013 Neptune 21433-03-29 01:40 G 9549389.32 9549389.57 9549389.83 0.0088 0.0011 Neptune 21434-03-31 12:43 G 9549756.78 9549757.03 9549757.29 0.0088 0.0009 Jupiter 21434-12-17 00:14 G 9550017.33 9550017.51 9550017.68 0.0503 0.0324 Neptune 21435-04-02 23:45 G 9550124.24 9550124.49 9550124.75 0.0088 0.0007 Jupiter 21436-01-17 05:16 G 9550413.52 9550413.72 9550413.92 0.0491 0.0244 Neptune 21436-04-04 11:02 G 9550491.71 9550491.96 9550492.22 0.0088 0.0005 Saturn 21436-06-02 08:24 G 9550550.76 9550550.85 9550550.95 0.0288 0.0264 Neptune 21437-04-06 22:19 G 9550859.17 9550859.43 9550859.69 0.0088 0.0003 Saturn 21437-06-16 08:38 G 9550929.70 9550929.86 9550930.03 0.0287 0.0211 Neptune 21438-04-09 09:36 G 9551226.65 9551226.90 9551227.16 0.0088 0.0001 Neptune 21439-04-11 21:07 G 9551594.12 9551594.38 9551594.64 0.0088 0.0002

Neptune 21440-04-13 08:38 G 9551961.60 9551961.86 9551962.12 0.0088 0.0004 Neptune 21441-04-15 20:09 G 9552329.08 9552329.34 9552329.60 0.0088 0.0006 Jupiter 21441-06-23 09:36 G 9552397.69 9552397.90 9552398.12 0.0528 0.0228 Neptune 21442-04-18 07:26 G 9552696.55 9552696.81 9552697.07 0.0088 0.0008 Jupiter 21442-07-30 23:45 G 9552800.42 9552800.49 9552800.57 0.0541 0.0510 Neptune 21443-04-20 18:57 G 9553064.04 9553064.29 9553064.55 0.0088 0.0011 Neptune 21444-04-22 06:28 G 9553431.52 9553431.77 9553432.03 0.0088 0.0013 Neptune 21445-04-24 18:00 G 9553799.00 9553799.25 9553799.51 0.0088 0.0015 Neptune 21446-04-27 05:45 G 9554166.48 9554166.74 9554166.99 0.0088 0.0017 Jupiter 21446-12-21 12:00 G 9554404.80 9554405.00 9554405.21 0.0501 0.0242 Neptune 21447-04-29 17:16 G 9554533.97 9554534.22 9554534.48 0.0088 0.0019 Jupiter 21448-01-21 11:16 G 9554800.79 9554800.97 9554801.15 0.0489 0.0317 Neptune 21448-05-01 05:16 G 9554901.47 9554901.72 9554901.97 0.0088 0.0021 Neptune 21449-05-03 17:02 G 9555268.96 9555269.21 9555269.46 0.0088 0.0023 Neptune 21450-05-06 04:48 G 9555636.46 9555636.70 9555636.95 0.0089 0.0025 Neptune 21451-05-08 16:48 G 9556003.96 9556004.20 9556004.46 0.0089 0.0027 Uranus 21451-11-01 02:38 G 9556180.47 9556180.61 9556180.75 0.0142 0.0118 Saturn 21451-12-09 14:24 G 9556218.86 9556219.10 9556219.34 0.0272 0.0030 Neptune 21452-05-10 05:02 G 9556371.47 9556371.71 9556371.96 0.0089 0.0029 Pluto 21452-10-03 18:00 G 9556517.99 9556518.25 9556518.51 0.0064 0.0003 Uranus 21452-11-04 22:48 G 9556550.22 9556550.45 9556550.69 0.0143 0.0052 Neptune 21453-05-12 16:48 G 9556738.97 9556739.20 9556739.46 0.0089 0.0031 Jupiter 21453-06-28 14:52 G 9556785.89 9556786.12 9556786.35 0.0531 0.0128 Uranus 21453-11-09 19:40 G 9556920.07 9556920.32 9556920.57 0.0143 0.0015 Neptune 21454-05-15 05:02 G 9557106.49 9557106.71 9557106.97 0.0089 0.0033 Uranus 21454-11-14 16:48 G 9557290.00 9557290.20 9557290.41 0.0143 0.0083 Neptune 21455-05-17 17:16 G 9557474.00 9557474.22 9557474.48 0.0089 0.0035 Neptune 21456-05-19 05:45 G 9557841.51 9557841.74 9557841.98 0.0089 0.0036 Neptune 21457-05-21 17:45 G 9558209.02 9558209.24 9558209.49 0.0089 0.0038 Neptune 21458-05-24 05:45 G 9558576.53 9558576.74 9558577.00 0.0089 0.0040

Jupiter 21458-12-25 22:33 G 9558792.22 9558792.44 9558792.66 0.0499 0.0159 Neptune 21459-05-26 18:28 G 9558944.05 9558944.27 9558944.51 0.0089 0.0041 Jupiter 21460-01-25 17:02 G 9559188.08 9559188.21 9559188.35 0.0488 0.0389 Neptune 21460-05-28 06:43 G 9559311.57 9559311.78 9559312.03 0.0089 0.0043 Neptune 21461-05-30 19:12 G 9559679.09 9559679.30 9559679.54 0.0089 0.0044 Neptune 21462-06-02 08:09 G 9560046.62 9560046.84 9560047.06 0.0089 0.0045 Neptune 21463-06-04 20:24 G 9560414.15 9560414.35 9560414.59 0.0089 0.0047 Neptune 21464-06-06 09:07 G 9560781.68 9560781.88 9560782.12 0.0089 0.0048 Neptune 21465-06-08 22:04 G 9561149.22 9561149.42 9561149.65 0.0089 0.0049 Jupiter 21465-07-03 19:55 G 9561174.09 9561174.33 9561174.56 0.0532 0.0026 Saturn 21466-06-10 06:28 G 9561515.52 9561515.77 9561516.02 0.0288 0.0006 Neptune 21466-06-11 11:02 G 9561516.76 9561516.96 9561517.18 0.0089 0.0050 Neptune 21467-06-14 00:00 G 9561884.29 9561884.50 9561884.71 0.0089 0.0052 Neptune 21468-06-15 12:43 G 9562251.83 9562252.03 9562252.25 0.0089 0.0053 Neptune 21469-06-18 01:26 G 9562619.36 9562619.56 9562619.77 0.0089 0.0053 Neptune 21470-06-20 14:09 G 9562986.90 9562987.09 9562987.31 0.0089 0.0055 Jupiter 21470-12-30 04:19 G 9563179.45 9563179.68 9563179.91 0.0497 0.0081 Neptune 21471-06-23 02:52 G 9563354.44 9563354.62 9563354.84 0.0089 0.0055 Jupiter 21472-01-29 20:24 G 9563575.28 9563575.35 9563575.44 0.0488 0.0455 Neptune 21472-06-24 16:04 G 9563721.97 9563722.17 9563722.38 0.0089 0.0056 Neptune 21473-06-27 04:33 G 9564089.51 9564089.69 9564089.91 0.0089 0.0057 Neptune 21474-06-29 18:00 G 9564457.06 9564457.25 9564457.46 0.0089 0.0057 Neptune 21475-07-02 06:43 G 9564824.60 9564824.78 9564825.00 0.0089 0.0058 21476-03-28 14:38 G 9565095.06 9565095.11 9565095.16 0.1631 0.1557 Mars Neptune 21476-07-03 19:55 G 9565192.15 9565192.33 9565192.55 0.0089 0.0058 Neptune 21477-07-06 09:21 G 9565559.70 9565559.89 9565560.09 0.0089 0.0058 Jupiter 21477-07-08 23:31 G 9565562.25 9565562.48 9565562.72 0.0534 0.0080 Neptune 21478-07-08 22:33 G 9565927.25 9565927.44 9565927.64 0.0089 0.0058 Neptune 21479-07-11 12:00 G 9566294.80 9566295.00 9566295.20 0.0089 0.0058 Neptune 21480-07-13 00:43 G 9566662.34 9566662.53 9566662.73 0.0089 0.0058

Saturn 21480-12-03 20:24 G 9566806.19 9566806.35 9566806.54 0.0271 0.0192 Neptune 21481-07-15 13:40 G 9567029.89 9567030.07 9567030.28 0.0089 0.0058 Saturn 21481-12-16 02:09 G 9567183.43 9567183.59 9567183.76 0.0272 0.0200 Neptune 21482-07-18 02:38 G 9567397.43 9567397.61 9567397.83 0.0089 0.0058 Mars 21482-10-02 05:45 G 9567473.55 9567473.74 9567473.92 0.1900 0.0669 Jupiter 21483-01-03 13:12 G 9567566.82 9567567.05 9567567.29 0.0496 0.0009 Neptune 21483-07-20 15:36 G 9567764.98 9567765.15 9567765.37 0.0089 0.0058 Neptune 21484-07-22 04:48 G 9568132.52 9568132.70 9568132.92 0.0089 0.0057 Neptune 21485-07-24 17:45 G 9568500.06 9568500.24 9568500.46 0.0090 0.0057 Neptune 21486-07-27 06:57 G 9568867.61 9568867.79 9568868.01 0.0090 0.0056 Neptune 21487-07-29 20:24 G 9569235.15 9569235.35 9569235.56 0.0090 0.0055 Jupiter 21488-06-07 11:16 G 9569548.93 9569548.97 9569549.01 0.0520 0.0512 Neptune 21488-07-31 09:07 G 9569602.70 9569602.88 9569603.11 0.0090 0.0055 Jupiter 21489-07-14 01:26 G 9569950.35 9569950.56 9569950.79 0.0536 0.0182 Neptune 21489-08-02 22:19 G 9569970.25 9569970.43 9569970.66 0.0090 0.0054 Neptune 21490-08-05 11:45 G 9570337.80 9570337.99 9570338.22 0.0090 0.0053 Neptune 21491-08-08 00:57 G 9570705.35 9570705.54 9570705.77 0.0090 0.0052 Uranus 21492-05-02 20:24 G 9570974.16 9570974.35 9570974.55 0.0136 0.0087 Neptune 21492-08-09 14:09 G 9571072.90 9571073.09 9571073.33 0.0090 0.0051 Uranus 21493-05-07 07:40 G 9571343.58 9571343.82 9571344.08 0.0136 0.0030 Neptune 21493-08-12 03:07 G 9571440.44 9571440.63 9571440.87 0.0090 0.0050 Jupiter 21493-12-07 03:50 G 9571557.63 9571557.66 9571557.72 0.0508 0.0496 Uranus 21494-05-11 18:43 G 9571713.04 9571713.28 9571713.54 0.0135 0.0028 Neptune 21494-08-14 16:33 G 9571807.99 9571808.19 9571808.42 0.0090 0.0048 Jupiter 21495-01-07 22:33 G 9571954.22 9571954.44 9571954.67 0.0494 0.0082 Uranus 21495-05-16 05:02 G 9572082.53 9572082.71 9572082.93 0.0135 0.0085 Saturn 21495-06-04 15:07 G 9572101.96 9572102.13 9572102.30 0.0288 0.0210 Neptune 21495-08-17 05:31 G 9572175.53 9572175.73 9572175.97 0.0090 0.0047 Saturn 21496-06-17 15:07 G 9572481.05 9572481.13 9572481.23 0.0287 0.0266 Neptune 21496-08-18 18:43 G 9572543.06 9572543.28 9572543.51 0.0090 0.0045

Neptune 21497-08-21 07:26 G 9572910.60 9572910.81 9572911.05 0.0090 0.0044 Neptune 21498-08-23 20:38 G 9573278.14 9573278.36 9573278.59 0.0090 0.0042 Neptune 21499-08-26 09:21 G 9573645.68 9573645.89 9573646.14 0.0090 0.0041 Jupiter 21500-06-13 10:19 G 9573936.80 9573936.93 9573937.07 0.0523 0.0425 Neptune 21500-08-28 22:33 G 9574013.21 9574013.44 9574013.68 0.0090 0.0039 Jupiter 21501-07-20 08:38 G 9574338.67 9574338.86 9574339.06 0.0538 0.0288 Neptune 21501-08-31 11:16 G 9574380.76 9574380.97 9574381.23 0.0090 0.0038 Neptune 21502-09-03 00:28 G 9574748.30 9574748.52 9574748.77 0.0089 0.0036 Neptune 21503-09-05 13:40 G 9575115.84 9575116.07 9575116.32 0.0089 0.0034 Neptune 21504-09-07 02:24 G 9575483.37 9575483.60 9575483.86 0.0089 0.0032 Neptune 21505-09-09 15:21 G 9575850.91 9575851.14 9575851.39 0.0089 0.0030 Jupiter 21505-12-12 18:43 G 9575945.15 9575945.28 9575945.41 0.0505 0.0414 Neptune 21506-09-12 04:19 G 9576218.44 9576218.68 9576218.93 0.0089 0.0028 Jupiter 21507-01-13 06:14 G 9576341.54 9576341.76 9576341.98 0.0492 0.0158 Neptune 21507-09-14 16:48 G 9576585.96 9576586.20 9576586.45 0.0089 0.0026 Neptune 21508-09-16 05:31 G 9576953.49 9576953.73 9576953.99 0.0089 0.0023 Neptune 21509-09-18 18:00 G 9577321.01 9577321.25 9577321.51 0.0089 0.0022 Neptune 21510-09-21 06:28 G 9577688.53 9577688.77 9577689.04 0.0089 0.0020 Saturn 21510-12-11 20:52 G 9577770.13 9577770.37 9577770.62 0.0272 0.0022 Neptune 21511-09-23 18:57 G 9578056.05 9578056.29 9578056.56 0.0089 0.0017 Jupiter 21512-06-18 12:00 G 9578324.83 9578325.00 9578325.19 0.0526 0.0334 Neptune 21512-09-25 07:40 G 9578423.57 9578423.82 9578424.08 0.0089 0.0015 Jupiter 21513-07-25 18:28 G 9578727.12 9578727.27 9578727.44 0.0539 0.0393 Neptune 21513-09-27 20:09 G 9578791.09 9578791.34 9578791.60 0.0089 0.0012 Neptune 21514-09-30 08:24 G 9579158.60 9579158.85 9579159.12 0.0089 0.0011 Neptune 21515-10-02 20:52 G 9579526.12 9579526.37 9579526.63 0.0089 0.0008 Neptune 21516-10-04 09:21 G 9579893.63 9579893.89 9579894.15 0.0089 0.0006 Neptune 21517-10-06 21:50 G 9580261.15 9580261.41 9580261.67 0.0089 0.0003 Jupiter 21517-12-17 07:12 G 9580332.63 9580332.80 9580332.98 0.0503 0.0331 Neptune 21518-10-09 09:50 G 9580628.65 9580628.91 9580629.17 0.0089 0.0001

Jupiter 21519-01-17 12:57 G 9580728.84 9580729.04 9580729.25 0.0491 0.0235 Neptune 21519-10-11 22:04 G 9580996.16 9580996.42 9580996.68 0.0089 0.0001 Neptune 21520-10-13 09:50 G 9581363.66 9581363.91 9581364.17 0.0089 0.0004 Neptune 21521-10-15 21:50 G 9581731.16 9581731.41 9581731.67 0.0089 0.0006 Neptune 21522-10-18 09:50 G 9582098.65 9582098.91 9582099.17 0.0089 0.0008 Neptune 21523-10-20 21:36 G 9582466.14 9582466.40 9582466.65 0.0089 0.0010 Jupiter 21524-06-23 15:50 G 9582712.96 9582713.16 9582713.37 0.0527 0.0238 Neptune 21524-10-22 09:07 G 9582833.64 9582833.88 9582834.15 0.0089 0.0013 Saturn 21525-06-12 13:26 G 9583066.82 9583067.06 9583067.30 0.0288 0.0049 Jupiter 21525-07-31 02:38 G 9583115.52 9583115.61 9583115.71 0.0540 0.0493 Neptune 21525-10-24 20:52 G 9583201.13 9583201.37 9583201.64 0.0089 0.0015 Neptune 21526-10-27 08:52 G 9583568.62 9583568.87 9583569.13 0.0089 0.0017 Neptune 21527-10-29 20:38 G 9583936.11 9583936.36 9583936.61 0.0089 0.0019 Neptune 21528-10-31 08:24 G 9584303.61 9584303.85 9584304.10 0.0089 0.0021 Neptune 21529-11-02 20:09 G 9584671.09 9584671.34 9584671.59 0.0089 0.0023 Jupiter 21529-12-21 14:24 G 9584719.90 9584720.10 9584720.30 0.0501 0.0253 Neptune 21530-11-05 07:26 G 9585038.58 9585038.81 9585039.07 0.0089 0.0026 Jupiter 21531-01-21 16:19 G 9585116.00 9585116.18 9585116.36 0.0490 0.0306 Neptune 21531-11-07 18:43 G 9585406.05 9585406.28 9585406.54 0.0089 0.0028 Neptune 21532-11-09 06:00 G 9585773.53 9585773.75 9585774.01 0.0089 0.0030 Neptune 21533-11-11 17:31 G 9586141.01 9586141.23 9586141.49 0.0089 0.0032 Neptune 21534-11-14 04:33 G 9586508.47 9586508.69 9586508.95 0.0089 0.0034 Uranus 21535-11-02 10:33 G 9586861.82 9586861.94 9586862.11 0.0142 0.0117 Neptune 21535-11-16 16:04 G 9586875.94 9586876.17 9586876.41 0.0089 0.0035 Jupiter 21536-06-28 17:31 G 9587101.00 9587101.23 9587101.46 0.0529 0.0139 Uranus 21536-11-06 07:26 G 9587231.57 9587231.81 9587232.05 0.0143 0.0050 Neptune 21536-11-18 03:07 G 9587243.41 9587243.63 9587243.88 0.0089 0.0037 Uranus 21537-11-11 04:04 G 9587601.42 9587601.67 9587601.92 0.0143 0.0017 Neptune 21537-11-20 14:09 G 9587610.88 9587611.09 9587611.34 0.0089 0.0039 Uranus 21538-11-16 01:12 G 9587971.36 9587971.55 9587971.77 0.0143 0.0085

Neptune 21538-11-23 01:12 G 9587978.34 9587978.55 9587978.80 0.0089 0.0041 Neptune 21539-11-25 12:28 G 9588345.81 9588346.02 9588346.26 0.0089 0.0042 Saturn 21539-12-07 03:21 G 9588357.43 9588357.64 9588357.85 0.0271 0.0141 Neptune 21540-11-26 23:31 G 9588713.27 9588713.48 9588713.72 0.0088 0.0044 Saturn 21540-12-18 09:07 G 9588734.79 9588734.88 9588734.97 0.0272 0.0251 Pluto 21541-04-03 20:38 G 9588841.29 9588841.36 9588841.46 0.0080 0.0076 Neptune 21541-11-29 11:02 G 9589080.74 9589080.96 9589081.18 0.0088 0.0045 Jupiter 21541-12-26 00:28 G 9589107.30 9589107.52 9589107.74 0.0500 0.0170 Neptune 21542-12-01 21:36 G 9589448.20 9589448.40 9589448.63 0.0088 0.0047 Jupiter 21543-01-25 22:04 G 9589503.28 9589503.42 9589503.57 0.0489 0.0378 Neptune 21543-12-04 08:38 G 9589815.65 9589815.86 9589816.08 0.0088 0.0048 Neptune 21544-12-05 19:12 G 9590183.11 9590183.30 9590183.54 0.0088 0.0050 Neptune 21545-12-08 06:00 G 9590550.56 9590550.75 9590550.98 0.0088 0.0050 Neptune 21546-12-10 16:48 G 9590918.01 9590918.20 9590918.42 0.0088 0.0051 Neptune 21547-12-13 03:21 G 9591285.45 9591285.64 9591285.86 0.0088 0.0053 Jupiter 21548-07-03 16:33 G 9591488.96 9591489.19 9591489.43 0.0531 0.0041 Neptune 21548-12-14 13:55 G 9591652.89 9591653.08 9591653.30 0.0088 0.0054 Neptune 21549-12-17 00:28 G 9592020.34 9592020.52 9592020.74 0.0088 0.0055 Neptune 21550-12-19 10:48 G 9592387.77 9592387.95 9592388.17 0.0088 0.0055 Neptune 21551-12-21 22:04 G 9592755.22 9592755.42 9592755.62 0.0088 0.0056 Neptune 21552-12-23 08:09 G 9593122.66 9593122.84 9593123.05 0.0088 0.0057 Neptune 21553-12-25 18:43 G 9593490.10 9593490.28 9593490.49 0.0088 0.0057 Jupiter 21553-12-30 11:45 G 9593494.76 9593494.99 9593495.22 0.0498 0.0088 Saturn 21554-06-07 00:00 G 9593653.29 9593653.50 9593653.71 0.0288 0.0151 Neptune 21554-12-28 05:16 G 9593857.54 9593857.72 9593857.93 0.0088 0.0058 Jupiter 21555-01-30 04:19 G 9593890.60 9593890.68 9593890.78 0.0488 0.0447 21555-04-01 17:16 G 9593952.03 9593952.22 9593952.41 0.1634 0.0133 Mars Neptune 21555-12-30 15:36 G 9594224.98 9594225.15 9594225.37 0.0088 0.0058 Neptune 21557-01-01 02:09 G 9594592.41 9594592.59 9594592.80 0.0088 0.0058 Neptune 21558-01-03 12:43 G 9594959.85 9594960.03 9594960.23 0.0088 0.0058

Neptune 21559-01-05 22:33 G 9595327.27 9595327.44 9595327.66 0.0088 0.0059 Neptune 21560-01-08 08:52 G 9595694.70 9595694.87 9595695.08 0.0088 0.0059 Jupiter 21560-07-08 20:52 G 9595877.14 9595877.37 9595877.61 0.0534 0.0065 Neptune 21561-01-09 19:12 G 9596062.14 9596062.30 9596062.52 0.0088 0.0059 Neptune 21562-01-12 05:45 G 9596429.56 9596429.74 9596429.94 0.0088 0.0058 Neptune 21563-01-14 16:04 G 9596796.99 9596797.17 9596797.37 0.0088 0.0058 Neptune 21564-01-17 02:09 G 9597164.41 9597164.59 9597164.80 0.0088 0.0058 Neptune 21565-01-18 12:14 G 9597531.84 9597532.01 9597532.23 0.0088 0.0058 Jupiter 21566-01-03 21:07 G 9597882.15 9597882.38 9597882.61 0.0496 0.0009 Neptune 21566-01-20 23:02 G 9597899.27 9597899.46 9597899.66 0.0088 0.0057 Neptune 21567-01-23 09:07 G 9598266.70 9598266.88 9598267.09 0.0088 0.0057 Neptune 21568-01-25 19:40 G 9598634.14 9598634.32 9598634.53 0.0088 0.0056 Neptune 21569-01-27 05:45 G 9599001.56 9599001.74 9599001.96 0.0088 0.0056 Saturn 21569-12-13 05:45 G 9599321.50 9599321.74 9599321.97 0.0272 0.0076 Neptune 21570-01-29 16:04 G 9599368.99 9599369.17 9599369.39 0.0088 0.0055 Neptune 21571-02-01 02:24 G 9599736.41 9599736.60 9599736.82 0.0088 0.0054 Jupiter 21571-06-08 14:38 G 9599864.10 9599864.11 9599864.13 0.0520 0.0518 Neptune 21572-02-03 12:43 G 9600103.84 9600104.03 9600104.25 0.0088 0.0053 Jupiter 21572-07-14 04:19 G 9600265.46 9600265.68 9600265.91 0.0536 0.0169 Neptune 21573-02-04 23:02 G 9600471.26 9600471.46 9600471.67 0.0088 0.0052 Neptune 21574-02-07 09:21 G 9600838.69 9600838.89 9600839.11 0.0088 0.0051 Neptune 21575-02-09 19:26 G 9601206.11 9601206.31 9601206.54 0.0088 0.0050 Neptune 21576-02-12 05:45 G 9601573.54 9601573.74 9601573.97 0.0088 0.0049 Uranus 21576-05-04 04:33 G 9601655.49 9601655.69 9601655.89 0.0136 0.0085 Jupiter 21576-12-07 10:04 G 9601872.89 9601872.92 9601872.96 0.0508 0.0501 Neptune 21577-02-13 16:04 G 9601940.97 9601941.17 9601941.41 0.0088 0.0048 Uranus 21577-05-08 16:04 G 9602024.92 9602025.17 9602025.42 0.0136 0.0027 Jupiter 21578-01-08 05:16 G 9602269.49 9602269.72 9602269.95 0.0494 0.0072 Neptune 21578-02-16 02:38 G 9602308.40 9602308.61 9602308.84 0.0088 0.0046 Uranus 21578-05-13 02:52 G 9602394.38 9602394.62 9602394.87 0.0135 0.0030

Neptune 21579-02-18 12:57 G 9602675.84 9602676.04 9602676.28 0.0088 0.0045 Uranus 21579-05-17 13:26 G 9602763.88 9602764.06 9602764.27 0.0135 0.0087 Neptune 21580-02-20 23:45 G 9603043.27 9603043.49 9603043.72 0.0088 0.0043 Neptune 21581-02-22 09:50 G 9603410.71 9603410.91 9603411.16 0.0088 0.0042 Neptune 21582-02-24 20:38 G 9603778.14 9603778.36 9603778.60 0.0088 0.0040 Neptune 21583-02-27 06:43 G 9604145.57 9604145.78 9604146.04 0.0088 0.0039 Jupiter 21583-06-13 16:04 G 9604252.04 9604252.17 9604252.30 0.0522 0.0432 Neptune 21584-02-29 17:16 G 9604513.01 9604513.22 9604513.47 0.0088 0.0037 Saturn 21584-06-13 22:33 G 9604618.22 9604618.44 9604618.67 0.0287 0.0107 Jupiter 21584-07-19 12:14 G 9604653.81 9604654.01 9604654.21 0.0537 0.0273 Neptune 21585-03-03 03:50 G 9604880.44 9604880.66 9604880.91 0.0088 0.0035 Neptune 21586-03-05 14:24 G 9605247.87 9605248.10 9605248.35 0.0088 0.0033 Neptune 21587-03-08 00:57 G 9605615.31 9605615.54 9605615.79 0.0088 0.0031 Neptune 21588-03-09 11:45 G 9605982.75 9605982.99 9605983.24 0.0088 0.0029 Jupiter 21588-12-11 18:57 G 9606260.17 9606260.29 9606260.42 0.0506 0.0424 Neptune 21589-03-11 22:04 G 9606350.18 9606350.42 9606350.67 0.0088 0.0027 Jupiter 21590-01-12 09:21 G 9606656.66 9606656.89 9606657.11 0.0493 0.0147 Neptune 21590-03-14 08:52 G 9606717.63 9606717.87 9606718.12 0.0088 0.0025 Neptune 21591-03-16 19:40 G 9607085.07 9607085.32 9607085.57 0.0088 0.0023 Neptune 21592-03-18 06:28 G 9607452.53 9607452.77 9607453.03 0.0088 0.0021 Neptune 21593-03-20 17:16 G 9607819.98 9607820.22 9607820.48 0.0088 0.0019 Neptune 21594-03-23 04:04 G 9608187.43 9608187.67 9608187.93 0.0088 0.0017 Neptune 21595-03-25 15:21 G 9608554.89 9608555.14 9608555.39 0.0088 0.0014 Jupiter 21595-06-18 15:36 G 9608639.97 9608640.15 9608640.33 0.0525 0.0341 Neptune 21596-03-27 02:09 G 9608922.34 9608922.59 9608922.85 0.0088 0.0012 Jupiter 21596-07-24 17:45 G 9609042.07 9609042.24 9609042.41 0.0538 0.0376 Neptune 21597-03-29 12:57 G 9609289.79 9609290.04 9609290.30 0.0088 0.0010 Neptune 21598-04-01 00:00 G 9609657.25 9609657.50 9609657.76 0.0088 0.0008 Saturn 21598-12-08 11:16 G 9609908.74 9609908.97 9609909.21 0.0271 0.0088 Neptune 21599-04-03 11:02 G 9610024.71 9610024.96 9610025.22 0.0088 0.0006

Neptune 21600-04-04 22:04 G 9610392.16 9610392.42 9610392.68 0.0088 0.0003 Jupiter 21600-12-16 06:43 G 9610647.62 9610647.78 9610647.96 0.0504 0.0343 Neptune 21601-04-07 09:21 G 9610759.63 9610759.89 9610760.15 0.0088 0.0001 Jupiter 21602-01-16 15:50 G 9611043.95 9611044.16 9611044.36 0.0492 0.0224 Neptune 21602-04-09 20:24 G 9611127.10 9611127.35 9611127.61 0.0088 0.0002 Neptune 21603-04-12 07:40 G 9611494.57 9611494.82 9611495.08 0.0088 0.0004 Neptune 21604-04-13 19:12 G 9611862.05 9611862.30 9611862.56 0.0088 0.0006 Neptune 21605-04-16 06:28 G 9612229.52 9612229.77 9612230.03 0.0088 0.0008 Neptune 21606-04-18 18:14 G 9612597.01 9612597.26 9612597.52 0.0088 0.0010 Neptune 21607-04-21 05:31 G 9612964.49 9612964.73 9612965.00 0.0088 0.0014 Jupiter 21607-06-23 11:45 G 9613027.79 9613027.99 9613028.20 0.0527 0.0252 Neptune 21608-04-22 17:16 G 9613331.97 9613332.22 9613332.48 0.0088 0.0015 Jupiter 21608-07-29 20:24 G 9613430.24 9613430.35 9613430.46 0.0540 0.0474 Neptune 21609-04-25 04:48 G 9613699.46 9613699.70 9613699.96 0.0088 0.0018 Neptune 21610-04-27 16:33 G 9614066.94 9614067.19 9614067.45 0.0088 0.0020 Neptune 21611-04-30 04:04 G 9614434.43 9614434.67 9614434.93 0.0088 0.0022 Neptune 21612-05-01 15:50 G 9614801.92 9614802.16 9614802.42 0.0088 0.0024 Jupiter 21612-12-20 19:40 G 9615035.13 9615035.32 9615035.52 0.0502 0.0261 Neptune 21613-05-04 03:36 G 9615169.41 9615169.65 9615169.91 0.0088 0.0027 Saturn 21613-06-08 11:45 G 9615204.76 9615204.99 9615205.23 0.0288 0.0089 Jupiter 21614-01-20 23:31 G 9615431.29 9615431.48 9615431.66 0.0490 0.0298 Neptune 21614-05-06 15:21 G 9615536.91 9615537.14 9615537.40 0.0089 0.0029 Neptune 21615-05-09 03:36 G 9615904.41 9615904.65 9615904.90 0.0089 0.0031 Neptune 21616-05-10 15:21 G 9616271.91 9616272.14 9616272.39 0.0089 0.0033 Neptune 21617-05-13 03:36 G 9616639.42 9616639.65 9616639.90 0.0089 0.0035 Neptune 21618-05-15 15:36 G 9617006.93 9617007.15 9617007.40 0.0089 0.0037 Neptune 21619-05-18 03:50 G 9617374.45 9617374.66 9617374.91 0.0089 0.0039 Jupiter 21619-06-28 13:26 G 9617415.83 9617416.06 9617416.28 0.0529 0.0154 Uranus 21619-11-02 18:28 G 9617543.13 9617543.27 9617543.43 0.0142 0.0115 Neptune 21620-05-19 16:04 G 9617741.96 9617742.17 9617742.42 0.0089 0.0041

Uranus 21620-11-06 14:52 G 9617912.89 9617913.12 9617913.37 0.0143 0.0049 Neptune 21621-05-22 04:48 G 9618109.47 9618109.70 9618109.93 0.0089 0.0042 Uranus 21621-11-11 12:00 G 9618282.75 9618283.00 9618283.25 0.0143 0.0019 Neptune 21622-05-24 16:48 G 9618476.99 9618477.20 9618477.44 0.0089 0.0044 Uranus 21622-11-16 09:07 G 9618652.69 9618652.88 9618653.09 0.0143 0.0087 Neptune 21623-05-27 05:02 G 9618844.50 9618844.71 9618844.95 0.0089 0.0046 Neptune 21624-05-28 17:31 G 9619212.02 9619212.23 9619212.46 0.0089 0.0047 Jupiter 21624-12-25 07:26 G 9619422.60 9619422.81 9619423.03 0.0500 0.0179 Neptune 21625-05-31 05:31 G 9619579.53 9619579.73 9619579.96 0.0089 0.0049 Jupiter 21626-01-25 05:02 G 9619818.56 9619818.71 9619818.86 0.0489 0.0368 Neptune 21626-06-02 18:14 G 9619947.06 9619947.26 9619947.49 0.0089 0.0050 Neptune 21627-06-05 06:28 G 9620314.58 9620314.77 9620315.00 0.0089 0.0052 Saturn 21627-12-03 10:33 G 9620495.88 9620495.94 9620496.02 0.0271 0.0258 Neptune 21628-06-06 19:12 G 9620682.11 9620682.30 9620682.52 0.0089 0.0053 Saturn 21628-12-14 15:36 G 9620872.94 9620873.15 9620873.37 0.0272 0.0132 Neptune 21629-06-09 07:55 G 9621049.64 9621049.83 9621050.05 0.0089 0.0054 Neptune 21630-06-11 20:38 G 9621417.17 9621417.36 9621417.58 0.0089 0.0055 Neptune 21631-06-14 09:50 G 9621784.71 9621784.91 9621785.11 0.0089 0.0056 Jupiter 21631-07-03 18:00 G 9621804.01 9621804.25 9621804.48 0.0531 0.0053 Neptune 21632-06-15 22:19 G 9622152.24 9622152.43 9622152.64 0.0089 0.0057 Neptune 21633-06-18 11:16 G 9622519.78 9622519.97 9622520.17 0.0089 0.0058 21634-04-03 21:36 G 9622809.29 9622809.40 9622809.51 0.1638 0.1337 Mars Neptune 21634-06-20 23:45 G 9622887.32 9622887.49 9622887.71 0.0089 0.0060 Neptune 21635-06-23 12:43 G 9623254.86 9623255.03 9623255.24 0.0089 0.0060 Neptune 21636-06-25 01:40 G 9623622.39 9623622.57 9623622.77 0.0089 0.0061 Jupiter 21636-12-29 17:16 G 9623810.00 9623810.22 9623810.45 0.0498 0.0096 Neptune 21637-06-27 14:24 G 9623989.93 9623990.10 9623990.30 0.0089 0.0061 Jupiter 21638-01-29 10:19 G 9624205.84 9624205.93 9624206.04 0.0488 0.0437 Neptune 21638-06-30 03:36 G 9624357.47 9624357.65 9624357.84 0.0089 0.0062 Neptune 21639-07-02 16:04 G 9624725.01 9624725.17 9624725.38 0.0089 0.0063

Neptune 21640-07-04 05:02 G 9625092.55 9625092.71 9625092.92 0.0089 0.0063 Neptune 21641-07-06 18:14 G 9625460.09 9625460.26 9625460.46 0.0089 0.0063 Neptune 21642-07-09 07:40 G 9625827.65 9625827.82 9625828.02 0.0089 0.0063 Saturn 21643-06-16 10:04 G 9626169.73 9626169.92 9626170.13 0.0287 0.0168 Jupiter 21643-07-09 00:14 G 9626192.28 9626192.51 9626192.75 0.0533 0.0052 Neptune 21643-07-11 20:38 G 9626195.19 9626195.36 9626195.56 0.0089 0.0063 Neptune 21644-07-13 09:50 G 9626562.75 9626562.91 9626563.11 0.0089 0.0063 Neptune 21645-07-15 23:02 G 9626930.30 9626930.46 9626930.66 0.0089 0.0063 Neptune 21646-07-18 12:00 G 9627297.85 9627298.00 9627298.22 0.0089 0.0063 Neptune 21647-07-21 01:40 G 9627665.39 9627665.57 9627665.77 0.0089 0.0062 Neptune 21648-07-22 14:09 G 9628032.93 9628033.09 9628033.31 0.0089 0.0062 Jupiter 21649-01-02 22:33 G 9628197.21 9628197.44 9628197.67 0.0496 0.0019 Neptune 21649-07-25 03:36 G 9628400.48 9628400.65 9628400.86 0.0089 0.0061 Neptune 21650-07-27 16:48 G 9628768.03 9628768.20 9628768.41 0.0089 0.0060 Neptune 21651-07-30 06:14 G 9629135.57 9629135.76 9629135.96 0.0090 0.0059 Neptune 21652-07-31 18:43 G 9629503.11 9629503.28 9629503.50 0.0090 0.0059 Neptune 21653-08-03 07:55 G 9629870.66 9629870.83 9629871.06 0.0090 0.0058 Neptune 21654-08-05 21:07 G 9630238.20 9630238.38 9630238.61 0.0090 0.0057 Jupiter 21655-07-14 04:33 G 9630580.47 9630580.69 9630580.92 0.0535 0.0155 Neptune 21655-08-08 10:48 G 9630605.75 9630605.95 9630606.16 0.0090 0.0055 Neptune 21656-08-09 23:45 G 9630973.30 9630973.49 9630973.71 0.0090 0.0054 Neptune 21657-08-12 12:57 G 9631340.85 9631341.04 9631341.27 0.0090 0.0053 Saturn 21657-12-09 20:24 G 9631460.11 9631460.35 9631460.59 0.0272 0.0034 Neptune 21658-08-15 02:24 G 9631708.40 9631708.60 9631708.82 0.0090 0.0051 Neptune 21659-08-17 15:07 G 9632075.93 9632076.13 9632076.36 0.0090 0.0050 Uranus 21660-05-04 12:57 G 9632336.85 9632337.04 9632337.25 0.0136 0.0083 Neptune 21660-08-19 04:33 G 9632443.48 9632443.69 9632443.91 0.0090 0.0048 Jupiter 21661-01-07 06:14 G 9632584.53 9632584.76 9632584.99 0.0495 0.0061 Uranus 21661-05-09 00:28 G 9632706.28 9632706.52 9632706.78 0.0136 0.0025 Neptune 21661-08-21 17:02 G 9632811.02 9632811.21 9632811.46 0.0090 0.0047

Uranus 21662-05-13 11:31 G 9633075.74 9633075.98 9633076.23 0.0135 0.0033 Neptune 21662-08-24 06:14 G 9633178.55 9633178.76 9633179.00 0.0090 0.0045 Uranus 21663-05-17 22:19 G 9633445.25 9633445.43 9633445.63 0.0135 0.0089 Neptune 21663-08-26 19:12 G 9633546.09 9633546.30 9633546.54 0.0090 0.0043 Neptune 21664-08-28 08:09 G 9633913.62 9633913.84 9633914.08 0.0090 0.0041 Neptune 21665-08-30 21:07 G 9634281.16 9634281.38 9634281.62 0.0090 0.0039 Jupiter 21666-06-12 12:00 G 9634566.89 9634567.00 9634567.13 0.0521 0.0444 Neptune 21666-09-02 10:04 G 9634648.69 9634648.92 9634649.17 0.0090 0.0037 Jupiter 21667-07-19 04:48 G 9634968.50 9634968.70 9634968.91 0.0536 0.0254 Neptune 21667-09-04 23:02 G 9635016.23 9635016.46 9635016.70 0.0090 0.0035 Neptune 21668-09-06 12:00 G 9635383.76 9635384.00 9635384.24 0.0089 0.0033 Neptune 21669-09-09 00:57 G 9635751.31 9635751.54 9635751.79 0.0089 0.0031 Neptune 21670-09-11 13:40 G 9636118.83 9636119.07 9636119.32 0.0089 0.0029 Neptune 21671-09-14 02:24 G 9636486.37 9636486.60 9636486.86 0.0089 0.0027 Jupiter 21671-12-11 22:33 G 9636575.33 9636575.44 9636575.57 0.0507 0.0433 Saturn 21672-06-10 01:12 G 9636756.30 9636756.55 9636756.79 0.0288 0.0025 Neptune 21672-09-15 15:21 G 9636853.89 9636854.14 9636854.39 0.0089 0.0024 Jupiter 21673-01-11 15:07 G 9636971.91 9636972.13 9636972.36 0.0493 0.0139 Neptune 21673-09-18 03:50 G 9637221.42 9637221.66 9637221.92 0.0089 0.0022 Neptune 21674-09-20 16:19 G 9637588.94 9637589.18 9637589.44 0.0089 0.0020 Neptune 21675-09-23 05:02 G 9637956.45 9637956.71 9637956.96 0.0089 0.0017 Neptune 21676-09-24 17:16 G 9638323.98 9638324.22 9638324.48 0.0089 0.0015 Neptune 21677-09-27 05:45 G 9638691.49 9638691.74 9638692.00 0.0089 0.0012 Jupiter 21678-06-17 10:33 G 9638954.77 9638954.94 9638955.11 0.0524 0.0355 Neptune 21678-09-29 18:14 G 9639059.01 9639059.26 9639059.52 0.0089 0.0010 Jupiter 21679-07-24 11:02 G 9639356.80 9639356.96 9639357.14 0.0538 0.0357 Neptune 21679-10-02 06:43 G 9639426.52 9639426.78 9639427.04 0.0089 0.0007 Neptune 21680-10-03 19:12 G 9639794.05 9639794.30 9639794.56 0.0089 0.0005 Neptune 21681-10-06 07:40 G 9640161.56 9640161.82 9640162.08 0.0089 0.0002 Neptune 21682-10-08 20:09 G 9640529.08 9640529.34 9640529.60 0.0089 0.0001

Neptune 21683-10-11 08:09 G 9640896.59 9640896.84 9640897.10 0.0089 0.0003 Jupiter 21683-12-16 12:43 G 9640962.87 9640963.03 9640963.20 0.0505 0.0351 Neptune 21684-10-12 20:24 G 9641264.10 9641264.35 9641264.61 0.0089 0.0005 Jupiter 21685-01-15 22:33 G 9641359.23 9641359.44 9641359.65 0.0492 0.0214 Neptune 21685-10-15 08:24 G 9641631.60 9641631.85 9641632.12 0.0089 0.0008 Neptune 21686-10-17 20:24 G 9641999.09 9641999.35 9641999.61 0.0089 0.0010 Saturn 21686-12-04 20:38 G 9642047.21 9642047.36 9642047.54 0.0271 0.0203 Neptune 21687-10-20 08:09 G 9642366.59 9642366.84 9642367.10 0.0089 0.0013 Saturn 21687-12-17 01:55 G 9642424.42 9642424.58 9642424.77 0.0272 0.0188 Neptune 21688-10-21 19:55 G 9642734.09 9642734.33 9642734.60 0.0089 0.0016 Neptune 21689-10-24 07:40 G 9643101.58 9643101.82 9643102.09 0.0089 0.0018 Jupiter 21690-06-22 12:00 G 9643342.80 9643343.00 9643343.20 0.0526 0.0263 Neptune 21690-10-26 19:26 G 9643469.07 9643469.31 9643469.57 0.0089 0.0020 Jupiter 21691-07-29 20:09 G 9643745.23 9643745.34 9643745.47 0.0540 0.0459 Neptune 21691-10-29 07:26 G 9643836.56 9643836.81 9643837.06 0.0089 0.0022 Neptune 21692-10-30 19:12 G 9644204.05 9644204.30 9644204.55 0.0089 0.0024 Neptune 21693-11-02 06:43 G 9644571.54 9644571.78 9644572.03 0.0089 0.0027 Neptune 21694-11-04 18:14 G 9644939.03 9644939.26 9644939.52 0.0089 0.0029 Neptune 21695-11-07 06:00 G 9645306.51 9645306.75 9645307.00 0.0089 0.0031 Jupiter 21695-12-21 00:57 G 9645350.34 9645350.54 9645350.74 0.0502 0.0269 Neptune 21696-11-08 17:31 G 9645674.00 9645674.23 9645674.48 0.0089 0.0033 Jupiter 21697-01-20 04:48 G 9645746.51 9645746.70 9645746.89 0.0490 0.0288 Neptune 21697-11-11 04:33 G 9646041.47 9646041.69 9646041.94 0.0089 0.0036 Neptune 21698-11-13 16:19 G 9646408.95 9646409.18 9646409.42 0.0089 0.0037 Neptune 21699-11-16 03:07 G 9646776.42 9646776.63 9646776.88 0.0089 0.0040 Pluto 21700-10-07 09:21 G 9647101.63 9647101.89 9647102.15 0.0064 0.0000 Neptune 21700-11-18 14:38 G 9647143.89 9647144.11 9647144.34 0.0089 0.0041 Saturn 21701-06-04 23:31 G 9647342.36 9647342.48 9647342.62 0.0288 0.0242 Neptune 21701-11-21 01:40 G 9647511.35 9647511.57 9647511.80 0.0089 0.0043 Saturn 21702-06-19 00:14 G 9647721.38 9647721.51 9647721.66 0.0287 0.0232

Jupiter 21702-06-28 16:19 G 9647730.96 9647731.18 9647731.40 0.0529 0.0164 Neptune 21702-11-23 12:28 G 9647878.81 9647879.02 9647879.26 0.0089 0.0045 Uranus 21703-11-04 02:38 G 9648224.47 9648224.61 9648224.77 0.0142 0.0113 Neptune 21703-11-25 23:31 G 9648246.28 9648246.48 9648246.72 0.0089 0.0047 Uranus 21704-11-07 23:02 G 9648594.23 9648594.46 9648594.71 0.0143 0.0047 Neptune 21704-11-27 10:48 G 9648613.74 9648613.95 9648614.17 0.0089 0.0048 Uranus 21705-11-12 19:55 G 9648964.09 9648964.33 9648964.59 0.0143 0.0021 Neptune 21705-11-29 21:36 G 9648981.20 9648981.40 9648981.63 0.0088 0.0050 Uranus 21706-11-17 17:16 G 9649334.04 9649334.22 9649334.43 0.0143 0.0089 Neptune 21706-12-02 08:52 G 9649348.66 9649348.87 9649349.08 0.0088 0.0051 Neptune 21707-12-04 19:40 G 9649716.13 9649716.32 9649716.54 0.0088 0.0053 Jupiter 21707-12-26 07:55 G 9649737.62 9649737.83 9649738.05 0.0500 0.0189 Neptune 21708-12-06 06:43 G 9650083.59 9650083.78 9650083.99 0.0088 0.0054 Jupiter 21709-01-25 07:26 G 9650133.66 9650133.81 9650133.97 0.0489 0.0358 Neptune 21709-12-08 17:16 G 9650451.04 9650451.22 9650451.44 0.0088 0.0056 Neptune 21710-12-11 03:50 G 9650818.49 9650818.66 9650818.89 0.0088 0.0057 Neptune 21711-12-13 14:52 G 9651185.94 9651186.12 9651186.33 0.0088 0.0057 Neptune 21712-12-15 01:26 G 9651553.39 9651553.56 9651553.77 0.0088 0.0059 Neptune 21713-12-17 12:00 G 9651920.83 9651921.00 9651921.21 0.0088 0.0059 Jupiter 21714-07-03 18:57 G 9652119.06 9652119.29 9652119.53 0.0530 0.0065 Neptune 21714-12-19 22:33 G 9652288.28 9652288.44 9652288.65 0.0088 0.0060 Neptune 21715-12-22 09:36 G 9652655.72 9652655.90 9652656.09 0.0088 0.0061 Saturn 21716-12-12 05:16 G 9653011.47 9653011.72 9653011.96 0.0272 0.0020 Neptune 21716-12-23 19:55 G 9653023.16 9653023.33 9653023.53 0.0088 0.0061 Neptune 21717-12-26 06:14 G 9653390.60 9653390.76 9653390.96 0.0088 0.0062 Neptune 21718-12-28 17:02 G 9653758.04 9653758.21 9653758.40 0.0088 0.0062 Jupiter 21719-12-30 17:16 G 9654124.99 9654125.22 9654125.44 0.0499 0.0108 Neptune 21719-12-31 03:21 G 9654125.48 9654125.64 9654125.84 0.0088 0.0063 Neptune 21721-01-01 13:55 G 9654492.93 9654493.08 9654493.28 0.0088 0.0063 Jupiter 21721-01-29 12:43 G 9654520.92 9654521.03 9654521.15 0.0488 0.0427

Neptune 21722-01-04 00:43 G 9654860.36 9654860.53 9654860.72 0.0088 0.0063 Neptune 21723-01-06 11:02 G 9655227.80 9655227.96 9655228.15 0.0088 0.0063 Neptune 21724-01-08 21:50 G 9655595.23 9655595.41 9655595.59 0.0088 0.0063 Neptune 21725-01-10 07:40 G 9655962.66 9655962.82 9655963.01 0.0088 0.0063 Neptune 21726-01-12 18:00 G 9656330.09 9656330.25 9656330.44 0.0088 0.0063 Jupiter 21726-07-08 17:16 G 9656506.99 9656507.22 9656507.46 0.0532 0.0033 Neptune 21727-01-15 04:04 G 9656697.51 9656697.67 9656697.87 0.0088 0.0063 Neptune 21728-01-17 14:09 G 9657064.94 9657065.09 9657065.30 0.0088 0.0063 Neptune 21729-01-19 00:43 G 9657432.37 9657432.53 9657432.73 0.0088 0.0062 Neptune 21730-01-21 10:48 G 9657799.79 9657799.95 9657800.15 0.0088 0.0062 Neptune 21731-01-23 21:21 G 9658167.22 9658167.39 9658167.59 0.0088 0.0061 Saturn 21731-06-13 15:36 G 9658307.90 9658308.15 9658308.39 0.0288 0.0041 Jupiter 21732-01-04 03:36 G 9658512.42 9658512.65 9658512.89 0.0497 0.0029 Neptune 21732-01-26 07:55 G 9658534.65 9658534.83 9658535.02 0.0088 0.0060 Neptune 21733-01-27 17:45 G 9658902.08 9658902.24 9658902.45 0.0088 0.0060 Neptune 21734-01-30 04:04 G 9659269.50 9659269.67 9659269.88 0.0088 0.0059 Neptune 21735-02-01 14:24 G 9659636.93 9659637.10 9659637.32 0.0088 0.0058 Neptune 21736-02-04 00:43 G 9660004.36 9660004.53 9660004.75 0.0088 0.0057 Neptune 21737-02-05 11:02 G 9660371.78 9660371.96 9660372.18 0.0088 0.0056 Neptune 21738-02-07 21:07 G 9660739.20 9660739.38 9660739.60 0.0088 0.0055 Jupiter 21738-07-13 21:07 G 9660895.15 9660895.38 9660895.61 0.0534 0.0134 Neptune 21739-02-10 07:40 G 9661106.63 9661106.82 9661107.04 0.0088 0.0053 Neptune 21740-02-12 17:45 G 9661474.06 9661474.24 9661474.47 0.0088 0.0052 Neptune 21741-02-14 04:19 G 9661841.47 9661841.68 9661841.89 0.0088 0.0050 Neptune 21742-02-16 14:24 G 9662208.90 9662209.10 9662209.33 0.0088 0.0049 Neptune 21743-02-19 00:57 G 9662576.33 9662576.54 9662576.76 0.0088 0.0047 Jupiter 21744-01-08 12:43 G 9662899.80 9662900.03 9662900.26 0.0495 0.0051 Neptune 21744-02-21 11:02 G 9662943.76 9662943.96 9662944.20 0.0088 0.0046 Uranus 21744-05-05 20:09 G 9663018.16 9663018.34 9663018.57 0.0136 0.0082 Neptune 21745-02-22 21:36 G 9663311.19 9663311.40 9663311.64 0.0088 0.0044

Uranus 21745-05-10 08:09 G 9663387.60 9663387.84 9663388.10 0.0136 0.0024 Saturn 21745-12-07 06:43 G 9663598.59 9663598.78 9663599.00 0.0271 0.0148 Neptune 21746-02-25 08:24 G 9663678.63 9663678.85 9663679.08 0.0088 0.0042 Uranus 21746-05-14 19:12 G 9663757.06 9663757.30 9663757.56 0.0135 0.0035 Saturn 21746-12-19 12:28 G 9663975.92 9663976.02 9663976.13 0.0272 0.0243 Neptune 21747-02-27 18:57 G 9664046.07 9664046.29 9664046.52 0.0088 0.0040 Uranus 21747-05-19 06:14 G 9664126.57 9664126.76 9664126.94 0.0135 0.0091 Neptune 21748-03-01 05:02 G 9664413.50 9664413.71 9664413.96 0.0088 0.0039 Neptune 21749-03-03 15:36 G 9664780.93 9664781.15 9664781.40 0.0088 0.0037 Jupiter 21749-06-12 11:16 G 9664881.86 9664881.97 9664882.09 0.0521 0.0454 Neptune 21750-03-06 02:09 G 9665148.37 9665148.59 9665148.84 0.0088 0.0035 Jupiter 21750-07-19 03:50 G 9665283.46 9665283.66 9665283.88 0.0536 0.0238 Neptune 21751-03-08 12:43 G 9665515.81 9665516.03 9665516.29 0.0088 0.0033 Neptune 21752-03-09 23:02 G 9665883.24 9665883.46 9665883.72 0.0088 0.0031 Neptune 21753-03-12 10:04 G 9666250.68 9666250.92 9666251.17 0.0088 0.0028 Neptune 21754-03-14 20:38 G 9666618.12 9666618.36 9666618.61 0.0088 0.0026 Jupiter 21754-12-12 03:21 G 9666890.53 9666890.64 9666890.76 0.0507 0.0440 Neptune 21755-03-17 07:12 G 9666985.57 9666985.80 9666986.06 0.0088 0.0024 Jupiter 21756-01-12 20:38 G 9667287.14 9667287.36 9667287.59 0.0493 0.0129 Neptune 21756-03-18 18:00 G 9667353.02 9667353.25 9667353.52 0.0088 0.0022 Neptune 21757-03-21 05:02 G 9667720.46 9667720.71 9667720.96 0.0088 0.0019 Neptune 21758-03-23 15:50 G 9668087.92 9668088.16 9668088.43 0.0088 0.0017 Neptune 21759-03-26 03:07 G 9668455.37 9668455.63 9668455.88 0.0088 0.0014 Neptune 21760-03-27 13:55 G 9668822.83 9668823.08 9668823.34 0.0088 0.0012 Mars 21760-03-31 19:12 G 9668827.14 9668827.30 9668827.46 0.1627 0.0874 Saturn 21760-06-06 14:09 G 9668893.91 9668894.09 9668894.30 0.0288 0.0176 Neptune 21761-03-30 00:43 G 9669190.29 9669190.53 9669190.80 0.0088 0.0010 Jupiter 21761-06-17 13:12 G 9669269.89 9669270.05 9669270.22 0.0524 0.0364 Neptune 21762-04-01 12:00 G 9669557.75 9669558.00 9669558.26 0.0088 0.0007 Jupiter 21762-07-24 13:12 G 9669671.87 9669672.05 9669672.23 0.0538 0.0343

Neptune 21763-04-03 23:02 G 9669925.20 9669925.46 9669925.72 0.0088 0.0005 Neptune 21764-04-05 10:04 G 9670292.66 9670292.92 9670293.18 0.0088 0.0002 Neptune 21765-04-07 21:07 G 9670660.12 9670660.38 9670660.64 0.0088 0.0000 Neptune 21766-04-10 08:09 G 9671027.59 9671027.84 9671028.10 0.0088 0.0003 Mars 21766-10-03 12:57 G 9671203.84 9671204.04 9671204.24 0.1909 0.0037 Jupiter 21766-12-16 13:12 G 9671277.90 9671278.05 9671278.22 0.0505 0.0361 Neptune 21767-04-12 19:26 G 9671395.06 9671395.31 9671395.57 0.0088 0.0006 Jupiter 21768-01-17 00:28 G 9671674.31 9671674.52 9671674.73 0.0492 0.0204 Neptune 21768-04-14 06:28 G 9671762.52 9671762.77 9671763.03 0.0088 0.0008 Neptune 21769-04-16 18:00 G 9672130.00 9672130.25 9672130.51 0.0088 0.0010 Neptune 21770-04-19 05:31 G 9672497.47 9672497.73 9672497.98 0.0088 0.0013 Neptune 21771-04-21 16:48 G 9672864.96 9672865.20 9672865.46 0.0088 0.0016 Neptune 21772-04-23 04:33 G 9673232.44 9673232.69 9673232.95 0.0088 0.0018 Neptune 21773-04-25 15:50 G 9673599.92 9673600.16 9673600.43 0.0088 0.0021 Jupiter 21773-06-22 13:55 G 9673657.89 9673658.08 9673658.29 0.0526 0.0272 Neptune 21774-04-28 03:36 G 9673967.41 9673967.65 9673967.91 0.0088 0.0023 Jupiter 21774-07-29 19:40 G 9674060.19 9674060.32 9674060.45 0.0539 0.0444 Neptune 21775-04-30 15:07 G 9674334.90 9674335.13 9674335.39 0.0088 0.0025 Saturn 21775-12-14 13:12 G 9674562.82 9674563.05 9674563.29 0.0272 0.0074 Neptune 21776-05-02 02:52 G 9674702.38 9674702.62 9674702.88 0.0088 0.0027 Neptune 21777-05-04 14:38 G 9675069.87 9675070.11 9675070.36 0.0088 0.0030 Neptune 21778-05-07 02:24 G 9675437.37 9675437.60 9675437.85 0.0089 0.0032 Jupiter 21778-12-21 00:14 G 9675665.32 9675665.51 9675665.71 0.0503 0.0280 Neptune 21779-05-09 14:24 G 9675804.86 9675805.10 9675805.34 0.0089 0.0034 Jupiter 21780-01-21 06:43 G 9676061.59 9676061.78 9676061.98 0.0491 0.0278 Neptune 21780-05-11 01:55 G 9676172.36 9676172.58 9676172.83 0.0089 0.0036 Neptune 21781-05-13 13:40 G 9676539.86 9676540.07 9676540.33 0.0089 0.0039 Neptune 21782-05-16 01:55 G 9676907.37 9676907.58 9676907.83 0.0089 0.0041 Neptune 21783-05-18 14:09 G 9677274.88 9677275.09 9677275.34 0.0089 0.0043 Neptune 21784-05-20 02:09 G 9677642.39 9677642.59 9677642.84 0.0089 0.0045

Neptune 21785-05-22 14:38 G 9678009.91 9678010.11 9678010.35 0.0089 0.0047 Jupiter 21785-06-27 10:33 G 9678045.72 9678045.94 9678046.16 0.0527 0.0183 Neptune 21786-05-25 03:21 G 9678377.43 9678377.64 9678377.87 0.0089 0.0048 Jupiter 21786-08-03 21:21 G 9678448.37 9678448.39 9678448.42 0.0540 0.0536 Neptune 21787-05-27 15:36 G 9678744.95 9678745.15 9678745.38 0.0089 0.0050 Uranus 21787-11-04 11:45 G 9678905.85 9678905.99 9678906.17 0.0142 0.0111 Neptune 21788-05-29 03:36 G 9679112.46 9679112.65 9679112.88 0.0089 0.0052 Uranus 21788-11-08 08:24 G 9679275.62 9679275.85 9679276.10 0.0143 0.0044 Pluto 21789-04-06 12:43 G 9679424.93 9679425.03 9679425.13 0.0080 0.0074 Neptune 21789-05-31 16:33 G 9679479.99 9679480.19 9679480.40 0.0089 0.0053 Uranus 21789-11-13 05:31 G 9679645.48 9679645.73 9679645.98 0.0143 0.0024 Neptune 21790-06-03 04:33 G 9679847.51 9679847.69 9679847.91 0.0089 0.0055 Saturn 21790-06-15 06:00 G 9679859.53 9679859.75 9679859.98 0.0288 0.0108 Uranus 21790-11-18 02:52 G 9680015.43 9680015.62 9680015.82 0.0143 0.0092 Jupiter 21790-12-25 12:00 G 9680052.79 9680053.00 9680053.22 0.0501 0.0200 Neptune 21791-06-05 17:31 G 9680215.03 9680215.23 9680215.43 0.0089 0.0056 Jupiter 21792-01-25 13:55 G 9680448.92 9680449.08 9680449.24 0.0490 0.0349 Neptune 21792-06-07 05:31 G 9680582.55 9680582.73 9680582.95 0.0089 0.0058 Neptune 21793-06-09 18:14 G 9680950.08 9680950.26 9680950.47 0.0089 0.0059 Neptune 21794-06-12 06:57 G 9681317.62 9681317.79 9681318.00 0.0089 0.0061 Neptune 21795-06-14 19:40 G 9681685.14 9681685.32 9681685.52 0.0089 0.0061 Neptune 21796-06-16 08:38 G 9682052.68 9682052.86 9682053.05 0.0089 0.0062 Neptune 21797-06-18 21:21 G 9682420.22 9682420.39 9682420.58 0.0089 0.0064 Jupiter 21797-07-02 12:00 G 9682433.77 9682434.00 9682434.23 0.0530 0.0084 Neptune 21798-06-21 10:19 G 9682787.76 9682787.93 9682788.12 0.0089 0.0064 Neptune 21799-06-23 23:02 G 9683155.30 9683155.46 9683155.65 0.0089 0.0065 Neptune 21800-06-26 11:31 G 9683522.84 9683522.98 9683523.19 0.0089 0.0067 Neptune 21801-06-29 00:43 G 9683890.38 9683890.53 9683890.72 0.0089 0.0067 Neptune 21802-07-01 14:09 G 9684257.92 9684258.09 9684258.26 0.0089 0.0067 Jupiter 21802-12-30 23:31 G 9684440.25 9684440.48 9684440.71 0.0499 0.0118

Neptune 21803-07-04 02:24 G 9684625.45 9684625.60 9684625.79 0.0089 0.0067 Jupiter 21804-01-30 19:40 G 9684836.21 9684836.32 9684836.45 0.0488 0.0416 Neptune 21804-07-05 15:21 G 9684992.99 9684993.14 9684993.33 0.0089 0.0068 Saturn 21804-12-09 15:36 G 9685149.93 9685150.15 9685150.39 0.0271 0.0093 Neptune 21805-07-08 04:33 G 9685360.53 9685360.69 9685360.87 0.0089 0.0068 Neptune 21806-07-10 17:16 G 9685728.07 9685728.22 9685728.41 0.0089 0.0068 Neptune 21807-07-13 06:28 G 9686095.62 9686095.77 9686095.96 0.0089 0.0068 Neptune 21808-07-14 19:26 G 9686463.16 9686463.31 9686463.50 0.0089 0.0068 Jupiter 21809-07-08 15:50 G 9686821.93 9686822.16 9686822.40 0.0532 0.0020 Neptune 21809-07-17 09:07 G 9686830.71 9686830.88 9686831.05 0.0089 0.0067 Neptune 21810-07-19 22:04 G 9687198.26 9687198.42 9687198.61 0.0089 0.0067 Neptune 21811-07-22 10:48 G 9687565.80 9687565.95 9687566.15 0.0089 0.0067 Neptune 21812-07-24 00:14 G 9687933.36 9687933.51 9687933.71 0.0089 0.0066 Neptune 21813-07-26 13:26 G 9688300.90 9688301.06 9688301.25 0.0089 0.0065 Neptune 21814-07-29 02:09 G 9688668.44 9688668.59 9688668.80 0.0089 0.0065 Jupiter 21815-01-04 09:21 G 9688827.66 9688827.89 9688828.12 0.0497 0.0037 Neptune 21815-07-31 15:07 G 9689035.98 9689036.13 9689036.34 0.0090 0.0064 Jupiter 21816-02-04 00:43 G 9689223.52 9689223.53 9689223.57 0.0487 0.0484 Neptune 21816-08-02 04:19 G 9689403.53 9689403.68 9689403.90 0.0090 0.0063 Neptune 21817-08-04 18:00 G 9689771.07 9689771.25 9689771.44 0.0090 0.0061 Neptune 21818-08-07 06:57 G 9690138.61 9690138.79 9690139.00 0.0090 0.0060 Saturn 21819-06-10 05:02 G 9690445.48 9690445.71 9690445.94 0.0288 0.0109 Neptune 21819-08-09 19:55 G 9690506.15 9690506.33 9690506.54 0.0090 0.0059 Neptune 21820-08-11 08:52 G 9690873.70 9690873.87 9690874.10 0.0090 0.0058 Jupiter 21821-07-13 23:31 G 9691210.25 9691210.48 9691210.71 0.0534 0.0122 Neptune 21821-08-13 22:33 G 9691241.25 9691241.44 9691241.66 0.0090 0.0056 Neptune 21822-08-16 11:31 G 9691608.79 9691608.98 9691609.20 0.0090 0.0055 Neptune 21823-08-19 00:57 G 9691976.35 9691976.54 9691976.76 0.0090 0.0053 Neptune 21824-08-20 14:24 G 9692343.89 9692344.10 9692344.31 0.0090 0.0051 Neptune 21825-08-23 03:36 G 9692711.44 9692711.65 9692711.87 0.0090 0.0049

Neptune 21826-08-25 16:04 G 9693078.97 9693079.17 9693079.41 0.0090 0.0048 Jupiter 21827-01-08 15:21 G 9693214.91 9693215.14 9693215.37 0.0495 0.0041 Neptune 21827-08-28 05:02 G 9693446.51 9693446.71 9693446.96 0.0090 0.0046 Uranus 21828-05-07 04:33 G 9693699.50 9693699.69 9693699.91 0.0136 0.0080 Neptune 21828-08-29 18:00 G 9693814.05 9693814.25 9693814.50 0.0090 0.0044 Uranus 21829-05-11 16:33 G 9694068.94 9694069.19 9694069.45 0.0136 0.0022 Neptune 21829-09-01 07:26 G 9694181.58 9694181.81 9694182.04 0.0090 0.0041 Uranus 21830-05-16 03:50 G 9694438.41 9694438.66 9694438.91 0.0135 0.0036 Neptune 21830-09-03 20:09 G 9694549.11 9694549.34 9694549.58 0.0090 0.0039 Uranus 21831-05-20 14:09 G 9694807.93 9694808.09 9694808.30 0.0135 0.0094 Neptune 21831-09-06 08:52 G 9694916.64 9694916.87 9694917.12 0.0090 0.0037 Jupiter 21832-06-12 14:52 G 9695197.01 9695197.12 9695197.23 0.0521 0.0460 Neptune 21832-09-07 21:50 G 9695284.19 9695284.41 9695284.66 0.0089 0.0035 Jupiter 21833-07-19 05:02 G 9695598.50 9695598.71 9695598.93 0.0536 0.0225 Neptune 21833-09-10 10:48 G 9695651.72 9695651.95 9695652.20 0.0089 0.0032 Saturn 21833-12-04 13:55 G 9695737.05 9695737.08 9695737.15 0.0271 0.0265 Neptune 21834-09-12 23:45 G 9696019.25 9696019.49 9696019.74 0.0089 0.0030 Saturn 21834-12-16 20:09 G 9696114.13 9696114.34 9696114.56 0.0272 0.0125 Neptune 21835-09-15 12:28 G 9696386.79 9696387.02 9696387.28 0.0089 0.0027 Neptune 21836-09-17 01:26 G 9696754.32 9696754.56 9696754.82 0.0089 0.0025 Neptune 21837-09-19 14:09 G 9697121.85 9697122.09 9697122.35 0.0089 0.0022 Jupiter 21837-12-12 03:21 G 9697205.54 9697205.64 9697205.75 0.0508 0.0450 Neptune 21838-09-22 02:52 G 9697489.37 9697489.62 9697489.88 0.0089 0.0020 Jupiter 21839-01-12 22:33 G 9697602.22 9697602.44 9697602.67 0.0494 0.0119 Mars 21839-04-04 21:50 G 9697684.23 9697684.41 9697684.58 0.1630 0.0549 Neptune 21839-09-24 15:36 G 9697856.90 9697857.15 9697857.40 0.0089 0.0017 Neptune 21840-09-26 03:50 G 9698224.42 9698224.66 9698224.92 0.0089 0.0015 Neptune 21841-09-28 16:33 G 9698591.93 9698592.19 9698592.44 0.0089 0.0012 Neptune 21842-10-01 04:33 G 9698959.44 9698959.69 9698959.96 0.0089 0.0010 Neptune 21843-10-03 17:16 G 9699326.96 9699327.22 9699327.48 0.0089 0.0006

Jupiter 21844-06-17 09:50 G 9699584.75 9699584.91 9699585.07 0.0522 0.0379 Neptune 21844-10-05 05:31 G 9699694.47 9699694.73 9699694.99 0.0089 0.0004 Jupiter 21845-07-24 05:31 G 9699986.55 9699986.73 9699986.92 0.0537 0.0321 Neptune 21845-10-07 17:45 G 9700061.99 9700062.24 9700062.50 0.0089 0.0002 Neptune 21846-10-10 06:00 G 9700429.50 9700429.75 9700430.01 0.0089 0.0002 Neptune 21847-10-12 18:28 G 9700797.01 9700797.27 9700797.53 0.0089 0.0004 Neptune 21848-10-14 06:43 G 9701164.53 9701164.78 9701165.04 0.0089 0.0007 Saturn 21849-06-17 18:57 G 9701411.10 9701411.29 9701411.49 0.0288 0.0173 Neptune 21849-10-16 18:43 G 9701532.03 9701532.28 9701532.54 0.0089 0.0010 Jupiter 21849-12-16 16:19 G 9701593.03 9701593.18 9701593.35 0.0506 0.0373 Neptune 21850-10-19 06:57 G 9701899.54 9701899.79 9701900.05 0.0089 0.0012 Jupiter 21851-01-17 06:57 G 9701989.58 9701989.79 9701990.01 0.0493 0.0194 Neptune 21851-10-21 18:43 G 9702267.04 9702267.28 9702267.54 0.0089 0.0015 Neptune 21852-10-23 06:57 G 9702634.54 9702634.79 9702635.04 0.0089 0.0017 Neptune 21853-10-25 18:28 G 9703002.03 9703002.27 9703002.53 0.0089 0.0020 Neptune 21854-10-28 06:28 G 9703369.52 9703369.77 9703370.02 0.0089 0.0022 Neptune 21855-10-30 18:00 G 9703737.01 9703737.25 9703737.51 0.0089 0.0025 Jupiter 21856-06-22 08:52 G 9703972.67 9703972.87 9703973.06 0.0525 0.0289 Neptune 21856-11-01 05:45 G 9704104.50 9704104.74 9704104.99 0.0089 0.0027 Jupiter 21857-07-29 11:45 G 9704374.84 9704374.99 9704375.13 0.0538 0.0422 Neptune 21857-11-03 17:16 G 9704471.99 9704472.22 9704472.47 0.0089 0.0030 Neptune 21858-11-06 05:02 G 9704839.48 9704839.71 9704839.96 0.0089 0.0032 Neptune 21859-11-08 16:33 G 9705206.97 9705207.19 9705207.45 0.0089 0.0035 Neptune 21860-11-10 04:04 G 9705574.46 9705574.67 9705574.92 0.0089 0.0037 Neptune 21861-11-12 15:50 G 9705941.95 9705942.16 9705942.41 0.0089 0.0039 Jupiter 21861-12-21 06:14 G 9705980.58 9705980.76 9705980.95 0.0504 0.0291 Neptune 21862-11-15 03:21 G 9706309.42 9706309.64 9706309.88 0.0089 0.0041 Jupiter 21863-01-21 14:24 G 9706376.90 9706377.10 9706377.29 0.0491 0.0268 Neptune 21863-11-17 14:52 G 9706676.90 9706677.12 9706677.35 0.0089 0.0043 Saturn 21863-12-11 22:48 G 9706701.21 9706701.45 9706701.69 0.0271 0.0040

Neptune 21864-11-19 02:09 G 9707044.38 9707044.59 9707044.82 0.0089 0.0045 Neptune 21865-11-21 13:26 G 9707411.84 9707412.06 9707412.28 0.0089 0.0047 Neptune 21866-11-24 00:28 G 9707779.31 9707779.52 9707779.74 0.0089 0.0049 Neptune 21867-11-26 11:16 G 9708146.78 9708146.97 9708147.20 0.0089 0.0051 Jupiter 21868-06-27 09:36 G 9708360.69 9708360.90 9708361.12 0.0527 0.0196 Neptune 21868-11-27 22:19 G 9708514.24 9708514.43 9708514.66 0.0089 0.0053 Jupiter 21869-08-03 20:09 G 9708763.29 9708763.34 9708763.41 0.0540 0.0521 Neptune 21869-11-30 09:07 G 9708881.70 9708881.88 9708882.11 0.0089 0.0055 Neptune 21870-12-02 20:24 G 9709249.17 9709249.35 9709249.56 0.0088 0.0056 Uranus 21871-11-05 22:04 G 9709587.27 9709587.42 9709587.60 0.0142 0.0107 Neptune 21871-12-05 07:12 G 9709616.63 9709616.80 9709617.02 0.0088 0.0058 Uranus 21872-11-09 18:43 G 9709957.04 9709957.28 9709957.53 0.0143 0.0041 Neptune 21872-12-06 18:28 G 9709984.09 9709984.27 9709984.47 0.0088 0.0059 Uranus 21873-11-14 15:36 G 9710326.90 9710327.15 9710327.40 0.0143 0.0027 Neptune 21873-12-09 05:31 G 9710351.55 9710351.73 9710351.92 0.0088 0.0060 Jupiter 21873-12-25 18:43 G 9710368.07 9710368.28 9710368.49 0.0502 0.0207 Uranus 21874-11-19 12:43 G 9710696.86 9710697.03 9710697.23 0.0143 0.0095 Neptune 21874-12-11 15:50 G 9710719.00 9710719.16 9710719.37 0.0088 0.0062 Jupiter 21875-01-25 20:38 G 9710764.20 9710764.36 9710764.54 0.0490 0.0340 Neptune 21875-12-14 02:52 G 9711086.46 9711086.62 9711086.83 0.0088 0.0063 Neptune 21876-12-15 13:26 G 9711453.91 9711454.06 9711454.26 0.0088 0.0064 Neptune 21877-12-18 00:14 G 9711821.35 9711821.51 9711821.71 0.0088 0.0064 Saturn 21878-06-11 18:00 G 9711997.01 9711997.25 9711997.50 0.0288 0.0044 Neptune 21878-12-20 10:33 G 9712188.79 9712188.94 9712189.14 0.0088 0.0066 Neptune 21879-12-22 21:50 G 9712556.24 9712556.41 9712556.58 0.0088 0.0066 Jupiter 21880-07-02 14:38 G 9712748.88 9712749.11 9712749.34 0.0530 0.0094 Neptune 21880-12-24 07:55 G 9712923.68 9712923.83 9712924.01 0.0088 0.0066 Neptune 21881-12-26 18:00 G 9713291.11 9713291.25 9713291.45 0.0088 0.0068 Neptune 21882-12-29 04:48 G 9713658.55 9713658.70 9713658.88 0.0088 0.0067 Neptune 21883-12-31 15:50 G 9714025.99 9714026.16 9714026.32 0.0088 0.0068

Neptune 21885-01-02 01:40 G 9714393.43 9714393.57 9714393.75 0.0088 0.0068 Jupiter 21885-12-30 02:52 G 9714755.40 9714755.62 9714755.85 0.0499 0.0128 Neptune 21886-01-04 12:14 G 9714760.87 9714761.01 9714761.19 0.0088 0.0068 Neptune 21887-01-06 22:48 G 9715128.31 9715128.45 9715128.63 0.0088 0.0068 Jupiter 21887-01-30 00:00 G 9715151.38 9715151.50 9715151.64 0.0489 0.0408 Neptune 21888-01-09 09:21 G 9715495.74 9715495.89 9715496.06 0.0088 0.0068 Neptune 21889-01-10 19:40 G 9715863.18 9715863.32 9715863.50 0.0088 0.0068 Neptune 21890-01-13 05:45 G 9716230.60 9716230.74 9716230.93 0.0088 0.0068 Neptune 21891-01-15 16:04 G 9716598.04 9716598.17 9716598.36 0.0088 0.0068 Neptune 21892-01-18 02:38 G 9716965.46 9716965.61 9716965.79 0.0088 0.0067 Jupiter 21892-07-07 18:57 G 9717137.06 9717137.29 9717137.53 0.0532 0.0010 Saturn 21892-12-05 19:12 G 9717288.16 9717288.30 9717288.46 0.0271 0.0215 Neptune 21893-01-19 12:28 G 9717332.88 9717333.02 9717333.22 0.0088 0.0067 Saturn 21893-12-18 00:57 G 9717665.36 9717665.54 9717665.73 0.0272 0.0175 Neptune 21894-01-21 23:02 G 9717700.31 9717700.46 9717700.65 0.0088 0.0066 Neptune 21895-01-24 09:36 G 9718067.74 9718067.90 9718068.08 0.0088 0.0065 Neptune 21896-01-26 19:26 G 9718435.17 9718435.31 9718435.51 0.0088 0.0065 Neptune 21897-01-28 05:45 G 9718802.59 9718802.74 9718802.94 0.0088 0.0064 Jupiter 21898-01-03 12:14 G 9719142.78 9719143.01 9719143.24 0.0498 0.0046 Neptune 21898-01-30 16:19 G 9719170.02 9719170.18 9719170.38 0.0088 0.0063 Neptune 21899-02-02 02:38 G 9719537.45 9719537.61 9719537.81 0.0088 0.0062 Jupiter 21899-02-03 05:31 G 9719538.68 9719538.73 9719538.78 0.0488 0.0475 Neptune 21900-02-04 12:57 G 9719904.88 9719905.04 9719905.25 0.0088 0.0061 Neptune 21901-02-06 23:45 G 9720272.31 9720272.49 9720272.68 0.0088 0.0059 Neptune 21902-02-09 09:50 G 9720639.73 9720639.91 9720640.12 0.0088 0.0058 Neptune 21903-02-11 20:09 G 9721007.16 9721007.34 9721007.56 0.0088 0.0057 Neptune 21904-02-14 06:28 G 9721374.58 9721374.77 9721374.98 0.0088 0.0055 Jupiter 21904-07-13 18:28 G 9721525.04 9721525.27 9721525.50 0.0533 0.0101 Neptune 21905-02-15 16:33 G 9721742.01 9721742.19 9721742.42 0.0088 0.0054 Neptune 21906-02-18 02:52 G 9722109.43 9722109.62 9722109.85 0.0088 0.0052

Neptune 21907-02-20 13:26 G 9722476.86 9722477.06 9722477.28 0.0088 0.0050 Saturn 21907-06-07 04:33 G 9722583.57 9722583.69 9722583.84 0.0289 0.0240 Neptune 21908-02-23 00:00 G 9722844.29 9722844.50 9722844.71 0.0088 0.0048 Saturn 21908-06-20 06:14 G 9722962.62 9722962.76 9722962.90 0.0288 0.0235 Neptune 21909-02-24 09:50 G 9723211.71 9723211.91 9723212.15 0.0088 0.0047 Jupiter 21910-01-08 21:36 G 9723530.17 9723530.40 9723530.63 0.0496 0.0030 Neptune 21910-02-26 20:09 G 9723579.15 9723579.34 9723579.59 0.0088 0.0045 Neptune 21911-03-01 06:43 G 9723946.58 9723946.78 9723947.03 0.0088 0.0043 Neptune 21912-03-02 17:16 G 9724314.01 9724314.22 9724314.47 0.0088 0.0041 Uranus 21912-05-08 12:57 G 9724380.84 9724381.04 9724381.26 0.0136 0.0078 Neptune 21913-03-05 04:19 G 9724681.45 9724681.68 9724681.91 0.0088 0.0038 Uranus 21913-05-13 00:57 G 9724750.29 9724750.54 9724750.79 0.0136 0.0020 Neptune 21914-03-07 14:38 G 9725048.89 9725049.11 9725049.36 0.0088 0.0036 Uranus 21914-05-17 12:00 G 9725119.76 9725120.00 9725120.25 0.0135 0.0038 Neptune 21915-03-10 00:57 G 9725416.32 9725416.54 9725416.79 0.0088 0.0034 Uranus 21915-05-21 22:19 G 9725489.27 9725489.43 9725489.63 0.0135 0.0096 Jupiter 21915-06-13 12:28 G 9725511.93 9725512.02 9725512.11 0.0519 0.0473 Neptune 21916-03-11 11:31 G 9725783.76 9725783.98 9725784.24 0.0088 0.0032 Jupiter 21916-07-18 22:33 G 9725913.23 9725913.44 9725913.66 0.0535 0.0203 Neptune 21917-03-13 22:19 G 9726151.19 9726151.43 9726151.68 0.0088 0.0029 Neptune 21918-03-16 08:38 G 9726518.63 9726518.86 9726519.12 0.0088 0.0027 Neptune 21919-03-18 19:12 G 9726886.07 9726886.30 9726886.57 0.0088 0.0025 Neptune 21920-03-20 06:00 G 9727253.51 9727253.75 9727254.00 0.0088 0.0022 Jupiter 21920-12-12 08:52 G 9727520.77 9727520.87 9727520.96 0.0509 0.0461 Neptune 21921-03-22 16:33 G 9727620.95 9727621.19 9727621.46 0.0088 0.0020 Jupiter 21922-01-13 06:43 G 9727917.56 9727917.78 9727918.01 0.0495 0.0109 Neptune 21922-03-25 03:36 G 9727988.40 9727988.65 9727988.91 0.0088 0.0017 Saturn 21922-12-14 03:50 G 9728252.42 9728252.66 9728252.91 0.0271 0.0011 Neptune 21923-03-27 14:24 G 9728355.85 9728356.10 9728356.36 0.0088 0.0015 Neptune 21924-03-29 01:12 G 9728723.30 9728723.55 9728723.82 0.0088 0.0012

Neptune 21925-03-31 12:28 G 9729090.76 9729091.02 9729091.28 0.0088 0.0009 Neptune 21926-04-02 23:31 G 9729458.22 9729458.48 9729458.74 0.0088 0.0007 Neptune 21927-04-05 10:33 G 9729825.69 9729825.94 9729826.20 0.0088 0.0004 Jupiter 21927-06-18 10:19 G 9729899.77 9729899.93 9729900.08 0.0522 0.0389 Neptune 21928-04-06 21:36 G 9730193.14 9730193.40 9730193.66 0.0088 0.0002 Jupiter 21928-07-24 05:02 G 9730301.52 9730301.71 9730301.91 0.0537 0.0306 Neptune 21929-04-09 08:38 G 9730560.61 9730560.86 9730561.12 0.0088 0.0002 Neptune 21930-04-11 19:55 G 9730928.08 9730928.33 9730928.59 0.0088 0.0004 Neptune 21931-04-14 06:57 G 9731295.53 9731295.79 9731296.05 0.0088 0.0007 Neptune 21932-04-15 18:14 G 9731663.01 9731663.26 9731663.52 0.0088 0.0009 Jupiter 21932-12-17 00:00 G 9731908.35 9731908.50 9731908.65 0.0506 0.0379 Neptune 21933-04-18 05:16 G 9732030.47 9732030.72 9732030.99 0.0088 0.0012 Jupiter 21934-01-17 14:52 G 9732304.91 9732305.12 9732305.34 0.0493 0.0186 Neptune 21934-04-20 16:33 G 9732397.95 9732398.19 9732398.46 0.0088 0.0016 Neptune 21935-04-23 04:04 G 9732765.43 9732765.67 9732765.93 0.0088 0.0018 Neptune 21936-04-24 15:36 G 9733132.91 9733133.15 9733133.41 0.0088 0.0020 Neptune 21937-04-27 03:21 G 9733500.40 9733500.64 9733500.90 0.0088 0.0023 Saturn 21937-06-14 04:48 G 9733548.46 9733548.70 9733548.95 0.0288 0.0019 Neptune 21938-04-29 14:52 G 9733867.88 9733868.12 9733868.38 0.0088 0.0025 Neptune 21939-05-02 02:38 G 9734235.37 9734235.61 9734235.86 0.0088 0.0028 Jupiter 21939-06-23 12:14 G 9734287.82 9734288.01 9734288.20 0.0525 0.0298 Neptune 21940-05-03 14:09 G 9734602.86 9734603.09 9734603.35 0.0088 0.0031 Jupiter 21940-07-29 15:07 G 9734689.98 9734690.13 9734690.28 0.0539 0.0410 Neptune 21941-05-06 02:09 G 9734970.36 9734970.59 9734970.84 0.0088 0.0033 Neptune 21942-05-08 13:40 G 9735337.85 9735338.07 9735338.32 0.0088 0.0036 Neptune 21943-05-11 01:26 G 9735705.35 9735705.56 9735705.81 0.0089 0.0038 Neptune 21944-05-12 13:26 G 9736072.84 9736073.06 9736073.30 0.0089 0.0040 Jupiter 21944-12-21 11:31 G 9736295.79 9736295.98 9736296.17 0.0504 0.0298 Neptune 21945-05-15 01:26 G 9736440.34 9736440.56 9736440.79 0.0089 0.0042 Jupiter 21946-01-21 19:55 G 9736692.14 9736692.33 9736692.53 0.0491 0.0259

Neptune 21946-05-17 13:12 G 9736807.84 9736808.05 9736808.29 0.0089 0.0045 Neptune 21947-05-20 00:57 G 9737175.34 9737175.54 9737175.78 0.0089 0.0047 Neptune 21948-05-21 13:12 G 9737542.85 9737543.05 9737543.29 0.0089 0.0049 Pluto 21948-10-10 22:04 G 9737685.17 9737685.42 9737685.68 0.0064 0.0005 Neptune 21949-05-24 01:26 G 9737910.37 9737910.56 9737910.79 0.0089 0.0051 Neptune 21950-05-26 13:40 G 9738277.88 9738278.07 9738278.30 0.0089 0.0053 Neptune 21951-05-29 02:24 G 9738645.40 9738645.60 9738645.81 0.0089 0.0054 Jupiter 21951-06-28 14:38 G 9738675.90 9738676.11 9738676.33 0.0527 0.0204 Saturn 21951-12-08 22:48 G 9738839.26 9738839.45 9738839.64 0.0271 0.0166 Neptune 21952-05-30 14:38 G 9739012.92 9739013.11 9739013.32 0.0089 0.0056 Jupiter 21952-08-03 23:45 G 9739078.42 9739078.49 9739078.57 0.0540 0.0508 Saturn 21952-12-20 04:04 G 9739216.53 9739216.67 9739216.81 0.0272 0.0222 Neptune 21953-06-02 02:52 G 9739380.44 9739380.62 9739380.83 0.0089 0.0058 Neptune 21954-06-04 15:07 G 9739747.96 9739748.13 9739748.34 0.0089 0.0060 Neptune 21955-06-07 03:36 G 9740115.48 9740115.65 9740115.85 0.0089 0.0061 Uranus 21955-11-07 07:40 G 9740268.67 9740268.82 9740269.01 0.0142 0.0105 Neptune 21956-06-08 15:50 G 9740483.00 9740483.16 9740483.37 0.0089 0.0063 Uranus 21956-11-11 04:33 G 9740638.44 9740638.69 9740638.93 0.0143 0.0038 Jupiter 21956-12-25 22:33 G 9740683.23 9740683.44 9740683.65 0.0502 0.0216 Neptune 21957-06-11 04:33 G 9740850.53 9740850.69 9740850.89 0.0089 0.0064 Uranus 21957-11-16 01:12 G 9741008.31 9741008.55 9741008.81 0.0143 0.0030 Jupiter 21958-01-26 02:24 G 9741079.43 9741079.60 9741079.78 0.0490 0.0331 Neptune 21958-06-13 17:02 G 9741218.05 9741218.21 9741218.40 0.0089 0.0065 Uranus 21958-11-20 22:19 G 9741378.27 9741378.43 9741378.64 0.0143 0.0099 Neptune 21959-06-16 05:45 G 9741585.58 9741585.74 9741585.93 0.0089 0.0066 Neptune 21960-06-17 18:28 G 9741953.11 9741953.27 9741953.45 0.0089 0.0067 Neptune 21961-06-20 07:12 G 9742320.65 9742320.80 9742320.98 0.0089 0.0068 Neptune 21962-06-22 19:55 G 9742688.19 9742688.33 9742688.51 0.0089 0.0070 Neptune 21963-06-25 08:38 G 9743055.73 9743055.86 9743056.04 0.0089 0.0070 Jupiter 21963-07-03 13:12 G 9743063.83 9743064.05 9743064.28 0.0528 0.0113

Neptune 21964-06-26 21:36 G 9743423.27 9743423.40 9743423.59 0.0089 0.0071 21965-04-01 21:50 G 9743702.37 9743702.41 9743702.45 0.1620 0.1574 Mars Neptune 21965-06-29 10:48 G 9743790.82 9743790.95 9743791.12 0.0089 0.0072 Saturn 21966-06-08 12:57 G 9744134.86 9744135.04 9744135.24 0.0289 0.0181 Neptune 21966-07-01 23:31 G 9744158.36 9744158.48 9744158.66 0.0089 0.0072 Neptune 21967-07-04 12:28 G 9744525.89 9744526.02 9744526.19 0.0089 0.0072 Neptune 21968-07-06 01:40 G 9744893.44 9744893.57 9744893.74 0.0089 0.0073 Jupiter 21968-12-30 09:07 G 9745070.66 9745070.88 9745071.11 0.0501 0.0139 Neptune 21969-07-08 14:38 G 9745260.97 9745261.11 9745261.27 0.0089 0.0073 Jupiter 21970-01-30 09:21 G 9745466.76 9745466.89 9745467.02 0.0489 0.0399 Neptune 21970-07-11 03:36 G 9745628.52 9745628.65 9745628.81 0.0089 0.0073 Neptune 21971-07-13 16:19 G 9745996.05 9745996.18 9745996.35 0.0089 0.0073 Neptune 21972-07-15 05:16 G 9746363.60 9746363.72 9746363.90 0.0089 0.0073 Neptune 21973-07-17 18:57 G 9746731.14 9746731.29 9746731.45 0.0089 0.0072 Neptune 21974-07-20 07:40 G 9747098.68 9747098.82 9747098.99 0.0089 0.0072 Jupiter 21975-07-08 15:07 G 9747451.90 9747452.13 9747452.37 0.0530 0.0017 Neptune 21975-07-22 21:07 G 9747466.24 9747466.38 9747466.55 0.0089 0.0071 Neptune 21976-07-24 10:04 G 9747833.79 9747833.92 9747834.10 0.0089 0.0071 Neptune 21977-07-26 23:31 G 9748201.34 9748201.48 9748201.66 0.0089 0.0070 Neptune 21978-07-29 12:43 G 9748568.88 9748569.03 9748569.21 0.0089 0.0069 Neptune 21979-08-01 01:40 G 9748936.42 9748936.57 9748936.76 0.0089 0.0068 Neptune 21980-08-02 14:52 G 9749303.97 9749304.12 9749304.31 0.0090 0.0067 Jupiter 21981-01-03 20:09 G 9749458.11 9749458.34 9749458.58 0.0499 0.0058 Neptune 21981-08-05 03:50 G 9749671.51 9749671.66 9749671.86 0.0090 0.0066 Saturn 21981-12-15 06:57 G 9749803.56 9749803.79 9749804.03 0.0271 0.0059 Jupiter 21982-02-03 15:21 G 9749854.08 9749854.14 9749854.21 0.0488 0.0465 Neptune 21982-08-07 17:16 G 9750039.05 9750039.22 9750039.41 0.0090 0.0064 Neptune 21983-08-10 06:00 G 9750406.59 9750406.75 9750406.95 0.0090 0.0063 Neptune 21984-08-11 19:26 G 9750774.13 9750774.31 9750774.51 0.0090 0.0061 Neptune 21985-08-14 07:55 G 9751141.67 9751141.83 9751142.05 0.0090 0.0060

Neptune 21986-08-16 21:21 G 9751509.21 9751509.39 9751509.61 0.0090 0.0058 Jupiter 21987-07-13 18:57 G 9751840.06 9751840.29 9751840.52 0.0533 0.0087 Neptune 21987-08-19 10:33 G 9751876.75 9751876.94 9751877.15 0.0090 0.0056 Neptune 21988-08-21 00:00 G 9752244.30 9752244.50 9752244.71 0.0090 0.0054 Neptune 21989-08-23 13:12 G 9752611.85 9752612.05 9752612.27 0.0090 0.0052 Neptune 21990-08-26 02:09 G 9752979.38 9752979.59 9752979.81 0.0090 0.0050 Neptune 21991-08-28 15:07 G 9753346.93 9753347.13 9753347.36 0.0090 0.0048 Neptune 21992-08-30 04:04 G 9753714.46 9753714.67 9753714.91 0.0090 0.0046 Jupiter 21993-01-08 06:43 G 9753845.55 9753845.78 9753846.02 0.0497 0.0025 Neptune 21993-09-01 16:48 G 9754082.00 9754082.20 9754082.45 0.0090 0.0044 Neptune 21994-09-04 06:00 G 9754449.53 9754449.75 9754449.99 0.0090 0.0041 Uranus 21995-05-05 09:36 G 9754692.89 9754692.90 9754692.96 0.0136 0.0135 Neptune 21995-09-06 18:43 G 9754817.07 9754817.28 9754817.53 0.0090 0.0039 Uranus 21996-05-08 22:04 G 9755062.22 9755062.42 9755062.64 0.0136 0.0076 Saturn 21996-06-15 12:57 G 9755099.81 9755100.04 9755100.28 0.0288 0.0077 Neptune 21996-09-08 07:55 G 9755184.59 9755184.83 9755185.07 0.0090 0.0036 Uranus 21997-05-13 09:50 G 9755431.66 9755431.91 9755432.17 0.0135 0.0018 Neptune 21997-09-10 20:38 G 9755552.13 9755552.36 9755552.61 0.0089 0.0034 Uranus 21998-05-17 20:52 G 9755801.13 9755801.37 9755801.62 0.0135 0.0041 Jupiter 21998-06-12 17:02 G 9755827.12 9755827.21 9755827.30 0.0519 0.0480 Neptune 21998-09-13 09:36 G 9755919.66 9755919.90 9755920.14 0.0089 0.0031 Uranus 21999-05-22 07:26 G 9756170.65 9756170.81 9756171.00 0.0135 0.0098 Jupiter 21999-07-19 02:52 G 9756228.41 9756228.62 9756228.84 0.0535 0.0192 Neptune 21999-09-15 22:19 G 9756287.19 9756287.43 9756287.68 0.0089 0.0028 Neptune 22000-09-17 11:16 G 9756654.73 9756654.97 9756655.22 0.0089 0.0026

## 23RD MILLENNIUM CE

## This is a list of transits of Earth in the 23rd millennium CE.

FROM MAX- C START MAX END SUNRAD DEPTH S

TRANSIT

TIME

Neptune 22001-09-19 23:45 G 9757022.26 9757022.49 9757022.76 0.0089 0.0024 Neptune 22002-09-22 12:43 G 9757389.79 9757390.03 9757390.29 0.0089 0.0021 Neptune 22003-09-25 01:40 G 9757757.32 9757757.57 9757757.83 0.0089 0.0017 Jupiter 22003-12-12 15:36 G 9757836.07 9757836.15 9757836.24 0.0509 0.0467 Neptune 22004-09-26 14:24 G 9758124.85 9758125.10 9758125.36 0.0089 0.0015 Jupiter 22005-01-12 13:55 G 9758232.85 9758233.08 9758233.31 0.0495 0.0101 Neptune 22005-09-29 02:52 G 9758492.36 9758492.62 9758492.88 0.0089 0.0012 Neptune 22006-10-01 15:07 G 9758859.88 9758860.13 9758860.40 0.0089 0.0010 Neptune 22007-10-04 03:36 G 9759227.40 9759227.65 9759227.91 0.0089 0.0006 Neptune 22008-10-05 16:04 G 9759594.92 9759595.17 9759595.43 0.0089 0.0004 Neptune 22009-10-08 04:19 G 9759962.43 9759962.68 9759962.94 0.0089 0.0001 Jupiter 22010-06-17 17:02 G 9760215.06 9760215.21 9760215.37 0.0522 0.0395 Neptune 22010-10-10 16:33 G 9760329.94 9760330.19 9760330.45 0.0089 0.0003 Saturn 22010-12-10 00:28 G 9760390.30 9760390.52 9760390.74 0.0271 0.0120 Jupiter 22011-07-24 10:33 G 9760616.75 9760616.94 9760617.14 0.0536 0.0295 Neptune 22011-10-13 05:02 G 9760697.46 9760697.71 9760697.97 0.0089 0.0005 Saturn 22011-12-22 05:16 G 9760767.68 9760767.72 9760767.76 0.0272 0.0267 Neptune 22012-10-14 17:16 G 9761064.96 9761065.22 9761065.48 0.0089 0.0008 Neptune 22013-10-17 05:31 G 9761432.48 9761432.73 9761432.99 0.0089 0.0011 Neptune 22014-10-19 17:31 G 9761799.99 9761800.23 9761800.50 0.0089 0.0014 Neptune 22015-10-22 05:45 G 9762167.50 9762167.74 9762168.00 0.0089 0.0017 Jupiter 22015-12-17 05:16 G 9762223.58 9762223.72 9762223.87 0.0507 0.0387

Neptune 22016-10-23 18:00 G 9762535.00 9762535.25 9762535.50 0.0089 0.0020 Jupiter 22017-01-16 21:50 G 9762620.19 9762620.41 9762620.63 0.0493 0.0178 Neptune 22017-10-26 05:45 G 9762902.50 9762902.74 9762902.99 0.0089 0.0022 Neptune 22018-10-28 17:31 G 9763269.99 9763270.23 9763270.48 0.0089 0.0025 Neptune 22019-10-31 05:02 G 9763637.48 9763637.71 9763637.97 0.0089 0.0028 Neptune 22020-11-01 17:02 G 9764004.97 9764005.21 9764005.46 0.0089 0.0030 Neptune 22021-11-04 04:19 G 9764372.46 9764372.68 9764372.94 0.0089 0.0033 Jupiter 22022-06-22 14:24 G 9764602.92 9764603.10 9764603.30 0.0523 0.0313 Neptune 22022-11-06 16:19 G 9764739.95 9764740.18 9764740.42 0.0089 0.0035 Jupiter 22023-07-29 12:57 G 9765004.88 9765005.04 9765005.20 0.0537 0.0389 Neptune 22023-11-09 03:36 G 9765107.43 9765107.65 9765107.90 0.0089 0.0038 Neptune 22024-11-10 15:21 G 9765474.92 9765475.14 9765475.38 0.0089 0.0040 Saturn 22025-06-09 18:43 G 9765686.06 9765686.28 9765686.50 0.0289 0.0126 Neptune 22025-11-13 02:24 G 9765842.40 9765842.60 9765842.85 0.0089 0.0043 Neptune 22026-11-15 14:09 G 9766209.89 9766210.09 9766210.33 0.0089 0.0045 Neptune 22027-11-18 01:55 G 9766577.37 9766577.58 9766577.81 0.0089 0.0047 Jupiter 22027-12-21 16:48 G 9766611.02 9766611.20 9766611.38 0.0505 0.0310 Neptune 22028-11-19 13:12 G 9766944.85 9766945.05 9766945.27 0.0089 0.0049 Jupiter 22029-01-21 05:16 G 9767007.52 9767007.72 9767007.92 0.0492 0.0250 Neptune 22029-11-22 00:43 G 9767312.33 9767312.53 9767312.74 0.0089 0.0051 Neptune 22030-11-24 11:45 G 9767679.80 9767679.99 9767680.21 0.0089 0.0053 Neptune 22031-11-26 23:02 G 9768047.27 9768047.46 9768047.67 0.0089 0.0055 Neptune 22032-11-28 09:50 G 9768414.73 9768414.91 9768415.12 0.0089 0.0057 Neptune 22033-11-30 20:38 G 9768782.19 9768782.36 9768782.58 0.0089 0.0059 Jupiter 22034-06-27 14:38 G 9768990.89 9768991.11 9768991.32 0.0525 0.0220 Neptune 22034-12-03 07:40 G 9769149.66 9769149.82 9769150.03 0.0089 0.0061 Jupiter 22035-08-03 19:12 G 9769393.20 9769393.30 9769393.40 0.0539 0.0486 Neptune 22035-12-05 18:57 G 9769517.12 9769517.29 9769517.49 0.0088 0.0062 Neptune 22036-12-07 05:31 G 9769884.58 9769884.73 9769884.93 0.0088 0.0064 Pluto 22037-04-10 01:26 G 9770008.55 9770008.56 9770008.63 0.0080 0.0079

Neptune 22037-12-09 16:33 G 9770252.04 9770252.19 9770252.39 0.0088 0.0065 Neptune 22038-12-12 03:50 G 9770619.50 9770619.66 9770619.84 0.0088 0.0066 Uranus 22039-11-07 16:19 G 9770950.02 9770950.18 9770950.36 0.0142 0.0103 Neptune 22039-12-14 14:52 G 9770986.96 9770987.12 9770987.29 0.0088 0.0067 Jupiter 22039-12-26 06:14 G 9770998.56 9770998.76 9770998.97 0.0503 0.0227 Uranus 22040-11-11 12:57 G 9771319.80 9771320.04 9771320.29 0.0143 0.0036 Neptune 22040-12-16 01:12 G 9771354.42 9771354.55 9771354.74 0.0088 0.0069 Saturn 22040-12-16 08:38 G 9771354.64 9771354.86 9771355.09 0.0271 0.0105 \* Jupiter 22041-01-25 12:43 G 9771394.86 9771395.03 9771395.21 0.0491 0.0321 Uranus 22041-11-16 09:36 G 9771689.66 9771689.90 9771690.16 0.0143 0.0032 Neptune 22041-12-18 12:00 G 9771721.87 9771722.00 9771722.18 0.0088 0.0069 Uranus 22042-11-21 06:57 G 9772059.63 9772059.79 9772059.98 0.0143 0.0100 Neptune 22042-12-20 22:48 G 9772089.32 9772089.45 9772089.63 0.0088 0.0070 Neptune 22043-12-23 09:50 G 9772456.77 9772456.91 9772457.07 0.0088 0.0071 Mars 22044-04-04 00:28 G 9772559.33 9772559.52 9772559.70 0.1623 0.0183 Neptune 22044-12-24 20:09 G 9772824.21 9772824.34 9772824.51 0.0088 0.0072 Neptune 22045-12-27 06:28 G 9773191.65 9773191.77 9773191.94 0.0088 0.0072 Jupiter 22046-07-02 15:07 G 9773378.90 9773379.13 9773379.36 0.0528 0.0124 Neptune 22046-12-29 17:16 G 9773559.09 9773559.22 9773559.38 0.0088 0.0073 Neptune 22048-01-01 04:04 G 9773926.53 9773926.67 9773926.82 0.0088 0.0073 Neptune 22049-01-02 13:55 G 9774293.97 9774294.08 9774294.25 0.0088 0.0073 Neptune 22050-01-05 00:28 G 9774661.40 9774661.52 9774661.69 0.0088 0.0074 22050-10-04 18:57 G 9774934.11 9774934.29 9774934.47 0.1916 0.0819 Mars Neptune 22051-01-07 11:02 G 9775028.84 9775028.96 9775029.12 0.0088 0.0073 Jupiter 22051-12-30 19:12 G 9775386.08 9775386.30 9775386.52 0.0501 0.0144 Neptune 22052-01-09 21:36 G 9775396.28 9775396.40 9775396.56 0.0088 0.0073 Neptune 22053-01-11 07:55 G 9775763.71 9775763.83 9775763.99 0.0088 0.0073 Jupiter 22053-01-29 19:40 G 9775782.19 9775782.32 9775782.46 0.0489 0.0392 Neptune 22054-01-13 18:14 G 9776131.15 9776131.26 9776131.43 0.0088 0.0073 Neptune 22055-01-16 05:02 G 9776498.58 9776498.71 9776498.87 0.0088 0.0072

Saturn 22055-06-17 18:14 G 9776651.05 9776651.26 9776651.48 0.0288 0.0131 Neptune 22056-01-18 14:52 G 9776866.00 9776866.12 9776866.30 0.0088 0.0072 Neptune 22057-01-20 01:40 G 9777233.43 9777233.57 9777233.73 0.0088 0.0071 Neptune 22058-01-22 11:16 G 9777600.85 9777600.97 9777601.16 0.0088 0.0071 Jupiter 22058-07-07 20:24 G 9777767.12 9777767.35 9777767.58 0.0530 0.0023 Neptune 22059-01-24 21:50 G 9777968.28 9777968.41 9777968.59 0.0088 0.0070 Neptune 22060-01-27 07:55 G 9778335.70 9778335.83 9778336.01 0.0088 0.0069 Neptune 22061-01-28 18:14 G 9778703.12 9778703.26 9778703.44 0.0088 0.0068 Neptune 22062-01-31 04:19 G 9779070.54 9779070.68 9779070.87 0.0088 0.0067 Neptune 22063-02-02 14:38 G 9779437.97 9779438.11 9779438.31 0.0088 0.0066 Jupiter 22064-01-04 05:02 G 9779773.48 9779773.71 9779773.94 0.0499 0.0064 Neptune 22064-02-05 01:26 G 9779805.39 9779805.56 9779805.74 0.0088 0.0064 Jupiter 22065-02-03 00:14 G 9780169.43 9780169.51 9780169.59 0.0488 0.0458 Neptune 22065-02-06 11:31 G 9780172.82 9780172.98 9780173.18 0.0088 0.0063 Neptune 22066-02-08 21:50 G 9780540.25 9780540.41 9780540.62 0.0088 0.0062 Neptune 22067-02-11 08:24 G 9780907.67 9780907.85 9780908.05 0.0088 0.0060 Neptune 22068-02-13 18:28 G 9781275.10 9781275.27 9781275.49 0.0088 0.0059 Neptune 22069-02-15 04:48 G 9781642.53 9781642.70 9781642.92 0.0088 0.0057 Saturn 22069-12-11 00:57 G 9781941.31 9781941.54 9781941.78 0.0271 0.0075 Neptune 22070-02-17 15:21 G 9782009.95 9782010.14 9782010.35 0.0088 0.0055 Jupiter 22070-07-13 02:24 G 9782155.36 9782155.60 9782155.83 0.0532 0.0079 Neptune 22071-02-20 01:40 G 9782377.38 9782377.57 9782377.79 0.0088 0.0053 Neptune 22072-02-22 12:00 G 9782744.80 9782745.00 9782745.22 0.0088 0.0051 Neptune 22073-02-23 22:19 G 9783112.23 9783112.43 9783112.65 0.0088 0.0049 Neptune 22074-02-26 08:38 G 9783479.66 9783479.86 9783480.09 0.0088 0.0047 Neptune 22075-02-28 18:57 G 9783847.08 9783847.29 9783847.53 0.0088 0.0045 Jupiter 22076-01-08 14:38 G 9784160.88 9784161.11 9784161.34 0.0497 0.0016 Neptune 22076-03-02 05:16 G 9784214.51 9784214.72 9784214.96 0.0088 0.0043 Neptune 22077-03-04 15:50 G 9784581.95 9784582.16 9784582.41 0.0088 0.0041 Neptune 22078-03-07 02:38 G 9784949.39 9784949.61 9784949.85 0.0088 0.0038

Neptune 22079-03-09 13:12 G 9785316.83 9785317.05 9785317.30 0.0088 0.0036 Uranus 22079-05-05 18:28 G 9785374.24 9785374.27 9785374.35 0.0136 0.0133 Neptune 22080-03-11 00:00 G 9785684.27 9785684.50 9785684.74 0.0088 0.0033 Uranus 22080-05-09 06:57 G 9785743.58 9785743.79 9785744.01 0.0136 0.0074 Neptune 22081-03-13 10:33 G 9786051.71 9786051.94 9786052.19 0.0088 0.0031 Uranus 22081-05-13 18:43 G 9786113.02 9786113.28 9786113.53 0.0135 0.0016 Jupiter 22081-06-11 22:48 G 9786142.38 9786142.45 9786142.53 0.0518 0.0489 Neptune 22082-03-15 21:21 G 9786419.15 9786419.39 9786419.64 0.0088 0.0028 Uranus 22082-05-18 05:31 G 9786482.49 9786482.73 9786482.98 0.0135 0.0043 Jupiter 22082-07-18 04:19 G 9786543.46 9786543.68 9786543.90 0.0534 0.0173 Neptune 22083-03-18 07:26 G 9786786.58 9786786.81 9786787.08 0.0088 0.0026 Uranus 22083-05-22 15:50 G 9786852.01 9786852.16 9786852.35 0.0135 0.0100 Neptune 22084-03-19 18:28 G 9787154.03 9787154.27 9787154.53 0.0088 0.0023 Saturn 22084-06-10 21:21 G 9787237.15 9787237.39 9787237.63 0.0289 0.0075 Neptune 22085-03-22 05:02 G 9787521.47 9787521.71 9787521.97 0.0088 0.0020 Neptune 22086-03-24 16:04 G 9787888.91 9787889.17 9787889.42 0.0088 0.0017 Jupiter 22086-12-11 19:55 G 9788151.26 9788151.33 9788151.41 0.0510 0.0479 Neptune 22087-03-27 02:24 G 9788256.36 9788256.60 9788256.87 0.0088 0.0015 Jupiter 22088-01-12 22:33 G 9788548.21 9788548.44 9788548.67 0.0496 0.0090 Neptune 22088-03-28 13:26 G 9788623.81 9788624.06 9788624.32 0.0088 0.0012 Neptune 22089-03-31 00:28 G 9788991.26 9788991.52 9788991.78 0.0088 0.0009 Neptune 22090-04-02 11:31 G 9789358.72 9789358.98 9789359.23 0.0088 0.0006 Neptune 22091-04-04 22:19 G 9789726.18 9789726.43 9789726.69 0.0088 0.0004 Neptune 22092-04-06 09:21 G 9790093.64 9790093.89 9790094.15 0.0088 0.0002 Neptune 22093-04-08 20:38 G 9790461.11 9790461.36 9790461.62 0.0088 0.0002 Jupiter 22093-06-16 20:24 G 9790530.21 9790530.35 9790530.50 0.0520 0.0406 Neptune 22094-04-11 07:40 G 9790828.56 9790828.82 9790829.08 0.0088 0.0005 Jupiter 22094-07-23 09:07 G 9790931.68 9790931.88 9790932.08 0.0535 0.0275 Neptune 22095-04-13 18:43 G 9791196.03 9791196.28 9791196.54 0.0088 0.0008 Neptune 22096-04-15 05:45 G 9791563.49 9791563.74 9791564.00 0.0088 0.0011

Neptune 22097-04-17 16:48 G 9791930.96 9791931.20 9791931.47 0.0088 0.0015 Neptune 22098-04-20 04:19 G 9792298.43 9792298.68 9792298.94 0.0088 0.0017 Saturn 22098-12-06 05:31 G 9792528.63 9792528.73 9792528.87 0.0270 0.0234 Jupiter 22098-12-16 11:31 G 9792538.84 9792538.98 9792539.13 0.0508 0.0398 Neptune 22099-04-22 15:21 G 9792665.90 9792666.14 9792666.40 0.0088 0.0019 Saturn 22099-12-18 08:52 G 9792905.68 9792905.87 9792906.09 0.0271 0.0149 Jupiter 22100-01-17 07:55 G 9792935.61 9792935.83 9792936.05 0.0494 0.0168 Neptune 22100-04-25 02:52 G 9793033.38 9793033.62 9793033.88 0.0088 0.0022 Neptune 22101-04-27 14:24 G 9793400.86 9793401.10 9793401.35 0.0088 0.0025 Neptune 22102-04-30 01:55 G 9793768.34 9793768.58 9793768.83 0.0088 0.0028 Neptune 22103-05-02 13:26 G 9794135.83 9794136.06 9794136.31 0.0088 0.0030 Neptune 22104-05-04 01:26 G 9794503.32 9794503.56 9794503.80 0.0088 0.0033 Neptune 22105-05-06 12:57 G 9794870.82 9794871.04 9794871.29 0.0088 0.0036 Jupiter 22105-06-22 18:00 G 9794918.07 9794918.25 9794918.43 0.0523 0.0320 Neptune 22106-05-09 00:43 G 9795238.31 9795238.53 9795238.78 0.0088 0.0038 Jupiter 22106-07-29 14:52 G 9795319.96 9795320.12 9795320.29 0.0537 0.0375 Neptune 22107-05-11 12:28 G 9795605.80 9795606.02 9795606.26 0.0088 0.0041 Neptune 22108-05-13 00:14 G 9795973.30 9795973.51 9795973.75 0.0089 0.0044 Neptune 22109-05-15 12:14 G 9796340.81 9796341.01 9796341.25 0.0089 0.0046 Neptune 22110-05-18 00:14 G 9796708.30 9796708.51 9796708.73 0.0089 0.0048 Jupiter 22110-12-22 03:21 G 9796926.46 9796926.64 9796926.83 0.0506 0.0314 Neptune 22111-05-20 12:14 G 9797075.81 9797076.01 9797076.23 0.0089 0.0050 Jupiter 22112-01-22 16:19 G 9797322.98 9797323.18 9797323.39 0.0492 0.0244 Neptune 22112-05-21 23:45 G 9797443.31 9797443.49 9797443.73 0.0089 0.0053 Neptune 22113-05-24 12:00 G 9797810.82 9797811.00 9797811.23 0.0089 0.0055 Neptune 22114-05-27 00:14 G 9798178.33 9798178.51 9798178.73 0.0089 0.0057 Saturn 22114-06-19 22:04 G 9798202.23 9798202.42 9798202.61 0.0288 0.0183 Neptune 22115-05-29 12:28 G 9798545.85 9798546.02 9798546.24 0.0089 0.0059 Neptune 22116-05-31 00:57 G 9798913.37 9798913.54 9798913.75 0.0089 0.0061 Neptune 22117-06-02 13:55 G 9799280.90 9799281.08 9799281.27 0.0089 0.0062

Jupiter 22117-06-27 19:55 G 9799306.13 9799306.33 9799306.55 0.0525 0.0227 Neptune 22118-06-05 02:09 G 9799648.42 9799648.59 9799648.78 0.0089 0.0064 Jupiter 22118-08-04 00:57 G 9799708.44 9799708.54 9799708.66 0.0539 0.0476 Neptune 22119-06-07 14:09 G 9800015.94 9800016.09 9800016.29 0.0089 0.0066 Neptune 22120-06-09 03:07 G 9800383.47 9800383.63 9800383.81 0.0089 0.0067 Neptune 22121-06-11 15:07 G 9800750.99 9800751.13 9800751.32 0.0089 0.0069 Neptune 22122-06-14 03:50 G 9801118.52 9801118.66 9801118.84 0.0089 0.0070 Jupiter 22122-12-26 16:04 G 9801313.97 9801314.17 9801314.38 0.0503 0.0232 Mars 22123-04-08 02:24 G 9801416.48 9801416.60 9801416.73 0.1626 0.1234 Neptune 22123-06-16 16:33 G 9801486.05 9801486.19 9801486.35 0.0089 0.0071 Uranus 22123-11-08 23:45 G 9801631.33 9801631.49 9801631.68 0.0142 0.0102 Jupiter 22124-01-26 22:48 G 9801710.27 9801710.45 9801710.63 0.0491 0.0314 Neptune 22124-06-18 05:16 G 9801853.58 9801853.72 9801853.88 0.0089 0.0072 Uranus 22124-11-12 20:24 G 9802001.11 9802001.35 9802001.60 0.0143 0.0035 Neptune 22125-06-20 17:45 G 9802221.11 9802221.24 9802221.40 0.0089 0.0073 Uranus 22125-11-17 17:16 G 9802370.98 9802371.22 9802371.47 0.0143 0.0033 Neptune 22126-06-23 06:14 G 9802588.64 9802588.76 9802588.92 0.0089 0.0074 Uranus 22126-11-22 14:24 G 9802740.94 9802741.10 9802741.29 0.0143 0.0102 Neptune 22127-06-25 18:57 G 9802956.18 9802956.29 9802956.45 0.0089 0.0075 Neptune 22128-06-27 07:40 G 9803323.71 9803323.82 9803323.98 0.0089 0.0076 Saturn 22128-12-13 00:57 G 9803492.30 9803492.54 9803492.79 0.0271 0.0032 Neptune 22129-06-29 20:52 G 9803691.25 9803691.37 9803691.52 0.0089 0.0076 Jupiter 22129-07-02 23:45 G 9803694.26 9803694.49 9803694.72 0.0528 0.0131 Neptune 22130-07-02 09:21 G 9804058.79 9804058.89 9804059.05 0.0089 0.0078 Neptune 22131-07-04 22:33 G 9804426.34 9804426.44 9804426.60 0.0089 0.0078 Neptune 22132-07-06 11:45 G 9804793.88 9804793.99 9804794.13 0.0089 0.0078 Neptune 22133-07-09 00:43 G 9805161.42 9805161.53 9805161.67 0.0089 0.0078 Neptune 22134-07-11 13:26 G 9805528.95 9805529.06 9805529.21 0.0089 0.0078 Jupiter 22134-12-31 03:50 G 9805701.44 9805701.66 9805701.89 0.0501 0.0151 Neptune 22135-07-14 02:24 G 9805896.49 9805896.60 9805896.75 0.0089 0.0078

Jupiter 22136-01-31 05:16 G 9806097.58 9806097.72 9806097.87 0.0490 0.0385 Neptune 22136-07-15 15:07 G 9806264.03 9806264.13 9806264.29 0.0089 0.0078 Neptune 22137-07-18 04:19 G 9806631.57 9806631.68 9806631.83 0.0089 0.0077 Neptune 22138-07-20 17:16 G 9806999.11 9806999.22 9806999.38 0.0089 0.0076 Neptune 22139-07-23 06:28 G 9807366.65 9807366.77 9807366.93 0.0089 0.0076 Neptune 22140-07-24 19:55 G 9807734.20 9807734.33 9807734.48 0.0089 0.0075 Jupiter 22141-07-08 01:12 G 9808082.32 9808082.55 9808082.79 0.0529 0.0038 Neptune 22141-07-27 09:07 G 9808101.75 9808101.88 9808102.03 0.0089 0.0074 Neptune 22142-07-29 22:19 G 9808469.29 9808469.43 9808469.59 0.0089 0.0073 Saturn 22143-06-13 21:50 G 9808788.16 9808788.41 9808788.65 0.0289 0.0028 Neptune 22143-08-01 11:45 G 9808836.84 9808836.99 9808837.15 0.0089 0.0072 Neptune 22144-08-03 00:43 G 9809204.39 9809204.53 9809204.70 0.0089 0.0071 Neptune 22145-08-05 13:40 G 9809571.93 9809572.07 9809572.25 0.0089 0.0070 Neptune 22146-08-08 03:07 G 9809939.47 9809939.63 9809939.80 0.0090 0.0068 Jupiter 22147-01-04 12:28 G 9810088.79 9810089.02 9810089.25 0.0500 0.0075 Neptune 22147-08-10 15:50 G 9810307.01 9810307.16 9810307.36 0.0090 0.0067 Jupiter 22148-02-04 11:02 G 9810484.89 9810484.96 9810485.06 0.0489 0.0451 Neptune 22148-08-12 05:02 G 9810674.55 9810674.71 9810674.90 0.0090 0.0065 Neptune 22149-08-14 18:00 G 9811042.09 9811042.25 9811042.46 0.0090 0.0064 Neptune 22150-08-17 06:57 G 9811409.63 9811409.79 9811410.00 0.0090 0.0062 Neptune 22151-08-19 20:09 G 9811777.17 9811777.34 9811777.56 0.0090 0.0060 Neptune 22152-08-21 09:21 G 9812144.72 9812144.89 9812145.11 0.0090 0.0058 Jupiter 22153-07-13 03:50 G 9812470.43 9812470.66 9812470.89 0.0531 0.0061 Neptune 22153-08-23 22:19 G 9812512.26 9812512.43 9812512.66 0.0090 0.0056 Neptune 22154-08-26 12:00 G 9812879.80 9812880.00 9812880.22 0.0090 0.0053 Neptune 22155-08-29 01:12 G 9813247.35 9813247.55 9813247.77 0.0090 0.0051 Neptune 22156-08-30 14:09 G 9813614.89 9813615.09 9813615.33 0.0090 0.0049 Neptune 22157-09-02 03:21 G 9813982.43 9813982.64 9813982.87 0.0090 0.0046 Saturn 22157-12-08 06:14 G 9814079.60 9814079.76 9814079.94 0.0270 0.0190 Neptune 22158-09-04 16:04 G 9814349.97 9814350.17 9814350.42 0.0090 0.0044

Saturn 22158-12-20 09:07 G 9814456.72 9814456.88 9814457.06 0.0271 0.0192 Jupiter 22159-01-08 23:31 G 9814476.25 9814476.48 9814476.72 0.0498 0.0008 Neptune 22159-09-07 05:16 G 9814717.50 9814717.72 9814717.96 0.0090 0.0041 Neptune 22160-09-08 18:14 G 9815085.03 9815085.26 9815085.50 0.0090 0.0038 Neptune 22161-09-11 06:28 G 9815452.55 9815452.77 9815453.03 0.0090 0.0036 Neptune 22162-09-13 19:26 G 9815820.09 9815820.31 9815820.57 0.0090 0.0033 Uranus 22163-05-07 03:50 G 9816055.60 9816055.66 9816055.74 0.0136 0.0131 Neptune 22163-09-16 08:24 G 9816187.62 9816187.85 9816188.10 0.0089 0.0030 Uranus 22164-05-10 15:50 G 9816424.96 9816425.16 9816425.39 0.0136 0.0072 Jupiter 22164-06-12 03:21 G 9816457.58 9816457.64 9816457.71 0.0517 0.0493 Neptune 22164-09-17 21:07 G 9816555.14 9816555.38 9816555.63 0.0089 0.0027 Uranus 22165-05-15 03:36 G 9816794.40 9816794.65 9816794.91 0.0135 0.0013 Jupiter 22165-07-18 06:57 G 9816858.57 9816858.79 9816859.02 0.0533 0.0161 Neptune 22165-09-20 10:04 G 9816922.67 9816922.92 9816923.17 0.0089 0.0024 Uranus 22166-05-19 14:24 G 9817163.87 9817164.10 9817164.35 0.0135 0.0045 Neptune 22166-09-22 22:48 G 9817290.20 9817290.45 9817290.70 0.0089 0.0021 Uranus 22167-05-24 00:57 G 9817533.38 9817533.54 9817533.71 0.0135 0.0102 Neptune 22167-09-25 11:31 G 9817657.74 9817657.98 9817658.24 0.0089 0.0018 Neptune 22168-09-27 00:28 G 9818025.26 9818025.52 9818025.77 0.0089 0.0015 Neptune 22169-09-29 12:57 G 9818392.79 9818393.04 9818393.30 0.0089 0.0012 Jupiter 22169-12-12 06:14 G 9818466.69 9818466.76 9818466.84 0.0511 0.0482 Neptune 22170-10-02 01:40 G 9818760.31 9818760.57 9818760.82 0.0089 0.0009 Jupiter 22171-01-13 10:19 G 9818863.70 9818863.93 9818864.16 0.0496 0.0086 Neptune 22171-10-04 13:55 G 9819127.83 9819128.08 9819128.35 0.0089 0.0007 Saturn 22172-06-06 20:38 G 9819374.24 9819374.36 9819374.50 0.0289 0.0244 Neptune 22172-10-06 02:24 G 9819495.34 9819495.60 9819495.86 0.0089 0.0003 Saturn 22173-06-20 23:45 G 9819753.36 9819753.49 9819753.64 0.0288 0.0233 Neptune 22173-10-08 14:38 G 9819862.86 9819863.11 9819863.37 0.0089 0.0001 Neptune 22174-10-11 03:07 G 9820230.37 9820230.63 9820230.89 0.0089 0.0003 Neptune 22175-10-13 15:07 G 9820597.88 9820598.13 9820598.39 0.0089 0.0007

Jupiter 22176-06-17 02:24 G 9820845.46 9820845.60 9820845.74 0.0520 0.0411 Neptune 22176-10-15 03:36 G 9820965.39 9820965.65 9820965.91 0.0089 0.0009 Jupiter 22177-07-23 14:24 G 9821246.90 9821247.10 9821247.31 0.0535 0.0266 Neptune 22177-10-17 15:36 G 9821332.90 9821333.15 9821333.41 0.0089 0.0012 Neptune 22178-10-20 03:50 G 9821700.41 9821700.66 9821700.92 0.0089 0.0016 Neptune 22179-10-22 16:04 G 9822067.92 9822068.17 9822068.43 0.0089 0.0018 Neptune 22180-10-24 04:04 G 9822435.43 9822435.67 9822435.93 0.0089 0.0022 Neptune 22181-10-26 16:04 G 9822802.94 9822803.17 9822803.43 0.0089 0.0025 Jupiter 22181-12-16 22:19 G 9822854.29 9822854.43 9822854.57 0.0508 0.0402 Neptune 22182-10-29 04:19 G 9823170.44 9823170.68 9823170.93 0.0089 0.0027 Jupiter 22183-01-17 18:28 G 9823251.05 9823251.27 9823251.49 0.0494 0.0162 Neptune 22183-10-31 16:04 G 9823537.94 9823538.17 9823538.42 0.0089 0.0030 Neptune 22184-11-02 03:50 G 9823905.43 9823905.66 9823905.91 0.0089 0.0033 Neptune 22185-11-04 15:50 G 9824272.93 9824273.16 9824273.40 0.0089 0.0035 Neptune 22186-11-07 03:21 G 9824640.41 9824640.64 9824640.88 0.0089 0.0038 Neptune 22187-11-09 14:52 G 9825007.91 9825008.12 9825008.36 0.0089 0.0041 Saturn 22187-12-15 01:12 G 9825043.31 9825043.55 9825043.79 0.0270 0.0012 Jupiter 22188-06-22 03:07 G 9825233.45 9825233.63 9825233.82 0.0523 0.0325 Neptune 22188-11-11 02:38 G 9825375.39 9825375.61 9825375.83 0.0089 0.0043 Jupiter 22189-07-28 23:45 G 9825635.32 9825635.49 9825635.66 0.0537 0.0366 Neptune 22189-11-13 13:55 G 9825742.87 9825743.08 9825743.31 0.0089 0.0046 Neptune 22190-11-16 01:40 G 9826110.36 9826110.57 9826110.79 0.0089 0.0048 Neptune 22191-11-18 12:43 G 9826477.84 9826478.03 9826478.26 0.0089 0.0051 Neptune 22192-11-20 00:28 G 9826845.33 9826845.52 9826845.74 0.0089 0.0053 Neptune 22193-11-22 12:00 G 9827212.81 9827213.00 9827213.21 0.0089 0.0055 Jupiter 22193-12-21 12:14 G 9827241.84 9827242.01 9827242.20 0.0506 0.0320 Neptune 22194-11-24 23:02 G 9827580.29 9827580.46 9827580.68 0.0089 0.0058 Jupiter 22195-01-22 02:38 G 9827638.41 9827638.61 9827638.81 0.0493 0.0237 Neptune 22195-11-27 10:48 G 9827947.76 9827947.95 9827948.14 0.0089 0.0059 Pluto 22196-10-13 08:52 G 9828268.62 9828268.87 9828269.12 0.0064 0.0014

Neptune 22196-11-28 21:21 G 9828315.23 9828315.39 9828315.60 0.0089 0.0062 Neptune 22197-12-01 08:38 G 9828682.70 9828682.86 9828683.06 0.0089 0.0063 Neptune 22198-12-03 19:40 G 9829050.16 9829050.32 9829050.51 0.0089 0.0065 Neptune 22199-12-06 06:14 G 9829417.62 9829417.76 9829417.96 0.0089 0.0067 Jupiter 22200-06-28 03:50 G 9829621.45 9829621.66 9829621.87 0.0524 0.0237 Neptune 22200-12-08 17:31 G 9829785.08 9829785.23 9829785.41 0.0088 0.0068 Jupiter 22201-08-04 04:19 G 9830023.57 9830023.68 9830023.81 0.0538 0.0458 Neptune 22201-12-11 04:04 G 9830152.54 9830152.67 9830152.86 0.0088 0.0070 Saturn 22202-06-15 21:50 G 9830339.17 9830339.41 9830339.66 0.0289 0.0020 Neptune 22202-12-13 15:07 G 9830520.00 9830520.13 9830520.30 0.0088 0.0071 Neptune 22203-12-16 02:09 G 9830887.46 9830887.59 9830887.76 0.0088 0.0072 Neptune 22204-12-17 13:12 G 9831254.91 9831255.05 9831255.20 0.0088 0.0073 Neptune 22205-12-20 00:14 G 9831622.37 9831622.51 9831622.65 0.0088 0.0074 Jupiter 22205-12-26 22:04 G 9831629.22 9831629.42 9831629.63 0.0504 0.0243 Neptune 22206-12-22 11:02 G 9831989.83 9831989.96 9831990.10 0.0088 0.0075 Jupiter 22207-01-27 08:38 G 9832025.68 9832025.86 9832026.04 0.0492 0.0305 Uranus 22207-11-10 06:28 G 9832312.62 9832312.77 9832312.97 0.0142 0.0102 Neptune 22207-12-24 21:21 G 9832357.28 9832357.39 9832357.54 0.0088 0.0076 Uranus 22208-11-14 03:21 G 9832682.39 9832682.64 9832682.89 0.0143 0.0034 Neptune 22208-12-26 07:55 G 9832724.72 9832724.83 9832724.98 0.0088 0.0077 Uranus 22209-11-19 00:00 G 9833052.26 9833052.50 9833052.75 0.0143 0.0035 Neptune 22209-12-28 18:14 G 9833092.17 9833092.26 9833092.42 0.0088 0.0077 Uranus 22210-11-23 21:21 G 9833422.23 9833422.39 9833422.57 0.0143 0.0104 Neptune 22210-12-31 05:02 G 9833459.61 9833459.71 9833459.85 0.0088 0.0078 Neptune 22212-01-02 15:50 G 9833827.05 9833827.16 9833827.29 0.0088 0.0078 Jupiter 22212-07-03 04:04 G 9834009.45 9834009.67 9834009.90 0.0526 0.0143 Neptune 22213-01-04 01:55 G 9834194.49 9834194.58 9834194.72 0.0088 0.0078 Neptune 22214-01-06 12:14 G 9834561.92 9834562.01 9834562.15 0.0088 0.0079 Neptune 22215-01-08 22:48 G 9834929.36 9834929.45 9834929.59 0.0088 0.0079 Neptune 22216-01-11 09:07 G 9835296.79 9835296.88 9835297.02 0.0088 0.0078

Saturn 22216-12-10 06:43 G 9835630.58 9835630.78 9835630.99 0.0270 0.0147 Neptune 22217-01-12 19:40 G 9835664.23 9835664.32 9835664.46 0.0088 0.0078 Saturn 22217-12-22 09:21 G 9836007.78 9836007.89 9836008.02 0.0270 0.0235 Jupiter 22217-12-31 10:48 G 9836016.73 9836016.95 9836017.18 0.0502 0.0161 Neptune 22218-01-15 06:43 G 9836031.67 9836031.78 9836031.91 0.0088 0.0077 Neptune 22219-01-17 16:48 G 9836399.10 9836399.20 9836399.34 0.0088 0.0077 Jupiter 22219-01-31 15:50 G 9836413.02 9836413.16 9836413.31 0.0490 0.0376 Neptune 22220-01-20 03:50 G 9836766.53 9836766.66 9836766.78 0.0088 0.0076 Neptune 22221-01-21 13:40 G 9837133.96 9837134.07 9837134.21 0.0088 0.0076 Neptune 22222-01-24 00:14 G 9837501.39 9837501.51 9837501.65 0.0088 0.0075 Neptune 22223-01-26 10:33 G 9837868.81 9837868.94 9837869.08 0.0088 0.0074 Neptune 22224-01-28 20:52 G 9838236.24 9838236.37 9838236.52 0.0088 0.0073 Jupiter 22224-07-08 04:04 G 9838397.44 9838397.67 9838397.91 0.0529 0.0048 Neptune 22225-01-30 07:12 G 9838603.66 9838603.80 9838603.95 0.0088 0.0072 Neptune 22226-02-01 17:16 G 9838971.08 9838971.22 9838971.38 0.0088 0.0071 Neptune 22227-02-04 03:21 G 9839338.50 9839338.64 9839338.81 0.0088 0.0070 Neptune 22228-02-06 13:12 G 9839705.92 9839706.05 9839706.24 0.0088 0.0069 Neptune 22229-02-08 00:00 G 9840073.35 9840073.50 9840073.68 0.0088 0.0067 Jupiter 22230-01-04 23:45 G 9840404.27 9840404.49 9840404.73 0.0500 0.0079 Neptune 22230-02-10 09:50 G 9840440.77 9840440.91 9840441.11 0.0088 0.0066 Jupiter 22231-02-04 23:02 G 9840800.37 9840800.46 9840800.56 0.0489 0.0444 Neptune 22231-02-12 20:38 G 9840808.20 9840808.36 9840808.56 0.0088 0.0064 Saturn 22231-06-09 21:21 G 9840925.23 9840925.39 9840925.59 0.0289 0.0198 Neptune 22232-02-15 06:57 G 9841175.63 9841175.79 9841175.99 0.0088 0.0062 Saturn 22232-06-23 00:57 G 9841304.49 9841304.54 9841304.61 0.0288 0.0280 Neptune 22233-02-16 17:31 G 9841543.06 9841543.23 9841543.43 0.0088 0.0060 Neptune 22234-02-19 04:04 G 9841910.48 9841910.67 9841910.87 0.0088 0.0058 Neptune 22235-02-21 14:09 G 9842277.90 9842278.09 9842278.30 0.0088 0.0056 Neptune 22236-02-24 00:28 G 9842645.33 9842645.52 9842645.73 0.0088 0.0054 Jupiter 22236-07-13 08:52 G 9842785.64 9842785.87 9842786.11 0.0531 0.0053

Neptune 22237-02-25 10:33 G 9843012.75 9843012.94 9843013.16 0.0088 0.0052 Neptune 22238-02-27 20:52 G 9843380.18 9843380.37 9843380.60 0.0088 0.0050 Neptune 22239-03-02 06:57 G 9843747.60 9843747.79 9843748.03 0.0088 0.0048 Neptune 22240-03-03 17:45 G 9844115.03 9844115.24 9844115.47 0.0088 0.0045 Neptune 22241-03-06 03:50 G 9844482.46 9844482.66 9844482.90 0.0088 0.0043 Jupiter 22242-01-09 10:33 G 9844791.71 9844791.94 9844792.18 0.0498 0.0006 Neptune 22242-03-08 14:38 G 9844849.89 9844850.11 9844850.35 0.0088 0.0040 Neptune 22243-03-11 00:43 G 9845217.32 9845217.53 9845217.79 0.0088 0.0038 Neptune 22244-03-12 11:31 G 9845584.76 9845584.98 9845585.23 0.0088 0.0035 Neptune 22245-03-14 22:33 G 9845952.20 9845952.44 9845952.68 0.0088 0.0032 Neptune 22246-03-17 08:38 G 9846319.64 9846319.86 9846320.12 0.0088 0.0030 Saturn 22246-12-17 02:09 G 9846594.35 9846594.59 9846594.83 0.0270 0.0056 Neptune 22247-03-19 19:26 G 9846687.08 9846687.31 9846687.57 0.0088 0.0027 Uranus 22247-05-08 12:43 G 9846736.95 9846737.03 9846737.11 0.0136 0.0129 Jupiter 22247-06-13 12:43 G 9846772.98 9846773.03 9846773.10 0.0517 0.0497 Neptune 22248-03-21 06:14 G 9847054.52 9847054.76 9847055.01 0.0088 0.0024 Uranus 22248-05-12 00:28 G 9847106.31 9847106.52 9847106.75 0.0136 0.0070 Jupiter 22248-07-18 15:50 G 9847173.93 9847174.16 9847174.38 0.0533 0.0153 Neptune 22249-03-23 17:02 G 9847421.96 9847422.21 9847422.46 0.0088 0.0021 22249-04-05 03:21 G 9847434.48 9847434.64 9847434.80 0.1617 0.0882 Mars Uranus 22249-05-16 12:00 G 9847475.75 9847476.00 9847476.26 0.0136 0.0011 Neptune 22250-03-26 03:36 G 9847789.40 9847789.65 9847789.91 0.0088 0.0018 Uranus 22250-05-20 22:48 G 9847845.22 9847845.45 9847845.70 0.0135 0.0048 Neptune 22251-03-28 14:24 G 9848156.85 9848157.10 9848157.36 0.0088 0.0015 Uranus 22251-05-25 09:07 G 9848214.73 9848214.88 9848215.05 0.0135 0.0105 Neptune 22252-03-30 01:12 G 9848524.30 9848524.55 9848524.81 0.0088 0.0012 Jupiter 22252-12-12 15:21 G 9848782.08 9848782.14 9848782.21 0.0511 0.0486 Neptune 22253-04-01 12:00 G 9848891.75 9848892.00 9848892.26 0.0088 0.0009 Jupiter 22254-01-13 20:09 G 9849179.11 9849179.34 9849179.57 0.0496 0.0080 Neptune 22254-04-03 22:48 G 9849259.20 9849259.45 9849259.71 0.0088 0.0006

Neptune 22255-04-06 09:50 G 9849626.65 9849626.91 9849627.17 0.0088 0.0003 Neptune 22256-04-07 21:07 G 9849994.12 9849994.38 9849994.63 0.0088 0.0001 Neptune 22257-04-10 07:55 G 9850361.58 9850361.83 9850362.09 0.0088 0.0004 Neptune 22258-04-12 19:12 G 9850729.05 9850729.30 9850729.56 0.0088 0.0006 Neptune 22259-04-15 06:14 G 9851096.51 9851096.76 9851097.02 0.0088 0.0009 Jupiter 22259-06-18 11:31 G 9851160.85 9851160.98 9851161.13 0.0519 0.0417 Neptune 22260-04-16 17:31 G 9851463.98 9851464.23 9851464.49 0.0088 0.0012 Jupiter 22260-07-23 20:24 G 9851562.15 9851562.35 9851562.56 0.0534 0.0251 Neptune 22261-04-19 04:48 G 9851831.45 9851831.70 9851831.96 0.0088 0.0015 Saturn 22261-06-16 21:36 G 9851890.16 9851890.40 9851890.64 0.0289 0.0064 Neptune 22262-04-21 15:50 G 9852198.92 9852199.16 9852199.42 0.0088 0.0018 Neptune 22263-04-24 03:07 G 9852566.39 9852566.63 9852566.89 0.0088 0.0022 Neptune 22264-04-25 14:24 G 9852933.86 9852934.10 9852934.36 0.0088 0.0024 Jupiter 22264-12-17 02:24 G 9853169.47 9853169.60 9853169.74 0.0509 0.0412 Neptune 22265-04-28 01:40 G 9853301.34 9853301.57 9853301.83 0.0088 0.0028 Jupiter 22266-01-18 02:38 G 9853566.39 9853566.61 9853566.83 0.0495 0.0152 Neptune 22266-04-30 13:26 G 9853668.82 9853669.06 9853669.30 0.0088 0.0030 Neptune 22267-05-03 00:57 G 9854036.30 9854036.54 9854036.78 0.0088 0.0033 Neptune 22268-05-04 12:28 G 9854403.79 9854404.02 9854404.26 0.0088 0.0036 Neptune 22269-05-07 00:00 G 9854771.28 9854771.50 9854771.75 0.0088 0.0039 Neptune 22270-05-09 11:31 G 9855138.77 9855138.98 9855139.23 0.0088 0.0042 Neptune 22271-05-11 23:45 G 9855506.27 9855506.49 9855506.72 0.0088 0.0044 Jupiter 22271-06-23 10:04 G 9855548.74 9855548.92 9855549.10 0.0521 0.0332 Neptune 22272-05-13 11:16 G 9855873.77 9855873.97 9855874.21 0.0089 0.0047 Jupiter 22272-07-29 01:12 G 9855950.38 9855950.55 9855950.73 0.0536 0.0349 Neptune 22273-05-15 23:31 G 9856241.27 9856241.48 9856241.70 0.0089 0.0049 Neptune 22274-05-18 11:02 G 9856608.77 9856608.96 9856609.19 0.0089 0.0052 Neptune 22275-05-20 23:02 G 9856976.27 9856976.46 9856976.68 0.0089 0.0054 Saturn 22275-12-12 08:09 G 9857181.61 9857181.84 9857182.06 0.0270 0.0103 Neptune 22276-05-22 11:16 G 9857343.77 9857343.97 9857344.17 0.0089 0.0056

Jupiter 22276-12-21 17:02 G 9857557.04 9857557.21 9857557.39 0.0507 0.0330 Neptune 22277-05-24 22:48 G 9857711.28 9857711.45 9857711.66 0.0089 0.0059 Jupiter 22278-01-22 11:02 G 9857953.76 9857953.96 9857954.17 0.0494 0.0228 Neptune 22278-05-27 10:48 G 9858078.78 9858078.95 9858079.16 0.0089 0.0061 Neptune 22279-05-29 23:02 G 9858446.30 9858446.46 9858446.66 0.0089 0.0063 Neptune 22280-05-31 11:02 G 9858813.81 9858813.96 9858814.17 0.0089 0.0065 Neptune 22281-06-02 23:31 G 9859181.33 9859181.48 9859181.67 0.0089 0.0067 Neptune 22282-06-05 12:14 G 9859548.85 9859549.01 9859549.18 0.0089 0.0068 Neptune 22283-06-08 00:43 G 9859916.38 9859916.53 9859916.70 0.0089 0.0070 Jupiter 22283-06-28 06:43 G 9859936.58 9859936.78 9859936.99 0.0524 0.0245 Neptune 22284-06-09 12:43 G 9860283.91 9860284.03 9860284.21 0.0089 0.0072 Jupiter 22284-08-03 05:45 G 9860338.62 9860338.74 9860338.88 0.0538 0.0445 Neptune 22285-06-12 01:55 G 9860651.44 9860651.58 9860651.73 0.0089 0.0073 Pluto 22286-04-15 14:24 G 9860958.96 9860959.10 9860959.30 0.0080 0.0060 Neptune 22286-06-14 13:40 G 9861018.96 9861019.07 9861019.24 0.0089 0.0075 Neptune 22287-06-17 02:38 G 9861386.49 9861386.61 9861386.76 0.0089 0.0076 Neptune 22288-06-18 15:07 G 9861754.03 9861754.13 9861754.28 0.0089 0.0077 Jupiter 22288-12-26 08:24 G 9861944.65 9861944.85 9861945.05 0.0505 0.0246 Neptune 22289-06-21 03:50 G 9862121.55 9862121.66 9862121.79 0.0089 0.0078 Jupiter 22290-01-26 19:55 G 9862341.15 9862341.33 9862341.52 0.0492 0.0300 Saturn 22290-06-10 23:31 G 9862476.28 9862476.48 9862476.70 0.0289 0.0149 Neptune 22290-06-23 16:19 G 9862489.08 9862489.18 9862489.32 0.0089 0.0079 Neptune 22291-06-26 05:02 G 9862856.62 9862856.71 9862856.84 0.0089 0.0080 Uranus 22291-11-10 14:24 G 9862993.94 9862994.10 9862994.30 0.0142 0.0100 Neptune 22292-06-27 17:31 G 9863224.16 9863224.23 9863224.37 0.0089 0.0082 Uranus 22292-11-14 10:48 G 9863363.71 9863363.95 9863364.21 0.0143 0.0032 Neptune 22293-06-30 06:43 G 9863591.69 9863591.78 9863591.90 0.0089 0.0082 Uranus 22293-11-19 07:40 G 9863733.59 9863733.82 9863734.07 0.0143 0.0037 Neptune 22294-07-02 19:26 G 9863959.24 9863959.31 9863959.44 0.0089 0.0082 Uranus 22294-11-24 05:02 G 9864103.55 9864103.71 9864103.89 0.0143 0.0106

Jupiter 22295-07-03 08:24 G 9864324.62 9864324.85 9864325.07 0.0526 0.0150 Neptune 22295-07-05 08:38 G 9864326.78 9864326.86 9864326.98 0.0089 0.0082 Neptune 22296-07-06 21:50 G 9864694.33 9864694.41 9864694.52 0.0089 0.0082 Neptune 22297-07-09 10:48 G 9865061.87 9865061.95 9865062.06 0.0089 0.0083 Neptune 22298-07-11 23:45 G 9865429.41 9865429.49 9865429.60 0.0089 0.0083 Neptune 22299-07-14 12:43 G 9865796.95 9865797.03 9865797.15 0.0089 0.0083 Neptune 22300-07-17 01:12 G 9866164.49 9866164.55 9866164.69 0.0089 0.0083 Jupiter 22300-12-31 21:36 G 9866332.19 9866332.40 9866332.62 0.0502 0.0166 Neptune 22301-07-19 14:38 G 9866532.03 9866532.11 9866532.23 0.0089 0.0082 Jupiter 22302-02-01 02:24 G 9866728.46 9866728.60 9866728.76 0.0490 0.0369 Neptune 22302-07-22 03:07 G 9866899.56 9866899.63 9866899.77 0.0089 0.0082 Neptune 22303-07-24 16:33 G 9867267.10 9867267.19 9867267.32 0.0089 0.0081 Neptune 22304-07-26 05:31 G 9867634.63 9867634.73 9867634.87 0.0089 0.0080 Neptune 22305-07-28 18:43 G 9868002.17 9868002.28 9868002.41 0.0089 0.0079 Saturn 22305-12-19 04:04 G 9868145.45 9868145.67 9868145.90 0.0270 0.0101 Neptune 22306-07-31 07:40 G 9868369.71 9868369.82 9868369.97 0.0089 0.0078 Jupiter 22307-07-09 12:28 G 9868712.79 9868713.02 9868713.25 0.0529 0.0054 Neptune 22307-08-02 20:52 G 9868737.26 9868737.37 9868737.53 0.0089 0.0077 Neptune 22308-08-04 10:33 G 9869104.80 9869104.94 9869105.08 0.0089 0.0075 Neptune 22309-08-06 23:31 G 9869472.35 9869472.48 9869472.64 0.0089 0.0074 Neptune 22310-08-09 12:28 G 9869839.89 9869840.02 9869840.20 0.0089 0.0073 Neptune 22311-08-12 01:40 G 9870207.43 9870207.57 9870207.75 0.0090 0.0071 Neptune 22312-08-13 14:52 G 9870574.98 9870575.12 9870575.30 0.0090 0.0069 Jupiter 22313-01-05 09:21 G 9870719.66 9870719.89 9870720.12 0.0500 0.0085 Neptune 22313-08-16 04:04 G 9870942.51 9870942.67 9870942.85 0.0090 0.0067 Jupiter 22314-02-05 09:21 G 9871115.79 9871115.89 9871115.99 0.0489 0.0437 Neptune 22314-08-18 17:02 G 9871310.05 9871310.21 9871310.40 0.0090 0.0065 Neptune 22315-08-21 06:14 G 9871677.59 9871677.76 9871677.95 0.0090 0.0063 Neptune 22316-08-22 18:57 G 9872045.12 9872045.29 9872045.50 0.0090 0.0061 Neptune 22317-08-25 07:55 G 9872412.66 9872412.83 9872413.05 0.0090 0.0059

Neptune 22318-08-27 21:21 G 9872780.19 9872780.39 9872780.60 0.0090 0.0056 Jupiter 22319-07-14 16:04 G 9873100.94 9873101.17 9873101.41 0.0530 0.0043 Neptune 22319-08-30 10:19 G 9873147.74 9873147.93 9873148.15 0.0090 0.0054 Saturn 22320-06-18 22:33 G 9873441.21 9873441.44 9873441.67 0.0289 0.0110 Neptune 22320-08-31 23:45 G 9873515.28 9873515.49 9873515.70 0.0090 0.0051 Neptune 22321-09-03 12:28 G 9873882.82 9873883.02 9873883.26 0.0090 0.0049 Neptune 22322-09-06 01:40 G 9874250.36 9874250.57 9874250.81 0.0090 0.0046 Neptune 22323-09-08 15:07 G 9874617.91 9874618.13 9874618.36 0.0090 0.0043 Neptune 22324-09-10 03:21 G 9874985.43 9874985.64 9874985.90 0.0090 0.0041 Jupiter 22325-01-09 16:19 G 9875106.95 9875107.18 9875107.41 0.0499 0.0009 Neptune 22325-09-12 16:33 G 9875352.97 9875353.19 9875353.44 0.0090 0.0038 Neptune 22326-09-15 05:31 G 9875720.50 9875720.73 9875720.98 0.0089 0.0034 Neptune 22327-09-17 18:14 G 9876088.03 9876088.26 9876088.51 0.0089 0.0032 22328-04-08 05:31 G 9876291.55 9876291.73 9876291.91 0.1619 0.0507 Mars Neptune 22328-09-19 06:57 G 9876455.56 9876455.79 9876456.05 0.0089 0.0029 Neptune 22329-09-21 19:40 G 9876823.09 9876823.32 9876823.58 0.0089 0.0026 Jupiter 22330-06-13 20:52 G 9877088.32 9877088.37 9877088.43 0.0516 0.0500 Neptune 22330-09-24 08:38 G 9877190.62 9877190.86 9877191.12 0.0089 0.0022 Uranus 22331-05-09 21:21 G 9877418.30 9877418.39 9877418.48 0.0136 0.0127 Jupiter 22331-07-19 19:26 G 9877489.08 9877489.31 9877489.53 0.0532 0.0140 Neptune 22331-09-26 21:36 G 9877558.15 9877558.40 9877558.65 0.0089 0.0019 Uranus 22332-05-13 08:52 G 9877787.67 9877787.87 9877788.11 0.0136 0.0068 Neptune 22332-09-28 10:04 G 9877925.67 9877925.92 9877926.18 0.0089 0.0016 Uranus 22333-05-17 20:38 G 9878157.11 9878157.36 9878157.62 0.0136 0.0009 Neptune 22333-09-30 22:48 G 9878293.20 9878293.45 9878293.71 0.0089 0.0013 Uranus 22334-05-22 07:12 G 9878526.57 9878526.80 9878527.05 0.0135 0.0050 Neptune 22334-10-03 11:45 G 9878660.73 9878660.99 9878661.25 0.0089 0.0009 Mars 22334-10-06 22:19 G 9878664.35 9878664.43 9878664.51 0.1924 0.1760 Saturn 22334-12-14 10:33 G 9878732.70 9878732.94 9878733.18 0.0270 0.0058 Uranus 22335-05-26 17:45 G 9878896.09 9878896.24 9878896.40 0.0135 0.0107

Neptune 22335-10-06 00:14 G 9879028.26 9879028.51 9879028.77 0.0089 0.0006 Jupiter 22335-12-13 17:16 G 9879097.17 9879097.22 9879097.28 0.0512 0.0496 Neptune 22336-10-07 12:43 G 9879395.78 9879396.03 9879396.29 0.0089 0.0003 Jupiter 22337-01-14 02:24 G 9879494.37 9879494.60 9879494.83 0.0497 0.0070 Neptune 22337-10-10 01:12 G 9879763.30 9879763.55 9879763.81 0.0089 0.0002 Neptune 22338-10-12 13:26 G 9880130.81 9880131.06 9880131.32 0.0089 0.0005 Neptune 22339-10-15 01:55 G 9880498.32 9880498.58 9880498.84 0.0089 0.0007 Neptune 22340-10-16 13:55 G 9880865.83 9880866.08 9880866.34 0.0089 0.0011 Neptune 22341-10-19 01:55 G 9881233.34 9881233.58 9881233.85 0.0089 0.0015 Jupiter 22342-06-18 14:38 G 9881475.98 9881476.11 9881476.25 0.0518 0.0422 Neptune 22342-10-21 14:09 G 9881600.85 9881601.09 9881601.35 0.0089 0.0017 Jupiter 22343-07-24 20:52 G 9881877.16 9881877.37 9881877.58 0.0534 0.0238 Neptune 22343-10-24 02:09 G 9881968.35 9881968.59 9881968.85 0.0089 0.0020 Neptune 22344-10-25 14:24 G 9882335.86 9882336.10 9882336.36 0.0089 0.0023 Neptune 22345-10-28 02:24 G 9882703.37 9882703.60 9882703.86 0.0089 0.0027 Neptune 22346-10-30 14:38 G 9883070.88 9883071.11 9883071.36 0.0089 0.0029 Neptune 22347-11-02 02:38 G 9883438.38 9883438.61 9883438.86 0.0089 0.0032 Jupiter 22347-12-18 11:02 G 9883484.84 9883484.96 9883485.10 0.0510 0.0416 Neptune 22348-11-03 14:24 G 9883805.88 9883806.10 9883806.35 0.0089 0.0035 Jupiter 22349-01-18 12:43 G 9883881.81 9883882.03 9883882.26 0.0495 0.0148 Saturn 22349-06-13 02:38 G 9884027.38 9884027.61 9884027.84 0.0290 0.0099 Neptune 22349-11-06 02:09 G 9884173.37 9884173.59 9884173.84 0.0089 0.0038 9884541.08 9884541.32 0.0089 0.0041 Neptune 22350-11-08 13:55 G 9884540.87 Neptune 22351-11-11 01:12 G 9884908.35 9884908.55 9884908.80 0.0089 0.0044 Neptune 22352-11-12 13:12 G 9885275.84 9885276.05 9885276.28 0.0089 0.0046 Neptune 22353-11-15 00:43 G 9885643.33 9885643.53 9885643.75 0.0089 0.0049 Jupiter 22354-06-23 12:57 G 9885863.86 9885864.04 9885864.22 0.0521 0.0339 Neptune 22354-11-17 11:45 G 9886010.81 9886010.99 9886011.22 0.0089 0.0052 Jupiter 22355-07-30 03:36 G 9886265.48 9886265.65 9886265.84 0.0536 0.0338 Neptune 22355-11-19 23:31 G 9886378.29 9886378.48 9886378.70 0.0089 0.0054

Neptune 22356-11-21 10:33 G 9886745.77 9886745.94 9886746.17 0.0089 0.0057 Neptune 22357-11-23 22:19 G 9887113.26 9887113.43 9887113.64 0.0089 0.0059 Neptune 22358-11-26 09:50 G 9887480.74 9887480.91 9887481.11 0.0089 0.0061 Neptune 22359-11-28 21:21 G 9887848.22 9887848.39 9887848.58 0.0089 0.0063 Jupiter 22359-12-23 02:52 G 9887872.46 9887872.62 9887872.80 0.0507 0.0335 Neptune 22360-11-30 08:38 G 9888215.70 9888215.86 9888216.05 0.0089 0.0065 Jupiter 22361-01-22 21:21 G 9888269.18 9888269.39 9888269.60 0.0494 0.0221 Neptune 22361-12-02 20:09 G 9888583.18 9888583.34 9888583.51 0.0089 0.0067 Neptune 22362-12-05 06:57 G 9888950.65 9888950.79 9888950.97 0.0089 0.0069 Neptune 22363-12-07 18:00 G 9889318.11 9889318.25 9889318.42 0.0089 0.0071 Saturn 22363-12-09 05:45 G 9889319.63 9889319.74 9889319.88 0.0270 0.0232 Neptune 22364-12-09 04:48 G 9889685.58 9889685.70 9889685.87 0.0088 0.0073 Saturn 22364-12-20 07:26 G 9889696.62 9889696.81 9889697.03 0.0270 0.0149 Neptune 22365-12-11 16:04 G 9890053.04 9890053.17 9890053.32 0.0088 0.0074 Jupiter 22366-06-28 13:55 G 9890251.87 9890252.08 9890252.28 0.0523 0.0251 Neptune 22366-12-14 02:38 G 9890420.50 9890420.61 9890420.77 0.0088 0.0076 Jupiter 22367-08-04 12:43 G 9890653.90 9890654.03 9890654.17 0.0538 0.0435 Neptune 22367-12-16 13:26 G 9890787.95 9890788.06 9890788.21 0.0088 0.0077 Neptune 22368-12-18 00:28 G 9891155.42 9891155.52 9891155.66 0.0088 0.0078 Neptune 22369-12-20 11:31 G 9891522.88 9891522.98 9891523.10 0.0088 0.0079 Neptune 22370-12-22 22:19 G 9891890.33 9891890.43 9891890.55 0.0088 0.0080 Neptune 22371-12-25 09:07 G 9892257.79 9892257.88 9892258.00 0.0088 0.0081 Jupiter 22371-12-27 16:48 G 9892260.01 9892260.20 9892260.41 0.0505 0.0252 Neptune 22372-12-26 19:40 G 9892625.24 9892625.32 9892625.44 0.0088 0.0081 Jupiter 22373-01-27 05:02 G 9892656.53 9892656.71 9892656.90 0.0492 0.0293 Neptune 22373-12-29 06:14 G 9892992.70 9892992.76 9892992.88 0.0088 0.0082 Neptune 22374-12-31 17:02 G 9893360.14 9893360.21 9893360.32 0.0088 0.0083 Uranus 22375-11-11 23:45 G 9893675.32 9893675.49 9893675.69 0.0142 0.0097 Neptune 22376-01-03 03:21 G 9893727.58 9893727.64 9893727.76 0.0088 0.0083 Uranus 22376-11-15 20:09 G 9894045.10 9894045.34 9894045.59 0.0143 0.0029

Neptune 22377-01-04 13:55 G 9894095.02 9894095.08 9894095.19 0.0088 0.0083 Uranus 22377-11-20 17:02 G 9894414.97 9894415.21 9894415.46 0.0143 0.0040 Neptune 22378-01-07 00:28 G 9894462.46 9894462.52 9894462.63 0.0088 0.0084 Jupiter 22378-07-03 16:19 G 9894639.96 9894640.18 9894640.40 0.0525 0.0158 Uranus 22378-11-25 14:09 G 9894784.94 9894785.09 9894785.27 0.0143 0.0109 Neptune 22379-01-09 10:48 G 9894829.89 9894829.95 9894830.06 0.0088 0.0083 Saturn 22379-06-21 01:26 G 9894992.37 9894992.56 9894992.78 0.0289 0.0159 Jupiter 22379-08-09 19:55 G 9895042.29 9895042.33 9895042.38 0.0538 0.0527 Neptune 22380-01-11 21:07 G 9895197.33 9895197.38 9895197.49 0.0088 0.0083 Neptune 22381-01-13 07:26 G 9895564.76 9895564.81 9895564.93 0.0088 0.0083 Neptune 22382-01-15 18:14 G 9895932.19 9895932.26 9895932.36 0.0088 0.0082 Neptune 22383-01-18 04:19 G 9896299.62 9896299.68 9896299.80 0.0088 0.0082 Jupiter 22384-01-01 01:12 G 9896647.33 9896647.55 9896647.77 0.0503 0.0175 Neptune 22384-01-20 15:07 G 9896667.04 9896667.13 9896667.24 0.0088 0.0081 Neptune 22385-01-22 01:55 G 9897034.48 9897034.58 9897034.68 0.0088 0.0080 Jupiter 22385-01-31 09:21 G 9897043.73 9897043.89 9897044.05 0.0491 0.0360 Neptune 22386-01-24 11:45 G 9897401.91 9897401.99 9897402.12 0.0088 0.0080 Neptune 22387-01-26 22:04 G 9897769.33 9897769.42 9897769.55 0.0088 0.0079 Neptune 22388-01-29 08:24 G 9898136.76 9898136.85 9898136.99 0.0088 0.0078 Neptune 22389-01-30 18:28 G 9898504.18 9898504.27 9898504.43 0.0088 0.0077 Neptune 22390-02-02 04:48 G 9898871.60 9898871.70 9898871.86 0.0088 0.0076 Jupiter 22390-07-08 17:02 G 9899027.98 9899028.21 9899028.45 0.0527 0.0064 Neptune 22391-02-04 15:07 G 9899239.02 9899239.13 9899239.29 0.0088 0.0074 Neptune 22392-02-07 01:26 G 9899606.44 9899606.56 9899606.72 0.0088 0.0073 Neptune 22393-02-08 11:45 G 9899973.86 9899973.99 9899974.16 0.0088 0.0071 Saturn 22393-12-15 14:24 G 9900283.86 9900284.10 9900284.35 0.0270 0.0013 Neptune 22394-02-10 22:33 G 9900341.28 9900341.44 9900341.59 0.0088 0.0069 Neptune 22395-02-13 07:55 G 9900708.70 9900708.83 9900709.02 0.0088 0.0068 Jupiter 22396-01-05 12:28 G 9901034.80 9901035.02 9901035.25 0.0501 0.0096 Neptune 22396-02-15 18:28 G 9901076.13 9901076.27 9901076.47 0.0088 0.0066

Jupiter 22397-02-04 15:50 G 9901431.06 9901431.16 9901431.28 0.0490 0.0429 Neptune 22397-02-17 05:02 G 9901443.56 9901443.71 9901443.91 0.0088 0.0064 Neptune 22398-02-19 15:21 G 9901810.98 9901811.14 9901811.34 0.0088 0.0062 Neptune 22399-02-22 01:40 G 9902178.41 9902178.57 9902178.79 0.0088 0.0060 Neptune 22400-02-24 12:00 G 9902545.84 9902546.00 9902546.22 0.0088 0.0058 Neptune 22401-02-25 22:48 G 9902913.26 9902913.45 9902913.66 0.0088 0.0055 Neptune 22402-02-28 08:52 G 9903280.69 9903280.87 9903281.10 0.0088 0.0053 Jupiter 22402-07-13 15:50 G 9903415.93 9903416.16 9903416.39 0.0529 0.0029 Neptune 22403-03-02 19:26 G 9903648.11 9903648.31 9903648.53 0.0088 0.0050 Neptune 22404-03-04 05:45 G 9904015.54 9904015.74 9904015.97 0.0088 0.0048 Neptune 22405-03-06 16:19 G 9904382.97 9904383.18 9904383.41 0.0088 0.0045 Neptune 22406-03-09 02:24 G 9904750.39 9904750.60 9904750.84 0.0088 0.0043 Neptune 22407-03-11 12:43 G 9905117.82 9905118.03 9905118.28 0.0088 0.0040 Jupiter 22408-01-10 00:57 G 9905422.31 9905422.54 9905422.78 0.0499 0.0017 Neptune 22408-03-12 23:31 G 9905485.26 9905485.48 9905485.73 0.0088 0.0037 Saturn 22408-06-14 08:24 G 9905578.61 9905578.85 9905579.09 0.0290 0.0045 Neptune 22409-03-15 10:04 G 9905852.69 9905852.92 9905853.17 0.0088 0.0034 Neptune 22410-03-17 20:52 G 9906220.14 9906220.37 9906220.62 0.0088 0.0031 Neptune 22411-03-20 07:26 G 9906587.57 9906587.81 9906588.06 0.0088 0.0028 Neptune 22412-03-21 18:14 G 9906955.02 9906955.26 9906955.51 0.0088 0.0025 Neptune 22413-03-24 04:48 G 9907322.46 9907322.70 9907322.96 0.0088 0.0022 Jupiter 22413-06-12 22:33 G 9907403.41 9907403.44 9907403.50 0.0516 0.0506 Neptune 22414-03-26 15:21 G 9907689.90 9907690.14 9907690.40 0.0088 0.0019 Jupiter 22414-07-18 19:26 G 9907804.09 9907804.31 9907804.54 0.0532 0.0128 Neptune 22415-03-29 02:09 G 9908057.34 9908057.59 9908057.85 0.0088 0.0016 Uranus 22415-05-10 06:14 G 9908099.66 9908099.76 9908099.86 0.0136 0.0125 Neptune 22416-03-30 12:43 G 9908424.79 9908425.03 9908425.30 0.0088 0.0013 Uranus 22416-05-13 18:00 G 9908469.03 9908469.25 9908469.48 0.0136 0.0065 Neptune 22417-04-01 23:45 G 9908792.23 9908792.49 9908792.75 0.0088 0.0009 Uranus 22417-05-18 05:16 G 9908838.46 9908838.72 9908838.97 0.0136 0.0006

Neptune 22418-04-04 10:33 G 9909159.68 9909159.94 9909160.19 0.0088 0.0006 Uranus 22418-05-22 15:50 G 9909207.94 9909208.16 9909208.41 0.0135 0.0053 Jupiter 22418-12-13 02:09 G 9909412.55 9909412.59 9909412.64 0.0512 0.0500 Neptune 22419-04-06 21:21 G 9909527.13 9909527.39 9909527.65 0.0088 0.0003 Uranus 22419-05-27 02:09 G 9909577.46 9909577.59 9909577.75 0.0135 0.0110 Jupiter 22420-01-14 11:31 G 9909809.75 9909809.98 9909810.21 0.0497 0.0063 Neptune 22420-04-08 08:09 G 9909894.58 9909894.84 9909895.10 0.0088 0.0001 Neptune 22421-04-10 19:12 G 9910262.05 9910262.30 9910262.56 0.0088 0.0004 Neptune 22422-04-13 06:14 G 9910629.50 9910629.76 9910630.02 0.0088 0.0007 Saturn 22422-12-10 11:16 G 9910870.80 9910870.97 9910871.16 0.0270 0.0183 Neptune 22423-04-15 17:16 G 9910996.97 9910997.22 9910997.48 0.0088 0.0010 Saturn 22423-12-22 13:12 G 9911247.89 9911248.05 9911248.23 0.0270 0.0197 Neptune 22424-04-17 04:33 G 9911364.44 9911364.69 9911364.95 0.0088 0.0013 Neptune 22425-04-19 15:36 G 9911731.90 9911732.15 9911732.41 0.0088 0.0016 Jupiter 22425-06-17 20:09 G 9911791.22 9911791.34 9911791.48 0.0518 0.0428 Neptune 22426-04-22 02:52 G 9912099.38 9912099.62 9912099.88 0.0088 0.0020 Jupiter 22426-07-24 02:09 G 9912192.38 9912192.59 9912192.80 0.0534 0.0228 Neptune 22427-04-24 14:09 G 9912466.85 9912467.09 9912467.35 0.0088 0.0023 Neptune 22428-04-26 01:40 G 9912834.32 9912834.57 9912834.82 0.0088 0.0026 Neptune 22429-04-28 12:28 G 9913201.80 9913202.02 9913202.28 0.0088 0.0030 Neptune 22430-04-30 23:45 G 9913569.27 9913569.49 9913569.75 0.0088 0.0033 Jupiter 22430-12-17 18:28 G 9913800.14 9913800.27 9913800.40 0.0510 0.0420 Neptune 22431-05-03 11:16 G 9913936.75 9913936.97 9913937.23 0.0088 0.0036 Jupiter 22432-01-18 20:52 G 9914197.15 9914197.37 9914197.59 0.0496 0.0140 Neptune 22432-05-04 23:16 G 9914304.24 9914304.47 9914304.71 0.0088 0.0038 Neptune 22433-05-07 10:48 G 9914671.72 9914671.95 9914672.18 0.0088 0.0041 Neptune 22434-05-09 22:19 G 9915039.22 9915039.43 9915039.67 0.0088 0.0044 Neptune 22435-05-12 10:04 G 9915406.72 9915406.92 9915407.16 0.0088 0.0047 Neptune 22436-05-13 21:50 G 9915774.21 9915774.41 9915774.64 0.0088 0.0050 Neptune 22437-05-16 09:36 G 9916141.72 9916141.90 9916142.14 0.0088 0.0053

Saturn 22437-06-08 02:24 G 9916164.52 9916164.60 9916164.70 0.0289 0.0268 Jupiter 22437-06-22 20:38 G 9916179.19 9916179.36 9916179.54 0.0520 0.0344 Neptune 22438-05-18 21:50 G 9916509.22 9916509.41 9916509.62 0.0089 0.0055 Saturn 22438-06-22 07:12 G 9916543.63 9916543.80 9916543.97 0.0289 0.0211 Jupiter 22438-07-29 08:52 G 9916580.69 9916580.87 9916581.06 0.0535 0.0325 Neptune 22439-05-21 09:36 G 9916876.73 9916876.90 9916877.12 0.0089 0.0058 Neptune 22440-05-22 21:50 G 9917244.23 9917244.41 9917244.61 0.0089 0.0060 Neptune 22441-05-25 09:21 G 9917611.73 9917611.89 9917612.10 0.0089 0.0063 Neptune 22442-05-27 21:36 G 9917979.24 9917979.40 9917979.60 0.0089 0.0065 Jupiter 22442-12-22 04:33 G 9918187.52 9918187.69 9918187.86 0.0508 0.0343 Neptune 22443-05-30 09:36 G 9918346.75 9918346.90 9918347.09 0.0089 0.0067 Jupiter 22444-01-23 01:26 G 9918584.36 9918584.56 9918584.78 0.0494 0.0211 Neptune 22444-05-31 21:50 G 9918714.27 9918714.41 9918714.59 0.0089 0.0069 Pluto 22444-10-16 17:45 G 9918852.02 9918852.24 9918852.48 0.0064 0.0029 Neptune 22445-06-03 09:50 G 9919081.78 9919081.91 9919082.09 0.0089 0.0071 Pluto 22445-10-18 05:31 G 9919218.61 9919218.73 9919218.89 0.0064 0.0054 Neptune 22446-06-05 22:04 G 9919449.30 9919449.42 9919449.59 0.0089 0.0073 Neptune 22447-06-08 10:33 G 9919816.82 9919816.94 9919817.10 0.0089 0.0075 Neptune 22448-06-09 23:31 G 9920184.35 9920184.48 9920184.62 0.0089 0.0076 Neptune 22449-06-12 11:31 G 9920551.88 9920551.98 9920552.12 0.0089 0.0078 Jupiter 22449-06-27 19:12 G 9920567.10 9920567.30 9920567.51 0.0522 0.0256 Neptune 22450-06-15 00:28 G 9920919.41 9920919.52 9920919.64 0.0089 0.0079 Jupiter 22450-08-03 13:40 G 9920968.93 9920969.07 9920969.22 0.0536 0.0420 Neptune 22451-06-17 12:43 G 9921286.95 9921287.03 9921287.16 0.0089 0.0081 Neptune 22452-06-19 01:12 G 9921654.47 9921654.55 9921654.67 0.0089 0.0082 Saturn 22452-12-16 19:55 G 9921835.09 9921835.33 9921835.57 0.0270 0.0037 Neptune 22453-06-21 13:55 G 9922022.01 9922022.08 9922022.19 0.0089 0.0083 Mars 22454-04-05 07:26 G 9922309.77 9922309.81 9922309.85 0.1611 0.1567 Neptune 22454-06-24 02:24 G 9922389.54 9922389.60 9922389.70 0.0089 0.0084 Jupiter 22454-12-26 17:31 G 9922575.04 9922575.23 9922575.43 0.0506 0.0262

Neptune 22455-06-26 14:52 G 9922757.07 9922757.12 9922757.22 0.0089 0.0086 Jupiter 22456-01-27 09:07 G 9922971.69 9922971.88 9922972.07 0.0493 0.0284 Neptune 22456-06-28 03:21 G 9923124.60 9923124.64 9923124.74 0.0089 0.0086 Neptune 22457-06-30 16:19 G 9923492.14 9923492.18 9923492.26 0.0089 0.0087 Neptune 22458-07-03 04:48 G 9923859.68 9923859.70 9923859.79 0.0089 0.0087 Neptune 22459-07-05 17:45 G 9924227.22 9924227.24 9924227.32 0.0089 0.0088 Uranus 22459-11-12 09:50 G 9924356.73 9924356.91 9924357.11 0.0142 0.0094 Neptune 22460-07-07 06:43 G 9924594.75 9924594.78 9924594.85 0.0089 0.0088 Uranus 22460-11-16 06:14 G 9924726.51 9924726.76 9924727.01 0.0143 0.0026 Jupiter 22461-07-02 14:52 G 9924954.90 9924955.12 9924955.34 0.0525 0.0170 Neptune 22461-07-09 19:55 G 9924962.30 9924962.33 9924962.39 0.0089 0.0088 Uranus 22461-11-21 03:07 G 9925096.39 9925096.63 9925096.88 0.0143 0.0043 Neptune 22462-07-12 08:52 G 9925329.84 9925329.87 9925329.94 0.0089 0.0088 Jupiter 22462-08-08 16:04 G 9925357.12 9925357.17 9925357.25 0.0538 0.0513 Uranus 22462-11-26 00:14 G 9925466.37 9925466.51 9925466.68 0.0143 0.0112 Neptune 22463-07-14 21:50 G 9925697.38 9925697.41 9925697.48 0.0089 0.0088 Neptune 22464-07-16 10:48 G 9926064.92 9926064.95 9926065.04 0.0089 0.0087 Neptune 22465-07-19 00:00 G 9926432.45 9926432.50 9926432.58 0.0089 0.0087 Neptune 22466-07-21 12:43 G 9926800.00 9926800.03 9926800.13 0.0089 0.0087 Jupiter 22466-12-31 07:55 G 9926962.61 9926962.83 9926963.04 0.0504 0.0181 Saturn 22467-06-16 16:48 G 9927129.95 9927130.20 9927130.44 0.0290 0.0012 Neptune 22467-07-24 01:55 G 9927167.53 9927167.58 9927167.68 0.0089 0.0086 Jupiter 22468-01-31 17:31 G 9927359.07 9927359.23 9927359.39 0.0492 0.0354 Neptune 22468-07-25 14:52 G 9927535.06 9927535.12 9927535.23 0.0089 0.0085 Neptune 22469-07-28 03:50 G 9927902.60 9927902.66 9927902.78 0.0089 0.0084 Neptune 22470-07-30 17:02 G 9928270.13 9928270.21 9928270.33 0.0089 0.0083 Neptune 22471-08-02 06:00 G 9928637.67 9928637.75 9928637.89 0.0089 0.0082 Neptune 22472-08-03 19:26 G 9929005.21 9929005.31 9929005.44 0.0089 0.0080 Jupiter 22473-07-07 15:36 G 9929342.92 9929343.15 9929343.39 0.0527 0.0076 Neptune 22473-08-06 08:24 G 9929372.76 9929372.85 9929373.00 0.0089 0.0079

Neptune 22474-08-08 21:50 G 9929740.30 9929740.41 9929740.56 0.0089 0.0077 Neptune 22475-08-11 11:16 G 9930107.85 9930107.97 9930108.13 0.0089 0.0075 Neptune 22476-08-13 00:28 G 9930475.38 9930475.52 9930475.68 0.0089 0.0073 Neptune 22477-08-15 13:40 G 9930842.92 9930843.07 9930843.24 0.0090 0.0071 Neptune 22478-08-18 02:52 G 9931210.47 9931210.62 9931210.79 0.0090 0.0069 Jupiter 22479-01-04 20:52 G 9931350.14 9931350.37 9931350.60 0.0502 0.0102 Neptune 22479-08-20 15:36 G 9931578.00 9931578.15 9931578.34 0.0090 0.0067 Jupiter 22480-02-05 00:00 G 9931746.39 9931746.50 9931746.62 0.0490 0.0420 Neptune 22480-08-22 04:33 G 9931945.54 9931945.69 9931945.89 0.0090 0.0065 Neptune 22481-08-24 17:45 G 9932313.07 9932313.24 9932313.44 0.0090 0.0062 Saturn 22481-12-11 18:43 G 9932422.07 9932422.28 9932422.50 0.0270 0.0132 Neptune 22482-08-27 06:43 G 9932680.61 9932680.78 9932680.99 0.0090 0.0060 Saturn 22482-12-23 20:38 G 9932799.27 9932799.36 9932799.46 0.0270 0.0248 Neptune 22483-08-29 19:55 G 9933048.14 9933048.33 9933048.54 0.0090 0.0057 Neptune 22484-08-31 09:07 G 9933415.68 9933415.88 9933416.09 0.0090 0.0054 Jupiter 22485-07-12 19:12 G 9933731.07 9933731.30 9933731.53 0.0529 0.0019 Neptune 22485-09-02 21:36 G 9933783.22 9933783.40 9933783.64 0.0090 0.0052 Neptune 22486-09-05 11:02 G 9934150.76 9934150.96 9934151.20 0.0090 0.0049 Neptune 22487-09-08 00:00 G 9934518.30 9934518.50 9934518.74 0.0090 0.0046 Neptune 22488-09-09 13:12 G 9934885.84 9934886.05 9934886.29 0.0090 0.0043 Neptune 22489-09-12 02:09 G 9935253.37 9935253.59 9935253.84 0.0090 0.0040 Neptune 22490-09-14 14:52 G 9935620.90 9935621.12 9935621.38 0.0090 0.0037 Jupiter 22491-01-09 07:40 G 9935737.59 9935737.82 9935738.06 0.0500 0.0023 Neptune 22491-09-17 04:19 G 9935988.44 9935988.68 9935988.92 0.0089 0.0033 Jupiter 22492-02-09 06:00 G 9936133.73 9936133.75 9936133.79 0.0489 0.0485 Neptune 22492-09-18 16:33 G 9936355.96 9936356.19 9936356.44 0.0089 0.0030 Neptune 22493-09-21 05:16 G 9936723.49 9936723.72 9936723.98 0.0089 0.0027 Neptune 22494-09-23 18:00 G 9937091.01 9937091.25 9937091.51 0.0089 0.0024 Neptune 22495-09-26 06:43 G 9937458.54 9937458.78 9937459.04 0.0089 0.0020 Saturn 22496-06-09 11:45 G 9937715.83 9937715.99 9937716.17 0.0289 0.0210

Jupiter 22496-06-12 05:31 G 9937718.70 9937718.73 9937718.77 0.0515 0.0508 Neptune 22496-09-27 19:26 G 9937826.06 9937826.31 9937826.57 0.0089 0.0017 Saturn 22497-06-23 15:50 G 9938095.09 9938095.16 9938095.26 0.0289 0.0268 Jupiter 22497-07-18 00:43 G 9938119.30 9938119.53 9938119.75 0.0531 0.0119 Neptune 22497-09-30 08:09 G 9938193.59 9938193.84 9938194.10 0.0089 0.0013 Neptune 22498-10-02 20:52 G 9938561.12 9938561.37 9938561.63 0.0089 0.0010 Uranus 22499-05-10 15:36 G 9938781.05 9938781.15 9938781.27 0.0136 0.0122 Neptune 22499-10-05 09:36 G 9938928.64 9938928.90 9938929.16 0.0089 0.0006 Uranus 22500-05-15 03:21 G 9939150.42 9939150.64 9939150.88 0.0136 0.0063 Neptune 22500-10-07 22:19 G 9939296.17 9939296.43 9939296.69 0.0089 0.0003 Uranus 22501-05-19 14:38 G 9939519.86 9939520.11 9939520.37 0.0136 0.0005 Neptune 22501-10-10 10:48 G 9939663.69 9939663.95 9939664.21 0.0089 0.0001 Jupiter 22501-12-13 01:55 G 9939727.56 9939727.58 9939727.61 0.0513 0.0508 Uranus 22502-05-24 01:12 G 9939889.33 9939889.55 9939889.80 0.0135 0.0055 Neptune 22502-10-12 23:31 G 9940031.22 9940031.48 9940031.74 0.0089 0.0004 Jupiter 22503-01-14 13:40 G 9940124.84 9940125.07 9940125.30 0.0498 0.0054 Uranus 22503-05-28 11:31 G 9940258.86 9940258.98 9940259.14 0.0135 0.0113 Neptune 22503-10-15 11:31 G 9940398.73 9940398.98 9940399.24 0.0089 0.0008 Neptune 22504-10-16 23:45 G 9940766.25 9940766.49 9940766.76 0.0089 0.0012 Neptune 22505-10-19 12:14 G 9941133.76 9941134.01 9941134.27 0.0089 0.0015 Neptune 22506-10-22 00:14 G 9941501.26 9941501.51 9941501.77 0.0089 0.0018 Neptune 22507-10-24 12:28 G 9941868.77 9941869.02 9941869.27 0.0089 0.0021 Jupiter 22508-06-18 01:40 G 9942106.45 9942106.57 9942106.70 0.0517 0.0431 Neptune 22508-10-26 00:28 G 9942236.28 9942236.52 9942236.77 0.0089 0.0025 Jupiter 22509-07-24 03:50 G 9942507.45 9942507.66 9942507.88 0.0533 0.0216 Neptune 22509-10-28 12:28 G 9942603.79 9942604.02 9942604.28 0.0089 0.0028 Neptune 22510-10-31 00:28 G 9942971.29 9942971.52 9942971.77 0.0089 0.0031 Neptune 22511-11-02 12:43 G 9943338.80 9943339.03 9943339.27 0.0089 0.0034 Saturn 22511-12-20 02:38 G 9943386.38 9943386.61 9943386.84 0.0270 0.0088 Neptune 22512-11-04 00:43 G 9943706.30 9943706.53 9943706.77 0.0089 0.0037

Neptune 22513-11-06 12:28 G 9944073.81 9944074.02 9944074.27 0.0089 0.0041 Jupiter 22513-12-17 16:48 G 9944115.09 9944115.20 9944115.33 0.0511 0.0430 Neptune 22514-11-09 00:43 G 9944441.31 9944441.53 9944441.75 0.0089 0.0043 Jupiter 22515-01-18 22:19 G 9944512.21 9944512.43 9944512.66 0.0497 0.0130 Neptune 22515-11-11 12:00 G 9944808.80 9944809.00 9944809.24 0.0089 0.0047 Neptune 22516-11-13 00:00 G 9945176.30 9945176.50 9945176.72 0.0089 0.0049 Neptune 22517-11-15 11:31 G 9945543.78 9945543.98 9945544.20 0.0089 0.0052 Neptune 22518-11-17 22:48 G 9945911.27 9945911.45 9945911.67 0.0089 0.0055 Neptune 22519-11-20 10:04 G 9946278.75 9946278.92 9946279.14 0.0089 0.0058 Jupiter 22520-06-22 18:57 G 9946494.12 9946494.29 9946494.46 0.0519 0.0354 Neptune 22520-11-21 21:50 G 9946646.24 9946646.41 9946646.61 0.0089 0.0060 Jupiter 22521-07-29 03:50 G 9946895.47 9946895.66 9946895.85 0.0534 0.0309 Neptune 22521-11-24 08:52 G 9947013.72 9947013.87 9947014.08 0.0089 0.0063 Neptune 22522-11-26 20:24 G 9947381.19 9947381.35 9947381.54 0.0089 0.0065 Neptune 22523-11-29 07:55 G 9947748.67 9947748.83 9947749.01 0.0089 0.0067 Neptune 22524-11-30 19:26 G 9948116.16 9948116.31 9948116.47 0.0089 0.0069 Neptune 22525-12-03 06:14 G 9948483.64 9948483.76 9948483.94 0.0089 0.0072 Jupiter 22525-12-22 08:52 G 9948502.71 9948502.87 9948503.05 0.0509 0.0351 Saturn 22526-06-19 03:36 G 9948681.41 9948681.65 9948681.89 0.0289 0.0072 Neptune 22526-12-05 18:00 G 9948851.11 9948851.25 9948851.40 0.0089 0.0073 Jupiter 22527-01-23 08:24 G 9948899.64 9948899.85 9948900.06 0.0495 0.0204 Neptune 22527-12-08 05:02 G 9949218.58 9949218.71 9949218.85 0.0089 0.0075 Neptune 22528-12-09 15:50 G 9949586.05 9949586.16 9949586.30 0.0089 0.0077 Neptune 22529-12-12 02:38 G 9949953.52 9949953.61 9949953.76 0.0088 0.0079 Neptune 22530-12-14 13:40 G 9950320.98 9950321.07 9950321.19 0.0088 0.0080 Neptune 22531-12-17 00:14 G 9950688.44 9950688.51 9950688.64 0.0088 0.0082 Jupiter 22532-06-27 16:19 G 9950881.99 9950882.18 9950882.39 0.0522 0.0269 Neptune 22532-12-18 11:16 G 9951055.90 9951055.97 9951056.09 0.0088 0.0083 22533-04-08 08:52 G 9951166.68 9951166.87 9951167.06 0.1613 0.0198 Mars Jupiter 22533-08-03 09:21 G 9951283.74 9951283.89 9951284.05 0.0536 0.0404

Neptune 22533-12-20 22:04 G 9951423.36 9951423.42 9951423.52 0.0088 0.0084 Pluto 22534-04-18 23:02 G 9951542.25 9951542.46 9951542.71 0.0080 0.0036 Neptune 22534-12-23 08:52 G 9951790.82 9951790.87 9951790.97 0.0088 0.0085 Neptune 22535-12-25 19:40 G 9952158.28 9952158.32 9952158.40 0.0088 0.0085 Neptune 22536-12-27 06:14 G 9952525.74 9952525.76 9952525.85 0.0088 0.0087 Jupiter 22537-12-27 00:14 G 9952890.32 9952890.51 9952890.71 0.0506 0.0270 Neptune 22537-12-29 17:45 G 9952893.20 9952893.24 9952893.29 0.0088 0.0087 Neptune 22539-01-01 03:50 G 9953260.65 9953260.66 9953260.72 0.0088 0.0088 Jupiter 22539-01-27 16:33 G 9953286.99 9953287.19 9953287.38 0.0493 0.0275 Neptune 22540-01-03 15:07 G 9953628.11 9953628.13 9953628.16 0.0088 0.0088 Saturn 22540-12-14 03:36 G 9953973.41 9953973.65 9953973.88 0.0270 0.0079 Neptune 22541-01-05 01:26 G 9953995.56 9953995.56 9953995.60 0.0088 0.0088 Neptune 22542-01-07 12:14 G 9954363.01 9954363.01 9954363.02 0.0088 0.0088 Neptune 22543-01-09 22:33 G 9954730.44 9954730.44 9954730.47 0.0088 0.0088 Uranus 22543-11-13 18:57 G 9955038.11 9955038.29 9955038.50 0.0142 0.0092 Neptune 22544-01-12 09:07 G 9955097.88 9955097.88 9955097.90 0.0088 0.0088 Jupiter 22544-07-02 16:48 G 9955269.98 9955270.20 9955270.42 0.0524 0.0179 Uranus 22544-11-17 15:50 G 9955407.91 9955408.16 9955408.41 0.0143 0.0023 Neptune 22545-01-13 19:12 G 9955465.30 9955465.30 9955465.34 0.0088 0.0088 Jupiter 22545-08-08 17:45 G 9955672.16 9955672.24 9955672.33 0.0538 0.0499 Uranus 22545-11-22 12:43 G 9955777.80 9955778.03 9955778.28 0.0143 0.0046 Neptune 22546-01-16 06:00 G 9955832.73 9955832.75 9955832.79 0.0088 0.0087 Uranus 22546-11-27 10:04 G 9956147.79 9956147.92 9956148.09 0.0143 0.0115 Neptune 22547-01-18 15:50 G 9956200.15 9956200.16 9956200.23 0.0088 0.0087 Neptune 22548-01-21 02:38 G 9956567.58 9956567.61 9956567.67 0.0088 0.0086 Neptune 22549-01-22 13:12 G 9956935.00 9956935.05 9956935.12 0.0088 0.0085 Jupiter 22549-12-31 13:40 G 9957277.85 9957278.07 9957278.28 0.0504 0.0188 Neptune 22550-01-24 23:02 G 9957302.42 9957302.46 9957302.56 0.0088 0.0085 Neptune 22551-01-27 09:21 G 9957669.85 9957669.89 9957670.01 0.0088 0.0084 Jupiter 22551-01-31 23:31 G 9957674.32 9957674.48 9957674.65 0.0492 0.0346

Neptune 22552-01-29 19:55 G 9958037.28 9958037.33 9958037.45 0.0088 0.0083 Neptune 22553-01-31 06:43 G 9958404.70 9958404.78 9958404.89 0.0088 0.0081 Neptune 22554-02-02 16:48 G 9958772.12 9958772.20 9958772.33 0.0088 0.0080 Neptune 22555-02-05 02:52 G 9959139.54 9959139.62 9959139.77 0.0088 0.0079 Saturn 22555-06-12 23:45 G 9959267.29 9959267.49 9959267.71 0.0289 0.0148 Neptune 22556-02-07 13:26 G 9959506.96 9959507.06 9959507.20 0.0088 0.0077 Jupiter 22556-07-07 19:55 G 9959658.10 9959658.33 9959658.56 0.0526 0.0085 Neptune 22557-02-08 23:45 G 9959874.38 9959874.49 9959874.64 0.0088 0.0075 Neptune 22558-02-11 09:36 G 9960241.79 9960241.90 9960242.07 0.0088 0.0074 Neptune 22559-02-13 19:55 G 9960609.21 9960609.33 9960609.50 0.0088 0.0072 Neptune 22560-02-16 06:14 G 9960976.63 9960976.76 9960976.94 0.0088 0.0070 Neptune 22561-02-17 16:19 G 9961344.04 9961344.18 9961344.37 0.0088 0.0068 Jupiter 22562-01-04 21:21 G 9961665.16 9961665.39 9961665.61 0.0502 0.0111 Neptune 22562-02-20 03:21 G 9961711.47 9961711.64 9961711.81 0.0088 0.0065 Jupiter 22563-02-05 02:52 G 9962061.49 9962061.62 9962061.74 0.0491 0.0411 Neptune 22563-02-22 13:12 G 9962078.89 9962079.05 9962079.25 0.0088 0.0063 Neptune 22564-02-24 23:31 G 9962446.32 9962446.48 9962446.69 0.0088 0.0061 Neptune 22565-02-26 10:19 G 9962813.75 9962813.93 9962814.13 0.0088 0.0058 Neptune 22566-02-28 20:24 G 9963181.17 9963181.35 9963181.57 0.0088 0.0056 Neptune 22567-03-03 06:57 G 9963548.60 9963548.79 9963549.00 0.0088 0.0053 Neptune 22568-03-04 17:02 G 9963916.02 9963916.21 9963916.44 0.0088 0.0051 Jupiter 22568-07-12 21:36 G 9964046.16 9964046.40 9964046.63 0.0528 0.0012 Neptune 22569-03-07 03:21 G 9964283.45 9964283.64 9964283.88 0.0088 0.0048 Saturn 22569-12-09 07:55 G 9964560.73 9964560.83 9964560.95 0.0270 0.0240 Neptune 22570-03-09 13:55 G 9964650.87 9964651.08 9964651.31 0.0088 0.0045 Saturn 22570-12-21 10:48 G 9964937.74 9964937.95 9964938.16 0.0270 0.0140 Neptune 22571-03-12 00:14 G 9965018.30 9965018.51 9965018.75 0.0088 0.0042 Neptune 22572-03-13 10:48 G 9965385.73 9965385.95 9965386.19 0.0088 0.0039 Neptune 22573-03-15 21:21 G 9965753.17 9965753.39 9965753.64 0.0088 0.0036 Jupiter 22574-01-09 07:26 G 9966052.58 9966052.81 9966053.04 0.0500 0.0032

Neptune 22574-03-18 07:40 G 9966120.59 9966120.82 9966121.07 0.0088 0.0033 Jupiter 22575-02-09 08:38 G 9966448.81 9966448.86 9966448.91 0.0490 0.0475 Neptune 22575-03-20 18:28 G 9966488.04 9966488.27 9966488.52 0.0088 0.0030 Neptune 22576-03-22 05:02 G 9966855.48 9966855.71 9966855.97 0.0088 0.0027 Neptune 22577-03-24 16:04 G 9967222.92 9967223.17 9967223.42 0.0088 0.0023 Neptune 22578-03-27 02:38 G 9967590.37 9967590.61 9967590.87 0.0088 0.0020 Neptune 22579-03-29 13:26 G 9967957.81 9967958.06 9967958.32 0.0088 0.0017 Neptune 22580-03-31 00:14 G 9968325.26 9968325.51 9968325.77 0.0088 0.0014 Jupiter 22580-07-17 18:57 G 9968434.06 9968434.29 9968434.52 0.0530 0.0101 Neptune 22581-04-02 11:02 G 9968692.70 9968692.96 9968693.22 0.0088 0.0010 Neptune 22582-04-04 21:50 G 9969060.15 9969060.41 9969060.67 0.0088 0.0007 Neptune 22583-04-07 08:38 G 9969427.60 9969427.86 9969428.12 0.0088 0.0003 Uranus 22583-05-12 01:40 G 9969462.45 9969462.57 9969462.69 0.0136 0.0120 Neptune 22584-04-08 19:40 G 9969795.06 9969795.32 9969795.58 0.0088 0.0001 Uranus 22584-05-15 13:12 G 9969831.83 9969832.05 9969832.29 0.0136 0.0060 Neptune 22585-04-11 06:14 G 9970162.51 9970162.76 9970163.02 0.0088 0.0004 Uranus 22585-05-20 00:14 G 9970201.26 9970201.51 9970201.77 0.0135 0.0003 Saturn 22585-06-20 16:48 G 9970232.99 9970233.20 9970233.42 0.0289 0.0137 Jupiter 22586-01-13 18:57 G 9970440.06 9970440.29 9970440.52 0.0499 0.0046 Neptune 22586-04-13 17:16 G 9970529.96 9970530.22 9970530.48 0.0088 0.0007 Uranus 22586-05-24 10:48 G 9970570.74 9970570.95 9970571.20 0.0135 0.0058 Neptune 22587-04-16 04:33 G 9970897.43 9970897.69 9970897.94 0.0088 0.0010 Uranus 22587-05-28 20:52 G 9970940.27 9970940.37 9970940.53 0.0135 0.0116 Neptune 22588-04-17 15:21 G 9971264.89 9971265.14 9971265.40 0.0088 0.0014 Neptune 22589-04-20 02:38 G 9971632.36 9971632.61 9971632.87 0.0088 0.0017 Neptune 22590-04-22 13:55 G 9971999.83 9972000.08 9972000.33 0.0088 0.0021 Neptune 22591-04-25 01:12 G 9972367.31 9972367.55 9972367.81 0.0088 0.0024 Jupiter 22591-06-17 22:19 G 9972421.32 9972421.43 9972421.56 0.0516 0.0443 Neptune 22592-04-26 12:28 G 9972734.78 9972735.02 9972735.27 0.0088 0.0027 Jupiter 22592-07-22 21:50 G 9972822.20 9972822.41 9972822.63 0.0532 0.0198

Neptune 22593-04-28 23:45 G 9973102.25 9973102.49 9973102.74 0.0088 0.0031 Neptune 22594-05-01 10:48 G 9973469.73 9973469.95 9973470.21 0.0088 0.0034 Neptune 22595-05-03 22:19 G 9973837.21 9973837.43 9973837.68 0.0088 0.0037 Neptune 22596-05-05 09:36 G 9974204.69 9974204.90 9974205.15 0.0088 0.0041 Jupiter 22596-12-16 21:50 G 9974430.30 9974430.41 9974430.54 0.0512 0.0439 Neptune 22597-05-07 21:07 G 9974572.17 9974572.38 9974572.62 0.0088 0.0043 Jupiter 22598-01-18 04:48 G 9974827.48 9974827.70 9974827.93 0.0497 0.0122 Neptune 22598-05-10 08:38 G 9974939.66 9974939.86 9974940.10 0.0088 0.0047 Neptune 22599-05-12 20:09 G 9975307.14 9975307.34 9975307.57 0.0088 0.0050 Saturn 22599-12-16 12:57 G 9975524.80 9975525.04 9975525.29 0.0270 0.0025 Neptune 22600-05-15 07:55 G 9975674.64 9975674.83 9975675.06 0.0088 0.0053 Neptune 22601-05-17 19:26 G 9976042.13 9976042.31 9976042.54 0.0088 0.0056 Neptune 22602-05-20 07:55 G 9976409.64 9976409.83 9976410.03 0.0089 0.0058 Neptune 22603-05-22 19:26 G 9976777.15 9976777.31 9976777.52 0.0089 0.0061 Jupiter 22603-06-23 19:26 G 9976809.15 9976809.31 9976809.48 0.0519 0.0363 Neptune 22604-05-24 07:12 G 9977144.65 9977144.80 9977145.01 0.0089 0.0064 Jupiter 22604-07-29 03:36 G 9977210.46 9977210.65 9977210.85 0.0534 0.0296 Neptune 22605-05-26 19:26 G 9977512.16 9977512.31 9977512.50 0.0089 0.0066 Neptune 22606-05-29 07:55 G 9977879.67 9977879.83 9977880.00 0.0089 0.0068 Neptune 22607-05-31 19:26 G 9978247.18 9978247.31 9978247.49 0.0089 0.0071 Neptune 22608-06-02 07:40 G 9978614.69 9978614.82 9978614.98 0.0089 0.0073 Jupiter 22608-12-22 13:40 G 9978817.91 9978818.07 9978818.24 0.0509 0.0357 Neptune 22609-06-04 19:40 G 9978982.21 9978982.32 9978982.48 0.0089 0.0075 Jupiter 22610-01-23 13:40 G 9979214.86 9979215.07 9979215.29 0.0495 0.0196 Neptune 22610-06-07 07:55 G 9979349.72 9979349.83 9979349.98 0.0089 0.0077 Neptune 22611-06-09 20:09 G 9979717.25 9979717.34 9979717.48 0.0089 0.0079 22612-04-11 10:19 G 9980023.80 9980023.93 9980024.06 0.1616 0.1179 Mars Neptune 22612-06-11 08:24 G 9980084.77 9980084.85 9980084.98 0.0089 0.0081 Neptune 22613-06-13 21:07 G 9980452.30 9980452.38 9980452.49 0.0089 0.0082 Saturn 22614-06-15 14:24 G 9980818.87 9980819.10 9980819.34 0.0289 0.0082

Neptune 22614-06-16 09:36 G 9980819.84 9980819.90 9980820.00 0.0089 0.0084 Neptune 22615-06-18 22:19 G 9981187.37 9981187.43 9981187.51 0.0089 0.0085 Jupiter 22615-06-28 19:55 G 9981197.14 9981197.33 9981197.54 0.0521 0.0276 Neptune 22616-06-20 10:33 G 9981554.92 9981554.94 9981555.03 0.0089 0.0087 Jupiter 22616-08-03 11:45 G 9981598.84 9981598.99 9981599.15 0.0536 0.0392 Neptune 22617-06-22 23:16 G 9981922.46 9981922.47 9981922.53 0.0089 0.0088 Jupiter 22620-12-27 00:14 G 9983205.32 9983205.51 9983205.70 0.0507 0.0279 Jupiter 22622-01-27 17:45 G 9983602.05 9983602.24 9983602.44 0.0494 0.0266 Jupiter 22627-07-03 19:26 G 9985585.09 9985585.31 9985585.53 0.0524 0.0186 Uranus 22627-11-15 03:21 G 9985719.46 9985719.64 9985719.85 0.0142 0.0090 Jupiter 22628-08-08 17:31 G 9985987.13 9985987.23 9985987.32 0.0537 0.0486 Uranus 22628-11-19 00:28 G 9986089.27 9986089.52 9986089.77 0.0143 0.0021 Saturn 22628-12-11 16:19 G 9986112.01 9986112.18 9986112.36 0.0270 0.0188 Uranus 22629-11-23 21:21 G 9986459.16 9986459.39 9986459.64 0.0143 0.0048 Saturn 22629-12-23 19:12 G 9986489.14 9986489.30 9986489.48 0.0271 0.0193 Uranus 22630-11-28 19:12 G 9986829.17 9986829.30 9986829.45 0.0143 0.0118 Neptune 22632-07-27 00:28 G 9987435.52 9987435.52 9987435.54 0.0089 0.0089 Jupiter 22632-12-31 12:00 G 9987592.79 9987593.00 9987593.21 0.0505 0.0199 Neptune 22633-07-29 12:57 G 9987803.03 9987803.04 9987803.11 0.0089 0.0089 Jupiter 22634-02-01 00:43 G 9987989.36 9987989.53 9987989.70 0.0492 0.0336 Neptune 22634-08-01 01:55 G 9988170.56 9988170.58 9988170.67 0.0089 0.0088 Neptune 22635-08-03 15:07 G 9988538.08 9988538.13 9988538.23 0.0089 0.0086 9988905.67 9988905.78 0.0089 0.0085 Neptune 22636-08-05 04:04 G 9988905.61 Neptune 22637-08-07 17:16 G 9989273.14 9989273.22 9989273.34 0.0089 0.0083 Neptune 22638-08-10 06:57 G 9989640.69 9989640.79 9989640.90 0.0089 0.0081 Jupiter 22639-07-08 14:52 G 9989972.89 9989973.12 9989973.35 0.0525 0.0101 Neptune 22639-08-12 19:55 G 9990008.22 9990008.33 9990008.46 0.0089 0.0079 Neptune 22640-08-14 08:38 G 9990375.76 9990375.86 9990376.02 0.0089 0.0078 Neptune 22641-08-16 22:33 G 9990743.30 9990743.44 9990743.58 0.0089 0.0075 Neptune 22642-08-19 11:31 G 9991110.84 9991110.98 9991111.14 0.0089 0.0073

Saturn 22643-06-10 03:07 G 9991405.57 9991405.63 9991405.72 0.0290 0.0275 Neptune 22643-08-22 00:28 G 9991478.38 9991478.52 9991478.70 0.0090 0.0071 Saturn 22644-06-23 07:12 G 9991784.64 9991784.80 9991784.99 0.0289 0.0203 Neptune 22644-08-23 13:12 G 9991845.92 9991846.05 9991846.25 0.0090 0.0069 Jupiter 22645-01-05 00:57 G 9991980.32 9991980.54 9991980.77 0.0503 0.0122 Neptune 22645-08-26 02:38 G 9992213.46 9992213.61 9992213.81 0.0090 0.0066 Jupiter 22646-02-05 08:24 G 9992376.73 9992376.85 9992376.99 0.0491 0.0403 Neptune 22646-08-28 16:04 G 9992580.99 9992581.17 9992581.36 0.0090 0.0063 Neptune 22647-08-31 05:02 G 9992948.52 9992948.71 9992948.91 0.0090 0.0060 Neptune 22648-09-01 17:31 G 9993316.06 9993316.23 9993316.45 0.0090 0.0058 Neptune 22649-09-04 06:43 G 9993683.60 9993683.78 9993684.01 0.0090 0.0055 Neptune 22650-09-06 19:40 G 9994051.13 9994051.32 9994051.55 0.0090 0.0052 Jupiter 22651-07-13 15:07 G 9994360.89 9994361.13 9994361.36 0.0528 0.0010 Neptune 22651-09-09 08:38 G 9994418.67 9994418.86 9994419.10 0.0089 0.0049 Neptune 22652-09-10 21:50 G 9994786.21 9994786.41 9994786.65 0.0089 0.0046 Neptune 22653-09-13 11:16 G 9995153.75 9995153.97 9995154.20 0.0089 0.0042 Neptune 22654-09-16 00:14 G 9995521.29 9995521.51 9995521.76 0.0089 0.0039 Neptune 22655-09-18 12:57 G 9995888.82 9995889.04 9995889.29 0.0089 0.0035 Neptune 22656-09-20 02:09 G 9996256.36 9996256.59 9996256.84 0.0089 0.0032 Jupiter 22657-01-09 13:12 G 9996367.82 9996368.05 9996368.28 0.0501 0.0042 Neptune 22657-09-22 14:52 G 9996623.89 9996624.12 9996624.38 0.0089 0.0028 Jupiter 22658-02-09 14:52 G 9996764.06 9996764.12 9996764.20 0.0490 0.0466 Neptune 22658-09-25 03:36 G 9996991.41 9996991.65 9996991.91 0.0089 0.0025 Saturn 22658-12-18 22:48 G 9997076.21 9997076.45 9997076.69 0.0270 0.0031 Neptune 22659-09-27 16:04 G 9997358.94 9997359.17 9997359.44 0.0089 0.0022 Neptune 22660-09-29 05:02 G 9997726.46 9997726.71 9997726.97 0.0089 0.0018 Neptune 22661-10-01 17:45 G 9998093.99 9998094.24 9998094.50 0.0089 0.0014 Neptune 22662-10-04 06:14 G 9998461.51 9998461.76 9998462.02 0.0089 0.0011 Jupiter 22663-07-18 17:45 G 9998749.01 9998749.24 9998749.48 0.0530 0.0088 Neptune 22663-10-06 18:57 G 9998829.03 9998829.29 9998829.55 0.0089 0.0007

Neptune 22664-10-08 07:26 G 9999196.56 9999196.81 9999197.07 0.0089 0.0003 Neptune 22665-10-10 20:09 G 9999564.09 9999564.34 9999564.60 0.0089 0.0002 Neptune 22666-10-13 08:38 G 9999931.60 9999931.86 9999932.12 0.0089 0.0004 Uranus 22667-05-13 11:16 G 10000143.87 10000143.97 10000144.13 0.0136 0.0118 Neptune 22667-10-15 21:07 G 10000299.13 10000299.38 10000299.64 0.0089 0.0008 Uranus 22668-05-16 23:02 G 10000513.25 10000513.46 10000513.71 0.0136 0.0058 Neptune 22668-10-17 09:36 G 10000666.64 10000666.90 10000667.16 0.0089 0.0012 Jupiter 22669-01-14 00:00 G 10000755.27 10000755.50 10000755.73 0.0499 0.0038 Uranus 22669-05-21 10:33 G 10000882.68 10000882.94 10000883.20 0.0135 0.0002 Neptune 22669-10-19 21:36 G 10001034.16 10001034.40 10001034.66 0.0089 0.0016 Uranus 22670-05-25 21:21 G 10001252.16 10001252.39 10001252.62 0.0135 0.0061 Neptune 22670-10-22 09:50 G 10001401.67 10001401.91 10001402.17 0.0089 0.0019 Uranus 22671-05-30 06:57 G 10001621.70 10001621.79 10001621.94 0.0135 0.0119 Neptune 22671-10-24 22:04 G 10001769.17 10001769.42 10001769.67 0.0089 0.0022 Neptune 22672-10-26 10:04 G 10002136.68 10002136.92 10002137.18 0.0089 0.0026 Saturn 22673-06-17 05:45 G 10002370.49 10002370.74 10002370.98 0.0289 0.0015 Neptune 22673-10-28 22:04 G 10002504.19 10002504.42 10002504.67 0.0089 0.0030 Jupiter 22674-06-18 01:12 G 10002736.45 10002736.55 10002736.67 0.0516 0.0449 Neptune 22674-10-31 09:50 G 10002871.69 10002871.91 10002872.17 0.0089 0.0033 Jupiter 22675-07-24 00:14 G 10003137.29 10003137.51 10003137.73 0.0532 0.0187 Neptune 22675-11-02 21:50 G 10003239.19 10003239.41 10003239.66 0.0089 0.0036 Neptune 22676-11-04 10:04 G 10003606.70 10003606.92 10003607.16 0.0089 0.0039 Neptune 22677-11-06 21:50 G 10003974.20 10003974.41 10003974.65 0.0089 0.0043 Neptune 22678-11-09 09:50 G 10004341.70 10004341.91 10004342.15 0.0089 0.0046 Neptune 22679-11-11 21:50 G 10004709.21 10004709.41 10004709.64 0.0089 0.0049 Jupiter 22679-12-17 21:50 G 10004745.30 10004745.41 10004745.52 0.0512 0.0447 Neptune 22680-11-13 09:36 G 10005076.70 10005076.90 10005077.12 0.0089 0.0052 Jupiter 22681-01-18 06:00 G 10005142.53 10005142.75 10005142.98 0.0497 0.0112 Neptune 22681-11-15 21:21 G 10005444.20 10005444.39 10005444.61 0.0089 0.0055 Neptune 22682-11-18 08:38 G 10005811.69 10005811.86 10005812.07 0.0089 0.0058

Neptune 22683-11-20 20:09 G 10006179.18 10006179.34 10006179.55 0.0089 0.0061 Neptune 22684-11-22 08:09 G 10006546.66 10006546.84 10006547.02 0.0089 0.0063 Neptune 22685-11-24 19:12 G 10006914.15 10006914.30 10006914.49 0.0089 0.0066 Jupiter 22686-06-22 22:33 G 10007124.28 10007124.44 10007124.61 0.0519 0.0369 Neptune 22686-11-27 06:14 G 10007281.63 10007281.76 10007281.95 0.0089 0.0069 Jupiter 22687-07-29 04:19 G 10007525.49 10007525.68 10007525.88 0.0534 0.0283 Neptune 22687-11-29 17:45 G 10007649.11 10007649.24 10007649.42 0.0089 0.0071 Saturn 22687-12-14 00:28 G 10007663.31 10007663.52 10007663.74 0.0270 0.0135 Neptune 22688-12-01 05:31 G 10008016.59 10008016.73 10008016.88 0.0089 0.0073 Saturn 22688-12-25 03:36 G 10008040.56 10008040.65 10008040.76 0.0271 0.0246 Neptune 22689-12-03 16:48 G 10008384.07 10008384.20 10008384.34 0.0089 0.0075 Neptune 22690-12-06 03:36 G 10008751.56 10008751.65 10008751.80 0.0089 0.0078 Neptune 22691-12-08 14:52 G 10009119.04 10009119.12 10009119.26 0.0089 0.0080 Jupiter 22691-12-22 11:45 G 10009132.84 10009132.99 10009133.16 0.0510 0.0368 Pluto 22692-10-20 01:26 G 10009435.40 10009435.56 10009435.74 0.0064 0.0048 Neptune 22692-12-10 02:38 G 10009486.52 10009486.61 10009486.72 0.0089 0.0081 Jupiter 22693-01-22 14:09 G 10009529.87 10009530.09 10009530.30 0.0496 0.0185 Pluto 22693-10-21 12:43 G 10009801.84 10009802.03 10009802.28 0.0064 0.0034 Neptune 22693-12-12 13:26 G 10009853.99 10009854.06 10009854.17 0.0088 0.0083 Neptune 22694-12-15 00:14 G 10010221.46 10010221.51 10010221.62 0.0088 0.0085 Neptune 22695-12-17 11:31 G 10010588.94 10010588.98 10010589.06 0.0088 0.0086 Neptune 22696-12-18 22:04 G 10010956.41 10010956.42 10010956.49 0.0088 0.0088 22697-10-11 15:36 G 10011253.00 10011253.15 10011253.31 0.1926 0.1213 Mars Neptune 22697-12-21 09:21 G 10011323.89 10011323.89 10011323.91 0.0088 0.0088 Jupiter 22698-06-27 16:04 G 10011511.98 10011512.17 10011512.37 0.0520 0.0290 Jupiter 22699-08-03 04:04 G 10011913.50 10011913.67 10011913.84 0.0535 0.0372 Saturn 22702-06-12 18:43 G 10012957.11 10012957.28 10012957.46 0.0290 0.0207 Saturn 22703-06-26 22:48 G 10013336.37 10013336.45 10013336.54 0.0289 0.0270 Jupiter 22703-12-28 02:09 G 10013520.41 10013520.59 10013520.79 0.0508 0.0291 Jupiter 22705-01-27 23:16 G 10013917.27 10013917.47 10013917.67 0.0494 0.0257

Jupiter 22710-07-03 13:55 G 10015899.87 10015900.08 10015900.30 0.0523 0.0203 Jupiter 22711-08-09 08:52 G 10016301.76 10016301.87 10016301.99 0.0537 0.0465 Uranus 22711-11-16 11:31 G 10016400.79 10016400.98 10016401.19 0.0142 0.0088 Uranus 22712-11-20 08:09 G 10016770.60 10016770.84 10016771.10 0.0143 0.0020 Uranus 22713-11-25 05:31 G 10017140.50 10017140.73 10017140.98 0.0143 0.0050 Uranus 22714-11-30 03:07 G 10017510.51 10017510.63 10017510.78 0.0143 0.0120 Jupiter 22716-01-01 17:02 G 10017908.00 10017908.21 10017908.42 0.0506 0.0210 Neptune 22716-01-31 06:57 G 10017937.77 10017937.79 10017937.84 0.0088 0.0087 Jupiter 22717-02-01 07:12 G 10018304.63 10018304.80 10018304.98 0.0493 0.0326 Neptune 22717-02-01 17:02 G 10018305.19 10018305.21 10018305.29 0.0088 0.0086 Saturn 22717-12-21 07:55 G 10018627.60 10018627.83 10018628.06 0.0270 0.0085 Neptune 22718-02-04 04:04 G 10018672.60 10018672.67 10018672.74 0.0088 0.0084 Neptune 22719-02-06 13:55 G 10019040.02 10019040.08 10019040.19 0.0088 0.0083 Neptune 22720-02-09 00:43 G 10019407.44 10019407.53 10019407.64 0.0088 0.0081 Neptune 22721-02-10 10:19 G 10019774.86 10019774.93 10019775.07 0.0088 0.0080 Neptune 22722-02-12 20:38 G 10020142.27 10020142.36 10020142.51 0.0088 0.0078 Jupiter 22722-07-08 13:26 G 10020287.83 10020288.06 10020288.29 0.0525 0.0113 Neptune 22723-02-15 07:12 G 10020509.69 10020509.80 10020509.95 0.0088 0.0076 Neptune 22724-02-17 17:16 G 10020877.11 10020877.22 10020877.38 0.0088 0.0074 Neptune 22725-02-19 03:36 G 10021244.53 10021244.65 10021244.83 0.0088 0.0072 Neptune 22726-02-21 13:55 G 10021611.94 10021612.08 10021612.26 0.0088 0.0069 Neptune 22727-02-24 00:14 G 10021979.37 10021979.51 10021979.70 0.0088 0.0067 Jupiter 22728-01-06 06:14 G 10022295.53 10022295.76 10022295.98 0.0503 0.0129 Neptune 22728-02-26 10:48 G 10022346.79 10022346.95 10022347.14 0.0088 0.0064 Jupiter 22729-02-05 14:09 G 10022691.96 10022692.09 10022692.23 0.0491 0.0394 Neptune 22729-02-27 20:52 G 10022714.21 10022714.37 10022714.58 0.0088 0.0062 Neptune 22730-03-02 07:26 G 10023081.64 10023081.81 10023082.02 0.0088 0.0059 Neptune 22731-03-04 18:14 G 10023449.07 10023449.26 10023449.47 0.0088 0.0056 Neptune 22732-03-06 04:48 G 10023816.50 10023816.70 10023816.91 0.0088 0.0053 Saturn 22732-06-19 20:38 G 10023922.12 10023922.36 10023922.60 0.0289 0.0053

Neptune 22733-03-08 14:38 G 10024183.92 10024184.11 10024184.34 0.0088 0.0051 Neptune 22734-03-11 01:40 G 10024551.35 10024551.57 10024551.78 0.0088 0.0047 Jupiter 22734-07-13 17:16 G 10024675.98 10024676.22 10024676.45 0.0528 0.0020 Neptune 22735-03-13 11:45 G 10024918.77 10024918.99 10024919.22 0.0088 0.0044 Neptune 22736-03-14 22:04 G 10025286.21 10025286.42 10025286.66 0.0088 0.0041 Neptune 22737-03-17 08:24 G 10025653.63 10025653.85 10025654.09 0.0088 0.0038 Neptune 22738-03-19 18:43 G 10026021.06 10026021.28 10026021.53 0.0088 0.0035 22738-04-09 13:12 G 10026041.89 10026042.05 10026042.20 0.1608 0.0886 Mars Neptune 22739-03-22 05:16 G 10026388.49 10026388.72 10026388.97 0.0088 0.0032 Jupiter 22740-01-10 14:52 G 10026682.89 10026683.12 10026683.35 0.0501 0.0051 Neptune 22740-03-23 15:50 G 10026755.93 10026756.16 10026756.41 0.0088 0.0028 Jupiter 22741-02-09 17:31 G 10027079.16 10027079.23 10027079.32 0.0490 0.0457 Neptune 22741-03-26 02:24 G 10027123.37 10027123.60 10027123.86 0.0088 0.0025 Neptune 22742-03-28 13:12 G 10027490.81 10027491.05 10027491.31 0.0088 0.0021 Neptune 22743-03-31 00:00 G 10027858.26 10027858.50 10027858.76 0.0088 0.0018 Neptune 22744-04-01 10:48 G 10028225.70 10028225.95 10028226.21 0.0088 0.0014 Neptune 22745-04-03 21:21 G 10028593.15 10028593.39 10028593.66 0.0088 0.0011 Neptune 22746-04-06 08:24 G 10028960.59 10028960.85 10028961.11 0.0088 0.0007 Jupiter 22746-07-18 19:55 G 10029064.10 10029064.33 10029064.56 0.0529 0.0078 Saturn 22746-12-16 08:09 G 10029214.61 10029214.84 10029215.07 0.0270 0.0082 Neptune 22747-04-08 19:12 G 10029328.04 10029328.30 10029328.56 0.0088 0.0004 Neptune 22748-04-10 06:00 G 10029695.49 10029695.75 10029696.01 0.0088 0.0001 Neptune 22749-04-12 16:48 G 10030062.94 10030063.20 10030063.46 0.0088 0.0004 Neptune 22750-04-15 03:50 G 10030430.40 10030430.66 10030430.91 0.0088 0.0007 Neptune 22751-04-17 14:24 G 10030797.85 10030798.10 10030798.37 0.0088 0.0011 Uranus 22751-05-14 21:21 G 10030825.28 10030825.39 10030825.56 0.0136 0.0115 Jupiter 22752-01-15 00:43 G 10031070.29 10031070.53 10031070.76 0.0499 0.0028 Neptune 22752-04-19 01:40 G 10031165.32 10031165.57 10031165.83 0.0088 0.0014 Uranus 22752-05-18 09:36 G 10031194.67 10031194.90 10031195.14 0.0136 0.0054 Neptune 22753-04-21 12:28 G 10031532.77 10031533.02 10031533.28 0.0088 0.0018 Uranus 22753-05-22 20:38 G 10031564.11 10031564.36 10031564.62 0.0135 0.0005 Neptune 22754-04-24 00:00 G 10031900.25 10031900.50 10031900.75 0.0088 0.0021 Uranus 22754-05-27 07:12 G 10031933.59 10031933.80 10031934.04 0.0135 0.0064 Neptune 22755-04-26 11:02 G 10032267.72 10032267.96 10032268.22 0.0088 0.0025 Uranus 22755-05-31 17:31 G 10032303.13 10032303.23 10032303.35 0.0135 0.0122 Neptune 22756-04-27 22:19 G 10032635.19 10032635.43 10032635.68 0.0088 0.0029 Neptune 22757-04-30 09:36 G 10033002.67 10033002.90 10033003.16 0.0088 0.0032 Jupiter 22757-06-17 23:45 G 10033051.39 10033051.49 10033051.60 0.0515 0.0461 Neptune 22758-05-02 21:07 G 10033370.15 10033370.38 10033370.63 0.0088 0.0036 Jupiter 22758-07-23 18:00 G 10033452.03 10033452.25 10033452.48 0.0531 0.0167 Neptune 22759-05-05 08:38 G 10033737.63 10033737.86 10033738.10 0.0088 0.0039 Neptune 22760-05-06 19:40 G 10034105.11 10034105.32 10034105.57 0.0088 0.0043 Neptune 22761-05-09 07:12 G 10034472.60 10034472.80 10034473.04 0.0088 0.0046 Saturn 22761-06-14 08:24 G 10034508.64 10034508.85 10034509.07 0.0290 0.0141 Neptune 22762-05-11 18:57 G 10034840.08 10034840.29 10034840.51 0.0088 0.0049 Jupiter 22762-12-17 22:33 G 10035060.35 10035060.44 10035060.55 0.0513 0.0460 Neptune 22763-05-14 06:43 G 10035207.57 10035207.78 10035207.99 0.0088 0.0052 Jupiter 22764-01-19 10:48 G 10035457.72 10035457.95 10035458.18 0.0498 0.0101 Neptune 22764-05-15 17:31 G 10035575.06 10035575.23 10035575.46 0.0088 0.0056 Neptune 22765-05-18 05:45 G 10035942.56 10035942.74 10035942.95 0.0088 0.0058 Neptune 22766-05-20 17:45 G 10036310.06 10036310.24 10036310.43 0.0088 0.0061 Neptune 22767-05-23 05:16 G 10036677.56 10036677.72 10036677.91 0.0089 0.0064 Neptune 22768-05-24 17:16 G 10037045.07 10037045.22 10037045.41 0.0089 0.0067 Neptune 22769-05-27 04:48 G 10037412.57 10037412.70 10037412.89 0.0089 0.0070 Jupiter 22769-06-22 18:43 G 10037439.13 10037439.28 10037439.45 0.0517 0.0384 Neptune 22770-05-29 17:31 G 10037780.09 10037780.23 10037780.39 0.0089 0.0072 Jupiter 22770-07-28 20:52 G 10037840.17 10037840.37 10037840.58 0.0533 0.0262 Neptune 22771-06-01 05:02 G 10038147.60 10038147.71 10038147.88 0.0089 0.0075 Neptune 22772-06-02 17:16 G 10038515.11 10038515.22 10038515.37 0.0089 0.0077 Neptune 22773-06-05 05:31 G 10038882.63 10038882.73 10038882.86 0.0089 0.0079

Neptune 22774-06-07 17:45 G 10039250.15 10039250.24 10039250.36 0.0089 0.0081 Jupiter 22774-12-22 15:50 G 10039448.01 10039448.16 10039448.31 0.0511 0.0379 Neptune 22775-06-10 05:45 G 10039617.67 10039617.74 10039617.84 0.0089 0.0083 Saturn 22775-12-11 13:12 G 10039801.95 10039802.05 10039802.18 0.0270 0.0239 Jupiter 22776-01-23 20:52 G 10039845.15 10039845.37 10039845.59 0.0496 0.0175 Neptune 22776-06-11 17:45 G 10039985.19 10039985.24 10039985.33 0.0089 0.0085 Saturn 22776-12-22 15:50 G 10040178.95 10040179.16 10040179.37 0.0270 0.0138 Neptune 22777-06-14 06:00 G 10040352.72 10040352.75 10040352.83 0.0089 0.0087 Neptune 22778-06-16 18:28 G 10040720.27 10040720.27 10040720.31 0.0089 0.0089 Jupiter 22781-06-27 15:21 G 10041826.96 10041827.14 10041827.34 0.0520 0.0301 Pluto 22782-04-22 02:38 G 10042125.36 10042125.61 10042125.87 0.0080 0.0005 Jupiter 22782-08-03 02:09 G 10042228.42 10042228.59 10042228.77 0.0535 0.0357 Jupiter 22786-12-27 07:40 G 10043835.64 10043835.82 10043836.02 0.0508 0.0298 Jupiter 22788-01-28 05:31 G 10044232.53 10044232.73 10044232.93 0.0494 0.0248 Saturn 22791-06-22 11:02 G 10045473.74 10045473.96 10045474.18 0.0289 0.0119 Jupiter 22793-07-02 16:04 G 10046214.96 10046215.17 10046215.39 0.0522 0.0212 Jupiter 22794-08-08 10:48 G 10046616.84 10046616.95 10046617.09 0.0537 0.0455 Uranus 22795-11-16 18:43 G 10047082.10 10047082.28 10047082.50 0.0142 0.0087 Uranus 22796-11-20 15:50 G 10047451.91 10047452.16 10047452.42 0.0143 0.0018 Uranus 22797-11-25 13:12 G 10047821.82 10047822.05 10047822.29 0.0143 0.0052 Uranus 22798-11-30 11:02 G 10048191.84 10048191.96 10048192.10 0.0143 0.0122 Jupiter 22798-12-31 19:40 G 10048223.11 10048223.32 10048223.53 0.0506 0.0219 Jupiter 22800-02-01 10:48 G 10048619.77 10048619.95 10048620.13 0.0493 0.0317 Neptune 22800-08-05 12:57 G 10048806.04 10048806.04 10048806.09 0.0089 0.0089 Neptune 22801-08-08 02:09 G 10049173.56 10049173.59 10049173.67 0.0089 0.0088 Neptune 22802-08-10 15:07 G 10049541.08 10049541.13 10049541.23 0.0089 0.0086 Neptune 22803-08-13 04:19 G 10049908.61 10049908.68 10049908.79 0.0089 0.0084 Neptune 22804-08-14 17:31 G 10050276.14 10050276.23 10050276.35 0.0089 0.0082 Jupiter 22805-07-07 17:02 G 10050602.98 10050603.21 10050603.44 0.0525 0.0122 Neptune 22805-08-17 06:28 G 10050643.68 10050643.77 10050643.91 0.0089 0.0080 Saturn 22805-12-17 13:55 G 10050765.84 10050766.08 10050766.33 0.0270 0.0031 Neptune 22806-08-19 20:24 G 10051011.22 10051011.35 10051011.48 0.0089 0.0077 Neptune 22807-08-22 08:52 G 10051378.75 10051378.87 10051379.03 0.0089 0.0075 Neptune 22808-08-23 22:33 G 10051746.30 10051746.44 10051746.60 0.0090 0.0072 Neptune 22809-08-26 11:16 G 10052113.83 10052113.97 10052114.15 0.0090 0.0070 Neptune 22810-08-29 00:14 G 10052481.36 10052481.51 10052481.71 0.0090 0.0067 Jupiter 22811-01-05 07:26 G 10052610.59 10052610.81 10052611.04 0.0504 0.0140 Neptune 22811-08-31 13:26 G 10052848.89 10052849.06 10052849.26 0.0090 0.0064 Jupiter 22812-02-05 17:16 G 10053007.08 10053007.22 10053007.37 0.0492 0.0386 Neptune 22812-09-02 02:24 G 10053216.43 10053216.60 10053216.81 0.0090 0.0061 Neptune 22813-09-04 15:21 G 10053583.96 10053584.14 10053584.36 0.0090 0.0058 Neptune 22814-09-07 04:04 G 10053951.49 10053951.67 10053951.90 0.0090 0.0055 Neptune 22815-09-09 17:02 G 10054319.02 10054319.21 10054319.45 0.0090 0.0052 Neptune 22816-09-11 06:14 G 10054686.56 10054686.76 10054686.99 0.0090 0.0048 Mars 22817-04-11 14:09 G 10054898.91 10054899.09 10054899.27 0.1610 0.0479 Jupiter 22817-07-12 13:55 G 10054990.85 10054991.08 10054991.32 0.0526 0.0038 Neptune 22817-09-13 19:12 G 10055054.10 10055054.30 10055054.55 0.0089 0.0045 Neptune 22818-09-16 08:24 G 10055421.63 10055421.85 10055422.08 0.0089 0.0041 Neptune 22819-09-18 21:21 G 10055789.17 10055789.39 10055789.64 0.0089 0.0038 Saturn 22820-06-15 20:24 G 10056060.12 10056060.35 10056060.59 0.0290 0.0077 Neptune 22820-09-20 10:33 G 10056156.71 10056156.94 10056157.18 0.0089 0.0034 Neptune 22821-09-22 23:16 G 10056524.24 10056524.47 10056524.73 0.0089 0.0030 Neptune 22822-09-25 12:00 G 10056891.77 10056892.00 10056892.26 0.0089 0.0027 Jupiter 22823-01-09 18:57 G 10056998.06 10056998.29 10056998.53 0.0502 0.0064 Neptune 22823-09-28 00:57 G 10057259.30 10057259.54 10057259.80 0.0089 0.0023 Jupiter 22824-02-10 00:57 G 10057394.45 10057394.54 10057394.64 0.0491 0.0448 Neptune 22824-09-29 13:55 G 10057626.83 10057627.08 10057627.33 0.0089 0.0019 Neptune 22825-10-02 02:09 G 10057994.35 10057994.59 10057994.86 0.0089 0.0016 Neptune 22826-10-04 14:52 G 10058361.87 10058362.12 10058362.38 0.0089 0.0011 Neptune 22827-10-07 03:36 G 10058729.39 10058729.65 10058729.91 0.0089 0.0007

Neptune 22828-10-08 16:19 G 10059096.92 10059097.18 10059097.44 0.0089 0.0003 Jupiter 22829-07-17 14:38 G 10059378.87 10059379.11 10059379.34 0.0528 0.0058 Neptune 22829-10-11 04:48 G 10059464.44 10059464.70 10059464.95 0.0089 0.0001 Neptune 22830-10-13 17:16 G 10059831.96 10059832.22 10059832.48 0.0089 0.0004 Neptune 22831-10-16 05:45 G 10060199.49 10060199.74 10060200.00 0.0089 0.0008 Neptune 22832-10-17 18:14 G 10060567.01 10060567.26 10060567.53 0.0089 0.0012 Neptune 22833-10-20 06:57 G 10060934.54 10060934.79 10060935.05 0.0089 0.0016 Neptune 22834-10-22 19:12 G 10061302.05 10061302.30 10061302.55 0.0089 0.0020 Saturn 22834-12-12 19:55 G 10061353.15 10061353.33 10061353.50 0.0269 0.0187 Jupiter 22835-01-14 07:12 G 10061385.56 10061385.80 10061386.03 0.0500 0.0018 Uranus 22835-05-15 08:09 G 10061506.70 10061506.84 10061506.99 0.0136 0.0111 Neptune 22835-10-25 07:26 G 10061669.57 10061669.81 10061670.07 0.0089 0.0023 Saturn 22835-12-24 21:50 G 10061730.25 10061730.41 10061730.59 0.0270 0.0189 Uranus 22836-05-18 19:40 G 10061876.09 10061876.32 10061876.56 0.0136 0.0051 Neptune 22836-10-26 19:26 G 10062037.08 10062037.31 10062037.57 0.0089 0.0027 Uranus 22837-05-23 06:57 G 10062245.54 10062245.79 10062246.05 0.0135 0.0009 Neptune 22837-10-29 07:40 G 10062404.58 10062404.82 10062405.07 0.0089 0.0031 Uranus 22838-05-27 17:45 G 10062615.03 10062615.24 10062615.47 0.0135 0.0067 Neptune 22838-10-31 19:40 G 10062772.09 10062772.32 10062772.56 0.0089 0.0034 Uranus 22839-06-01 04:04 G 10062984.58 10062984.67 10062984.76 0.0135 0.0125 Neptune 22839-11-03 07:26 G 10063139.59 10063139.81 10063140.06 0.0089 0.0038 Jupiter 22840-06-17 00:14 G 10063366.42 10063366.51 10063366.61 0.0515 0.0469 Neptune 22840-11-04 19:40 G 10063507.09 10063507.32 10063507.55 0.0089 0.0041 Jupiter 22841-07-22 17:16 G 10063766.99 10063767.22 10063767.44 0.0531 0.0153 Neptune 22841-11-07 07:12 G 10063874.59 10063874.80 10063875.04 0.0089 0.0045 Neptune 22842-11-09 19:12 G 10064242.10 10064242.30 10064242.53 0.0089 0.0048 Neptune 22843-11-12 07:12 G 10064609.60 10064609.80 10064610.01 0.0089 0.0051 Neptune 22844-11-13 18:43 G 10064977.10 10064977.28 10064977.51 0.0089 0.0055 Neptune 22845-11-16 06:28 G 10065344.60 10065344.77 10065344.98 0.0089 0.0058 Jupiter 22845-12-17 04:33 G 10065375.60 10065375.69 10065375.79 0.0514 0.0465

Neptune 22846-11-18 18:14 G 10065712.10 10065712.26 10065712.47 0.0089 0.0061 Jupiter 22847-01-18 18:14 G 10065773.03 10065773.26 10065773.49 0.0498 0.0093 Neptune 22847-11-21 05:45 G 10066079.59 10066079.74 10066079.95 0.0089 0.0064 Neptune 22848-11-22 17:16 G 10066447.08 10066447.22 10066447.42 0.0089 0.0067 Neptune 22849-11-25 05:02 G 10066814.56 10066814.71 10066814.88 0.0089 0.0069 Saturn 22850-06-23 22:33 G 10067025.26 10067025.44 10067025.64 0.0289 0.0182 Neptune 22850-11-27 16:19 G 10067182.05 10067182.18 10067182.34 0.0089 0.0072 Neptune 22851-11-30 03:21 G 10067549.53 10067549.64 10067549.81 0.0089 0.0075 Jupiter 22852-06-21 21:50 G 10067754.27 10067754.41 10067754.57 0.0517 0.0390 Neptune 22852-12-01 14:52 G 10067917.01 10067917.12 10067917.26 0.0089 0.0077 Jupiter 22853-07-27 23:45 G 10068155.28 10068155.49 10068155.70 0.0533 0.0251 Neptune 22853-12-04 02:09 G 10068284.49 10068284.59 10068284.72 0.0089 0.0079 Neptune 22854-12-06 12:57 G 10068651.97 10068652.04 10068652.17 0.0089 0.0082 Neptune 22855-12-09 00:57 G 10069019.46 10069019.54 10069019.63 0.0089 0.0083 Neptune 22856-12-10 11:16 G 10069386.94 10069386.97 10069387.07 0.0089 0.0086 Neptune 22857-12-12 23:02 G 10069754.43 10069754.46 10069754.52 0.0088 0.0087 Jupiter 22857-12-21 20:09 G 10069763.20 10069763.34 10069763.50 0.0511 0.0387 Jupiter 22859-01-23 01:40 G 10070160.35 10070160.57 10070160.79 0.0496 0.0166 Jupiter 22864-06-26 20:24 G 10072142.16 10072142.35 10072142.54 0.0520 0.0308 Saturn 22864-12-18 18:14 G 10072317.01 10072317.26 10072317.50 0.0270 0.0018 Jupiter 22865-08-02 06:00 G 10072543.57 10072543.75 10072543.93 0.0535 0.0346 Jupiter 22869-12-26 10:33 G 10074150.76 10074150.94 10074151.13 0.0509 0.0306 Jupiter 22871-01-27 09:50 G 10074547.71 10074547.91 10074548.12 0.0495 0.0240 Jupiter 22876-07-01 16:19 G 10076529.97 10076530.18 10076530.39 0.0521 0.0227 Jupiter 22877-08-07 06:57 G 10076931.66 10076931.79 10076931.93 0.0536 0.0434 Saturn 22879-06-18 05:45 G 10077611.50 10077611.74 10077611.99 0.0290 0.0017 Uranus 22879-11-17 04:19 G 10077763.49 10077763.68 10077763.89 0.0142 0.0084 Uranus 22880-11-21 01:12 G 10078133.30 10078133.55 10078133.80 0.0143 0.0015 Uranus 22881-11-25 22:19 G 10078503.21 10078503.43 10078503.68 0.0143 0.0055 Jupiter 22881-12-30 23:16 G 10078538.26 10078538.47 10078538.68 0.0507 0.0232

Uranus 22882-11-30 20:09 G 10078873.23 10078873.34 10078873.47 0.0143 0.0125 Jupiter 22883-01-31 18:00 G 10078935.08 10078935.25 10078935.44 0.0494 0.0308 Neptune 22883-02-06 00:28 G 10078940.52 10078940.52 10078940.56 0.0088 0.0088 Neptune 22884-02-08 10:33 G 10079307.91 10079307.94 10079308.02 0.0088 0.0086 Neptune 22885-02-09 21:07 G 10079675.33 10079675.38 10079675.47 0.0088 0.0084 Neptune 22886-02-12 07:26 G 10080042.74 10080042.81 10080042.92 0.0088 0.0082 Neptune 22887-02-14 17:31 G 10080410.15 10080410.23 10080410.36 0.0088 0.0080 Neptune 22888-02-17 03:50 G 10080777.57 10080777.66 10080777.80 0.0088 0.0078 Jupiter 22888-07-06 14:52 G 10080917.89 10080918.12 10080918.35 0.0523 0.0139 Neptune 22889-02-18 14:24 G 10081144.97 10081145.10 10081145.23 0.0088 0.0075 Jupiter 22889-08-12 12:00 G 10081319.96 10081320.00 10081320.06 0.0537 0.0524 Neptune 22890-02-21 00:14 G 10081512.39 10081512.51 10081512.68 0.0088 0.0073 Neptune 22891-02-23 10:19 G 10081879.81 10081879.93 10081880.11 0.0088 0.0071 Neptune 22892-02-25 20:38 G 10082247.22 10082247.36 10082247.55 0.0088 0.0068 Neptune 22893-02-27 07:12 G 10082614.64 10082614.80 10082614.99 0.0088 0.0065 Saturn 22893-12-14 00:00 G 10082904.29 10082904.50 10082904.71 0.0269 0.0138 Jupiter 22894-01-04 13:40 G 10082925.85 10082926.07 10082926.29 0.0505 0.0150 Neptune 22894-03-01 17:45 G 10082982.07 10082982.24 10082982.43 0.0088 0.0062 Saturn 22894-12-26 01:40 G 10083281.47 10083281.57 10083281.70 0.0270 0.0237 Jupiter 22895-02-05 02:09 G 10083322.45 10083322.59 10083322.75 0.0492 0.0376 Neptune 22895-03-04 03:50 G 10083349.49 10083349.66 10083349.87 0.0088 0.0060 Neptune 22896-03-05 14:09 G 10083716.92 10083717.09 10083717.31 0.0088 0.0057 Neptune 22897-03-08 00:43 G 10084084.35 10084084.53 10084084.76 0.0088 0.0054 Neptune 22898-03-10 11:31 G 10084451.78 10084451.98 10084452.20 0.0088 0.0050 Neptune 22899-03-12 22:04 G 10084819.21 10084819.42 10084819.64 0.0088 0.0047 Neptune 22900-03-15 08:09 G 10085186.63 10085186.84 10085187.08 0.0088 0.0044 Jupiter 22900-07-12 14:09 G 10085305.86 10085306.09 10085306.33 0.0526 0.0049 Neptune 22901-03-17 18:28 G 10085554.06 10085554.27 10085554.52 0.0088 0.0041 Neptune 22902-03-20 05:16 G 10085921.49 10085921.72 10085921.96 0.0088 0.0037 Neptune 22903-03-22 15:21 G 10086288.92 10086289.14 10086289.40 0.0088 0.0034

Neptune 22904-03-24 02:09 G 10086656.36 10086656.59 10086656.84 0.0088 0.0030 Neptune 22905-03-26 12:28 G 10087023.79 10087024.02 10087024.28 0.0088 0.0027 Jupiter 22906-01-10 03:21 G 10087313.41 10087313.64 10087313.87 0.0503 0.0069 Neptune 22906-03-28 23:16 G 10087391.23 10087391.47 10087391.73 0.0088 0.0023 Jupiter 22907-02-10 09:36 G 10087709.81 10087709.90 10087710.01 0.0491 0.0441 Neptune 22907-03-31 10:04 G 10087758.67 10087758.92 10087759.18 0.0088 0.0019 Neptune 22908-04-01 20:52 G 10088126.12 10088126.37 10088126.63 0.0088 0.0015 Saturn 22908-06-12 02:52 G 10088197.49 10088197.62 10088197.77 0.0290 0.0234 Neptune 22909-04-04 07:26 G 10088493.57 10088493.81 10088494.08 0.0088 0.0012 Saturn 22909-06-26 07:40 G 10088576.70 10088576.82 10088576.96 0.0289 0.0242 Neptune 22910-04-06 18:28 G 10088861.02 10088861.27 10088861.53 0.0088 0.0008 Neptune 22911-04-09 05:16 G 10089228.47 10089228.72 10089228.98 0.0088 0.0004 Neptune 22912-04-10 16:04 G 10089595.92 10089596.17 10089596.43 0.0088 0.0002 Jupiter 22912-07-17 18:14 G 10089694.03 10089694.26 10089694.50 0.0528 0.0048 Neptune 22913-04-13 02:52 G 10089963.37 10089963.62 10089963.89 0.0088 0.0004 Neptune 22914-04-15 13:55 G 10090330.82 10090331.08 10090331.33 0.0088 0.0007 Neptune 22915-04-18 00:43 G 10090698.28 10090698.53 10090698.79 0.0088 0.0011 Neptune 22916-04-19 11:16 G 10091065.73 10091065.97 10091066.24 0.0088 0.0015 Neptune 22917-04-21 22:33 G 10091433.19 10091433.44 10091433.70 0.0088 0.0019 Jupiter 22918-01-14 13:40 G 10091700.84 10091701.07 10091701.30 0.0500 0.0009 Neptune 22918-04-24 09:36 G 10091800.65 10091800.90 10091801.15 0.0088 0.0022 Neptune 22919-04-26 20:24 G 10092168.12 10092168.35 10092168.61 0.0088 0.0026 Uranus 22919-05-16 17:45 G 10092188.11 10092188.24 10092188.41 0.0136 0.0108 Neptune 22920-04-28 07:55 G 10092535.59 10092535.83 10092536.07 0.0088 0.0030 Uranus 22920-05-20 05:45 G 10092557.52 10092557.74 10092557.99 0.0136 0.0048 Neptune 22921-04-30 18:57 G 10092903.06 10092903.29 10092903.54 0.0088 0.0033 Uranus 22921-05-24 17:16 G 10092926.97 10092927.22 10092927.48 0.0135 0.0012 Neptune 22922-05-03 06:14 G 10093270.54 10093270.76 10093271.01 0.0088 0.0037 Uranus 22922-05-29 03:50 G 10093296.46 10093296.66 10093296.89 0.0135 0.0071 Neptune 22923-05-05 17:45 G 10093638.02 10093638.24 10093638.48 0.0088 0.0041

Uranus 22923-06-02 14:09 G 10093666.03 10093666.09 10093666.18 0.0135 0.0129 Jupiter 22923-06-18 07:12 G 10093681.71 10093681.80 10093681.89 0.0514 0.0474 Saturn 22923-12-21 20:38 G 10093868.13 10093868.36 10093868.60 0.0270 0.0065 Neptune 22924-05-07 05:02 G 10094005.50 10094005.71 10094005.95 0.0088 0.0044 Jupiter 22924-07-22 22:33 G 10094082.22 10094082.44 10094082.67 0.0530 0.0145 Neptune 22925-05-09 16:33 G 10094372.99 10094373.19 10094373.42 0.0088 0.0048 Neptune 22926-05-12 04:19 G 10094740.47 10094740.68 10094740.90 0.0088 0.0051 Neptune 22927-05-14 15:07 G 10095107.95 10095108.13 10095108.36 0.0088 0.0055 Neptune 22928-05-16 02:52 G 10095475.45 10095475.62 10095475.84 0.0088 0.0058 Jupiter 22928-12-17 09:07 G 10095690.80 10095690.88 10095690.97 0.0514 0.0473 Neptune 22929-05-18 14:38 G 10095842.94 10095843.11 10095843.31 0.0088 0.0061 Jupiter 22930-01-18 23:45 G 10096088.26 10096088.49 10096088.72 0.0499 0.0085 Neptune 22930-05-21 02:09 G 10096210.43 10096210.59 10096210.79 0.0088 0.0064 Neptune 22931-05-23 13:55 G 10096577.93 10096578.08 10096578.27 0.0089 0.0067 Neptune 22932-05-25 01:40 G 10096945.43 10096945.57 10096945.75 0.0089 0.0070 Neptune 22933-05-27 13:40 G 10097312.95 10097313.07 10097313.24 0.0089 0.0073 Neptune 22934-05-30 02:09 G 10097680.46 10097680.59 10097680.73 0.0089 0.0075 Neptune 22935-06-01 13:55 G 10098047.97 10098048.08 10098048.22 0.0089 0.0078 Jupiter 22935-06-23 01:40 G 10098069.43 10098069.57 10098069.72 0.0516 0.0401 Neptune 22936-06-03 01:40 G 10098415.49 10098415.57 10098415.71 0.0089 0.0081 Jupiter 22936-07-27 23:16 G 10098470.26 10098470.47 10098470.68 0.0532 0.0232 Neptune 22937-06-05 14:09 G 10098783.02 10098783.09 10098783.20 0.0089 0.0083 Neptune 22938-06-08 02:24 G 10099150.54 10099150.60 10099150.69 0.0089 0.0085 Saturn 22938-06-20 11:45 G 10099162.74 10099162.99 10099163.23 0.0290 0.0039 Neptune 22939-06-10 14:38 G 10099518.08 10099518.11 10099518.17 0.0089 0.0087 Jupiter 22940-12-21 23:02 G 10100078.32 10100078.46 10100078.61 0.0512 0.0399 Pluto 22941-10-24 19:26 G 10100385.06 10100385.31 10100385.57 0.0064 0.0011 Jupiter 22942-01-23 08:52 G 10100475.65 10100475.87 10100476.09 0.0497 0.0156 22943-04-09 18:14 G 10100917.21 10100917.26 10100917.31 0.1603 0.1538 Mars Jupiter 22947-06-27 22:19 G 10102457.24 10102457.43 10102457.61 0.0518 0.0320

Jupiter 22948-08-02 02:38 G 10102858.43 10102858.61 10102858.80 0.0534 0.0327 Saturn 22952-12-16 02:24 G 10104455.37 10104455.60 10104455.83 0.0269 0.0092 Jupiter 22952-12-26 15:36 G 10104465.98 10104466.15 10104466.34 0.0510 0.0318 Jupiter 22954-01-27 18:43 G 10104863.08 10104863.28 10104863.49 0.0496 0.0230 Jupiter 22959-07-02 18:28 G 10106845.07 10106845.27 10106845.48 0.0521 0.0236 Jupiter 22960-08-07 07:40 G 10107246.68 10107246.82 10107246.97 0.0536 0.0421 Uranus 22963-11-18 14:38 G 10108444.91 10108445.11 10108445.33 0.0142 0.0080 Uranus 22964-11-22 11:31 G 10108814.73 10108814.98 10108815.24 0.0143 0.0012 Jupiter 22964-12-31 08:24 G 10108853.65 10108853.85 10108854.06 0.0508 0.0236 Uranus 22965-11-27 08:52 G 10109184.64 10109184.87 10109185.10 0.0143 0.0058 Jupiter 22966-02-01 04:04 G 10109250.49 10109250.67 10109250.86 0.0494 0.0302 Uranus 22966-12-02 06:14 G 10109554.67 10109554.76 10109554.89 0.0143 0.0129 Saturn 22967-06-14 08:52 G 10109748.68 10109748.87 10109749.07 0.0290 0.0179 Neptune 22967-08-13 11:45 G 10109808.98 10109808.99 10109809.06 0.0089 0.0089 Neptune 22968-08-15 01:26 G 10110176.50 10110176.56 10110176.63 0.0089 0.0086 Neptune 22969-08-17 14:24 G 10110544.03 10110544.10 10110544.20 0.0089 0.0084 Neptune 22970-08-20 03:07 G 10110911.55 10110911.63 10110911.76 0.0089 0.0082 Jupiter 22971-07-07 19:26 G 10111233.09 10111233.31 10111233.53 0.0523 0.0147 Neptune 22971-08-22 16:48 G 10111279.09 10111279.20 10111279.33 0.0089 0.0079 Jupiter 22972-08-12 17:02 G 10111635.15 10111635.21 10111635.28 0.0537 0.0514 Neptune 22972-08-24 05:31 G 10111646.63 10111646.73 10111646.90 0.0089 0.0077 Neptune 22973-08-26 18:57 G 10112014.17 10112014.29 10112014.46 0.0089 0.0074 Neptune 22974-08-29 08:09 G 10112381.70 10112381.84 10112382.02 0.0089 0.0071 Neptune 22975-08-31 21:21 G 10112749.24 10112749.39 10112749.58 0.0090 0.0068 Neptune 22976-09-02 10:19 G 10113116.78 10113116.93 10113117.14 0.0090 0.0065 Jupiter 22977-01-04 21:50 G 10113241.19 10113241.41 10113241.63 0.0505 0.0157 Neptune 22977-09-04 23:16 G 10113484.31 10113484.47 10113484.69 0.0090 0.0062 Jupiter 22978-02-05 10:33 G 10113637.80 10113637.94 10113638.10 0.0492 0.0369 Neptune 22978-09-07 12:28 G 10113851.84 10113852.02 10113852.24 0.0090 0.0058 Neptune 22979-09-10 01:26 G 10114219.37 10114219.56 10114219.78 0.0090 0.0055

Neptune 22980-09-11 14:38 G 10114586.91 10114587.11 10114587.34 0.0090 0.0051 Neptune 22981-09-14 03:07 G 10114954.43 10114954.63 10114954.87 0.0090 0.0048 22981-10-12 13:26 G 10114982.86 10114983.06 10114983.27 0.1933 0.0059 Mars Saturn 22981-12-10 19:55 G 10115042.31 10115042.33 10115042.39 0.0269 0.0266 Neptune 22982-09-16 16:19 G 10115321.97 10115322.18 10115322.42 0.0089 0.0044 Saturn 22982-12-22 21:36 G 10115419.18 10115419.40 10115419.63 0.0270 0.0109 Jupiter 22983-07-12 21:36 G 10115621.17 10115621.40 10115621.64 0.0526 0.0056 Neptune 22983-09-19 05:31 G 10115689.50 10115689.73 10115689.97 0.0089 0.0040 Neptune 22984-09-20 18:28 G 10116057.04 10116057.27 10116057.51 0.0089 0.0036 Neptune 22985-09-23 07:12 G 10116424.58 10116424.80 10116425.06 0.0089 0.0033 Neptune 22986-09-25 20:09 G 10116792.11 10116792.34 10116792.60 0.0089 0.0028 Neptune 22987-09-28 09:07 G 10117159.65 10117159.88 10117160.14 0.0089 0.0025 Neptune 22988-09-29 21:50 G 10117527.17 10117527.41 10117527.68 0.0089 0.0021 Jupiter 22989-01-09 10:19 G 10117628.70 10117628.93 10117629.16 0.0503 0.0077 Neptune 22989-10-02 10:33 G 10117894.70 10117894.94 10117895.21 0.0089 0.0017 Jupiter 22990-02-09 17:45 G 10118025.14 10118025.24 10118025.35 0.0491 0.0434 Neptune 22990-10-04 23:16 G 10118262.22 10118262.47 10118262.73 0.0089 0.0012 Neptune 22991-10-07 12:00 G 10118629.75 10118630.00 10118630.26 0.0089 0.0008 Neptune 22992-10-09 00:28 G 10118997.27 10118997.52 10118997.78 0.0089 0.0004 Neptune 22993-10-11 12:57 G 10119364.79 10119365.04 10119365.30 0.0089 0.0002 Neptune 22994-10-14 01:26 G 10119732.31 10119732.56 10119732.82 0.0089 0.0004 Jupiter 22995-07-17 21:21 G 10120009.16 10120009.39 10120009.63 0.0527 0.0034 Neptune 22995-10-16 13:55 G 10120099.82 10120100.08 10120100.34 0.0089 0.0008 Neptune 22996-10-18 02:24 G 10120467.35 10120467.60 10120467.86 0.0089 0.0012 Saturn 22997-06-21 15:07 G 10120713.89 10120714.13 10120714.36 0.0290 0.0090 Neptune 22997-10-20 14:38 G 10120834.86 10120835.11 10120835.37 0.0089 0.0016 Neptune 22998-10-23 03:07 G 10121202.39 10121202.63 10121202.89 0.0089 0.0020 Neptune 22999-10-25 15:21 G 10121569.91 10121570.14 10121570.40 0.0089 0.0024 Neptune 23000-10-28 03:36 G 10121937.42 10121937.65 10121937.91 0.0089 0.0028

## 24TH MILLENNIUM CE

## This is a list of transits of Earth in the 24th millennium CE.

FROM MAX- C START MAX END SUNRAD DEPTH S

TRANSIT

TIME

Jupiter 23001-01-14 20:09 G 10122016.11 10122016.34 10122016.57 0.0502 0.0005 Neptune 23001-10-30 16:04 G 10122304.93 10122305.17 10122305.41 0.0089 0.0032 Neptune 23002-11-02 04:04 G 10122672.44 10122672.67 10122672.91 0.0089 0.0036 Uranus 23003-05-18 05:16 G 10122869.56 10122869.72 10122869.89 0.0136 0.0105 Neptune 23003-11-04 16:04 G 10123039.95 10123040.17 10123040.41 0.0089 0.0039 Uranus 23004-05-21 17:02 G 10123238.98 10123239.21 10123239.46 0.0136 0.0045 Neptune 23004-11-06 03:50 G 10123407.45 10123407.66 10123407.90 0.0089 0.0043 Uranus 23005-05-26 04:33 G 10123608.44 10123608.69 10123608.94 0.0135 0.0015 Neptune 23005-11-08 16:04 G 10123774.96 10123775.17 10123775.39 0.0089 0.0046 Uranus 23006-05-30 15:21 G 10123977.93 10123978.14 10123978.36 0.0135 0.0074 Jupiter 23006-06-18 12:28 G 10123996.95 10123997.02 10123997.11 0.0513 0.0480 Neptune 23006-11-11 03:36 G 10124142.46 10124142.65 10124142.88 0.0089 0.0050 Uranus 23007-06-04 01:12 G 10124347.53 10124347.55 10124347.61 0.0135 0.0133 Jupiter 23007-07-23 23:02 G 10124397.24 10124397.46 10124397.69 0.0529 0.0128 Neptune 23007-11-13 16:04 G 10124509.96 10124510.17 10124510.37 0.0089 0.0053 Neptune 23008-11-15 03:21 G 10124877.46 10124877.64 10124877.85 0.0089 0.0057 Neptune 23009-11-17 15:21 G 10125244.96 10125245.14 10125245.34 0.0089 0.0060 Neptune 23010-11-20 03:21 G 10125612.47 10125612.64 10125612.82 0.0089 0.0063 Neptune 23011-11-22 14:38 G 10125979.97 10125980.11 10125980.31 0.0089 0.0067 Jupiter 23011-12-18 12:57 G 10126005.97 10126006.04 10126006.12 0.0515 0.0483

Saturn 23011-12-19 03:21 G 10126006.40 10126006.64 10126006.88 0.0269 0.0048 Neptune 23012-11-24 02:24 G 10126347.47 10126347.60 10126347.78 0.0089 0.0070 Jupiter 23013-01-19 08:09 G 10126403.61 10126403.84 10126404.07 0.0500 0.0075 Neptune 23013-11-26 13:40 G 10126714.95 10126715.07 10126715.25 0.0089 0.0073 Neptune 23014-11-29 01:55 G 10127082.45 10127082.58 10127082.72 0.0089 0.0075 Neptune 23015-12-01 12:57 G 10127449.94 10127450.04 10127450.18 0.0089 0.0078 Neptune 23016-12-03 00:00 G 10127817.42 10127817.50 10127817.64 0.0089 0.0081 Neptune 23017-12-05 11:31 G 10128184.91 10128184.98 10128185.09 0.0089 0.0083 Jupiter 23018-06-23 06:00 G 10128384.61 10128384.75 10128384.90 0.0515 0.0406 Neptune 23018-12-07 23:02 G 10128552.40 10128552.46 10128552.54 0.0089 0.0085 Jupiter 23019-07-29 01:12 G 10128785.34 10128785.55 10128785.77 0.0531 0.0221 Neptune 23019-12-10 09:36 G 10128919.89 10128919.90 10128919.97 0.0089 0.0088 Mars 23022-04-12 19:26 G 10129774.12 10129774.31 10129774.49 0.1605 0.0197 Jupiter 23023-12-23 08:24 G 10130393.72 10130393.85 10130394.00 0.0513 0.0402 Jupiter 23025-01-23 19:40 G 10130791.10 10130791.32 10130791.54 0.0498 0.0152 Saturn 23026-06-16 12:14 G 10131299.79 10131300.01 10131300.23 0.0290 0.0128 Pluto 23030-04-25 06:57 G 10132708.58 10132708.79 10132709.02 0.0080 0.0042 Jupiter 23030-06-28 03:50 G 10132772.48 10132772.66 10132772.84 0.0518 0.0324 Jupiter 23031-08-03 07:55 G 10133173.64 10133173.83 10133174.02 0.0534 0.0318 Jupiter 23035-12-28 01:26 G 10134781.38 10134781.56 10134781.74 0.0510 0.0322 Jupiter 23037-01-28 04:33 G 10135178.48 10135178.69 10135178.90 0.0496 0.0224 Saturn 23040-12-12 20:24 G 10136593.23 10136593.35 10136593.50 0.0269 0.0223 Saturn 23041-12-24 21:21 G 10136970.19 10136970.39 10136970.60 0.0269 0.0151 Jupiter 23042-07-03 03:21 G 10137160.43 10137160.64 10137160.84 0.0521 0.0241 Jupiter 23043-08-08 15:50 G 10137562.01 10137562.16 10137562.31 0.0535 0.0412 Uranus 23047-11-20 02:24 G 10139126.40 10139126.60 10139126.83 0.0142 0.0077 Jupiter 23048-01-01 16:33 G 10139168.98 10139169.19 10139169.39 0.0508 0.0242 Uranus 23048-11-23 23:16 G 10139496.22 10139496.47 10139496.73 0.0143 0.0008 Jupiter 23049-02-01 13:12 G 10139565.87 10139566.05 10139566.24 0.0494 0.0295 Uranus 23049-11-28 20:38 G 10139866.14 10139866.36 10139866.59 0.0143 0.0063

Neptune 23050-02-13 16:48 G 10139943.19 10139943.20 10139943.27 0.0088 0.0087 Uranus 23050-12-03 18:00 G 10140236.17 10140236.25 10140236.36 0.0144 0.0133 Neptune 23051-02-16 03:50 G 10140310.60 10140310.66 10140310.74 0.0088 0.0084 Neptune 23052-02-18 13:55 G 10140678.00 10140678.08 10140678.18 0.0088 0.0082 Neptune 23053-02-20 00:00 G 10141045.42 10141045.50 10141045.63 0.0088 0.0080 Neptune 23054-02-22 10:33 G 10141412.83 10141412.94 10141413.07 0.0088 0.0077 Jupiter 23054-07-08 02:09 G 10141548.37 10141548.59 10141548.82 0.0522 0.0157 Neptune 23055-02-24 20:24 G 10141780.24 10141780.35 10141780.51 0.0088 0.0075 Jupiter 23055-08-13 19:12 G 10141950.22 10141950.30 10141950.39 0.0536 0.0498 Neptune 23056-02-27 06:43 G 10142147.66 10142147.78 10142147.95 0.0088 0.0072 Saturn 23056-06-23 15:50 G 10142264.95 10142265.16 10142265.38 0.0290 0.0137 Neptune 23057-02-28 17:02 G 10142515.07 10142515.21 10142515.39 0.0088 0.0069 Neptune 23058-03-03 03:21 G 10142882.49 10142882.64 10142882.83 0.0088 0.0066 Neptune 23059-03-05 13:40 G 10143249.91 10143250.07 10143250.27 0.0088 0.0063 Jupiter 23060-01-06 03:21 G 10143556.43 10143556.64 10143556.86 0.0506 0.0167 Neptune 23060-03-07 00:00 G 10143617.33 10143617.50 10143617.70 0.0088 0.0060 Jupiter 23061-02-05 20:09 G 10143953.18 10143953.34 10143953.50 0.0493 0.0360 Neptune 23061-03-09 10:04 G 10143984.75 10143984.92 10143985.15 0.0088 0.0057 Neptune 23062-03-11 21:07 G 10144352.18 10144352.38 10144352.59 0.0088 0.0053 Neptune 23063-03-14 07:12 G 10144719.61 10144719.80 10144720.03 0.0088 0.0050 Neptune 23064-03-15 17:31 G 10145087.04 10145087.23 10145087.47 0.0088 0.0047 Neptune 23065-03-18 04:19 G 10145454.47 10145454.68 10145454.92 0.0088 0.0043 Neptune 23066-03-20 14:52 G 10145821.89 10145822.12 10145822.35 0.0088 0.0039 Jupiter 23066-07-13 01:26 G 10145936.33 10145936.56 10145936.80 0.0524 0.0068 Neptune 23067-03-23 00:57 G 10146189.33 10146189.54 10146189.80 0.0088 0.0036 Neptune 23068-03-24 11:31 G 10146556.75 10146556.98 10146557.23 0.0088 0.0032 Neptune 23069-03-26 22:19 G 10146924.19 10146924.43 10146924.68 0.0088 0.0028 Neptune 23070-03-29 08:24 G 10147291.62 10147291.85 10147292.11 0.0088 0.0025 Saturn 23070-12-20 03:21 G 10147557.39 10147557.64 10147557.88 0.0269 0.0006 Neptune 23071-03-31 18:57 G 10147659.05 10147659.29 10147659.56 0.0088 0.0021 Jupiter 23072-01-10 17:16 G 10147943.99 10147944.22 10147944.45 0.0504 0.0086 Neptune 23072-04-02 05:45 G 10148026.49 10148026.74 10148027.00 0.0088 0.0017 Jupiter 23073-02-10 04:19 G 10148340.57 10148340.68 10148340.80 0.0492 0.0426 Neptune 23073-04-04 16:33 G 10148393.94 10148394.19 10148394.45 0.0088 0.0013 Neptune 23074-04-07 03:21 G 10148761.39 10148761.64 10148761.90 0.0088 0.0009 Neptune 23075-04-09 14:09 G 10149128.83 10149129.09 10149129.35 0.0088 0.0005 Neptune 23076-04-11 01:12 G 10149496.29 10149496.55 10149496.80 0.0088 0.0001 Neptune 23077-04-13 12:00 G 10149863.74 10149864.00 10149864.26 0.0088 0.0003 Neptune 23078-04-15 22:48 G 10150231.20 10150231.45 10150231.72 0.0088 0.0007 Jupiter 23078-07-18 00:43 G 10150324.30 10150324.53 10150324.76 0.0527 0.0024 Neptune 23079-04-18 09:36 G 10150598.65 10150598.90 10150599.16 0.0088 0.0011 Neptune 23080-04-19 20:24 G 10150966.11 10150966.35 10150966.62 0.0088 0.0016 Neptune 23081-04-22 07:26 G 10151333.57 10151333.81 10151334.07 0.0088 0.0019 Neptune 23082-04-24 18:14 G 10151701.03 10151701.26 10151701.53 0.0088 0.0023 Neptune 23083-04-27 05:45 G 10152068.49 10152068.74 10152068.99 0.0088 0.0027 Jupiter 23084-01-15 07:26 G 10152331.57 10152331.81 10152332.04 0.0502 0.0010 Neptune 23084-04-28 16:33 G 10152435.96 10152436.19 10152436.44 0.0088 0.0031 Jupiter 23085-02-14 12:00 G 10152727.99 10152728.00 10152728.03 0.0490 0.0489 Neptune 23085-05-01 03:50 G 10152803.43 10152803.66 10152803.91 0.0088 0.0035 Saturn 23085-06-17 13:55 G 10152850.84 10152851.08 10152851.32 0.0290 0.0080 Neptune 23086-05-03 14:52 G 10153170.91 10153171.12 10153171.37 0.0088 0.0039 Neptune 23087-05-06 02:09 G 10153538.39 10153538.59 10153538.84 0.0088 0.0043 Uranus 23087-05-18 16:33 G 10153551.04 10153551.19 10153551.38 0.0136 0.0102 Neptune 23088-05-07 13:55 G 10153905.87 10153906.08 10153906.31 0.0088 0.0046 Uranus 23088-05-22 04:48 G 10153920.46 10153920.70 10153920.95 0.0136 0.0041 Neptune 23089-05-10 01:12 G 10154273.36 10154273.55 10154273.79 0.0088 0.0050 Uranus 23089-05-26 16:04 G 10154289.92 10154290.17 10154290.43 0.0135 0.0019 Jupiter 23089-06-17 18:57 G 10154312.22 10154312.29 10154312.37 0.0513 0.0483 Neptune 23090-05-12 12:57 G 10154640.84 10154641.04 10154641.25 0.0088 0.0053 Uranus 23090-05-31 02:38 G 10154659.42 10154659.61 10154659.83 0.0135 0.0078

Jupiter 23090-07-23 04:33 G 10154712.46 10154712.69 10154712.92 0.0529 0.0119 Neptune 23091-05-15 00:14 G 10155008.33 10155008.51 10155008.72 0.0088 0.0057 Neptune 23092-05-16 12:00 G 10155375.82 10155376.00 10155376.20 0.0088 0.0060 Neptune 23093-05-18 23:02 G 10155743.31 10155743.46 10155743.67 0.0088 0.0064 Neptune 23094-05-21 10:48 G 10156110.80 10156110.95 10156111.14 0.0088 0.0067 Jupiter 23094-12-17 23:31 G 10156321.41 10156321.48 10156321.56 0.0515 0.0486 Neptune 23095-05-23 22:19 G 10156478.29 10156478.43 10156478.61 0.0089 0.0070 Jupiter 23096-01-19 18:43 G 10156719.06 10156719.28 10156719.52 0.0500 0.0071 Neptune 23096-05-25 10:19 G 10156845.80 10156845.93 10156846.09 0.0089 0.0073 Neptune 23097-05-27 21:50 G 10157213.30 10157213.41 10157213.57 0.0089 0.0076 Neptune 23098-05-30 09:36 G 10157580.81 10157580.90 10157581.04 0.0089 0.0079 Neptune 23099-06-01 21:21 G 10157948.32 10157948.39 10157948.53 0.0089 0.0082 Saturn 23099-12-14 20:38 G 10158144.18 10158144.36 10158144.54 0.0269 0.0180 Neptune 23100-06-04 09:50 G 10158315.85 10158315.91 10158316.01 0.0089 0.0084 Saturn 23100-12-26 20:52 G 10158521.20 10158521.37 10158521.54 0.0269 0.0192 Mars 23101-04-15 19:55 G 10158631.20 10158631.33 10158631.46 0.1607 0.1163 Neptune 23101-06-06 21:50 G 10158683.38 10158683.41 10158683.49 0.0089 0.0087 Jupiter 23101-06-23 15:21 G 10158700.01 10158700.14 10158700.29 0.0515 0.0410 Neptune 23102-06-09 10:33 G 10159050.94 10159050.94 10159050.94 0.0089 0.0089 Jupiter 23102-07-29 10:04 G 10159100.71 10159100.92 10159101.14 0.0531 0.0214 Jupiter 23106-12-23 17:31 G 10160709.09 10160709.23 10160709.37 0.0513 0.0406 Jupiter 23108-01-25 05:16 G 10161106.50 10161106.72 10161106.95 0.0498 0.0146 Jupiter 23113-06-28 13:12 G 10163087.87 10163088.05 10163088.23 0.0517 0.0331 Jupiter 23114-08-03 13:26 G 10163488.87 10163489.06 10163489.26 0.0532 0.0303 Saturn 23115-06-26 15:21 G 10163815.95 10163816.14 10163816.33 0.0291 0.0181 Jupiter 23118-12-28 05:45 G 10165096.56 10165096.74 10165096.91 0.0511 0.0332 Jupiter 23120-01-29 12:43 G 10165493.83 10165494.03 10165494.25 0.0497 0.0216 Jupiter 23125-07-03 10:19 G 10167475.73 10167475.93 10167476.14 0.0519 0.0247 Jupiter 23126-08-08 17:31 G 10167877.08 10167877.23 10167877.39 0.0534 0.0396 Saturn 23129-12-22 03:07 G 10169108.39 10169108.63 10169108.87 0.0269 0.0036

Uranus 23130-11-16 16:19 G 10169438.18 10169438.18 10169438.19 0.0142 0.0142 Jupiter 23131-01-01 21:36 G 10169484.20 10169484.40 10169484.61 0.0509 0.0252 Uranus 23131-11-21 12:43 G 10169807.82 10169808.03 10169808.25 0.0142 0.0074 Jupiter 23132-02-02 22:19 G 10169881.25 10169881.43 10169881.62 0.0495 0.0287 Uranus 23132-11-25 09:36 G 10170177.65 10170177.90 10170178.15 0.0143 0.0004 Neptune 23133-08-18 21:21 G 10170444.38 10170444.39 10170444.45 0.0090 0.0089 Uranus 23133-11-30 06:43 G 10170547.57 10170547.78 10170548.02 0.0143 0.0066 Neptune 23134-08-21 10:48 G 10170811.89 10170811.95 10170812.03 0.0090 0.0086 Uranus 23134-12-05 04:19 G 10170917.62 10170917.68 10170917.78 0.0144 0.0137 Neptune 23135-08-23 23:16 G 10171179.41 10171179.47 10171179.60 0.0090 0.0084 Neptune 23136-08-25 12:28 G 10171546.94 10171547.02 10171547.16 0.0090 0.0081 Jupiter 23137-07-08 06:28 G 10171863.55 10171863.77 10171863.99 0.0522 0.0164 Neptune 23137-08-28 01:40 G 10171914.47 10171914.57 10171914.73 0.0090 0.0078 Jupiter 23138-08-13 21:36 G 10172265.31 10172265.40 10172265.51 0.0536 0.0486 Neptune 23138-08-30 14:52 G 10172282.00 10172282.12 10172282.29 0.0090 0.0075 Neptune 23139-09-02 04:04 G 10172649.54 10172649.67 10172649.85 0.0090 0.0072 Neptune 23140-09-03 17:45 G 10173017.08 10173017.24 10173017.41 0.0090 0.0068 Neptune 23141-09-06 06:28 G 10173384.61 10173384.77 10173384.97 0.0090 0.0065 Neptune 23142-09-08 19:26 G 10173752.14 10173752.31 10173752.52 0.0090 0.0062 Jupiter 23143-01-06 14:09 G 10173871.87 10173872.09 10173872.31 0.0507 0.0170 Neptune 23143-09-11 08:38 G 10174119.68 10174119.86 10174120.08 0.0090 0.0058 Jupiter 23144-02-07 08:09 G 10174268.68 10174268.84 10174269.00 0.0493 0.0356 Saturn 23144-06-19 14:24 G 10174401.85 10174402.10 10174402.34 0.0291 0.0034 Neptune 23144-09-12 21:50 G 10174487.21 10174487.41 10174487.62 0.0090 0.0054 Neptune 23145-09-15 10:19 G 10174854.74 10174854.93 10174855.17 0.0090 0.0051 Neptune 23146-09-17 23:31 G 10175222.27 10175222.48 10175222.71 0.0089 0.0047 Neptune 23147-09-20 12:28 G 10175589.80 10175590.02 10175590.26 0.0089 0.0043 Neptune 23148-09-22 01:26 G 10175957.34 10175957.56 10175957.81 0.0089 0.0039 Jupiter 23149-07-13 06:57 G 10176251.56 10176251.79 10176252.03 0.0524 0.0074 Neptune 23149-09-24 14:09 G 10176324.87 10176325.09 10176325.34 0.0089 0.0035

Neptune 23150-09-27 03:21 G 10176692.41 10176692.64 10176692.89 0.0089 0.0031 Neptune 23151-09-29 16:19 G 10177059.94 10177060.18 10177060.44 0.0089 0.0026 Neptune 23152-10-01 05:16 G 10177427.48 10177427.72 10177427.98 0.0089 0.0022 Neptune 23153-10-03 18:00 G 10177795.01 10177795.25 10177795.52 0.0089 0.0018 Neptune 23154-10-06 07:12 G 10178162.54 10178162.80 10178163.05 0.0089 0.0014 Jupiter 23155-01-11 04:48 G 10178259.47 10178259.70 10178259.92 0.0504 0.0091 Neptune 23155-10-08 19:40 G 10178530.07 10178530.32 10178530.58 0.0089 0.0010 Jupiter 23156-02-11 15:21 G 10178656.03 10178656.14 10178656.26 0.0492 0.0420 Neptune 23156-10-10 08:24 G 10178897.59 10178897.85 10178898.11 0.0089 0.0005 Neptune 23157-10-12 20:52 G 10179265.11 10179265.37 10179265.63 0.0089 0.0001 Neptune 23158-10-15 09:21 G 10179632.63 10179632.89 10179633.15 0.0089 0.0003 Saturn 23158-12-16 20:52 G 10179695.17 10179695.37 10179695.59 0.0269 0.0138 Neptune 23159-10-17 21:50 G 10180000.16 10180000.41 10180000.67 0.0089 0.0008 Saturn 23159-12-28 20:52 G 10180072.26 10180072.37 10180072.50 0.0269 0.0234 Neptune 23160-10-19 09:50 G 10180367.67 10180367.91 10180368.18 0.0089 0.0013 Jupiter 23161-07-18 10:04 G 10180639.68 10180639.92 10180640.15 0.0527 0.0019 Neptune 23161-10-21 22:33 G 10180735.19 10180735.44 10180735.70 0.0089 0.0016 Neptune 23162-10-24 10:48 G 10181102.71 10181102.95 10181103.21 0.0089 0.0021 Neptune 23163-10-26 23:16 G 10181470.23 10181470.47 10181470.73 0.0089 0.0025 Neptune 23164-10-28 11:45 G 10181837.75 10181837.99 10181838.24 0.0089 0.0028 Neptune 23165-10-31 00:14 G 10182205.27 10182205.51 10182205.75 0.0089 0.0033 Neptune 23166-11-02 12:28 G 10182572.79 10182573.02 10182573.26 0.0089 0.0037 Jupiter 23167-01-15 17:16 G 10182646.98 10182647.22 10182647.45 0.0502 0.0013 Neptune 23167-11-05 00:28 G 10182940.30 10182940.52 10182940.75 0.0089 0.0041 Jupiter 23168-02-15 23:02 G 10183043.42 10183043.46 10183043.50 0.0491 0.0482 Neptune 23168-11-06 12:28 G 10183307.80 10183308.02 10183308.25 0.0089 0.0044 Neptune 23169-11-09 00:14 G 10183675.30 10183675.51 10183675.73 0.0089 0.0048 Neptune 23170-11-11 12:00 G 10184042.81 10184043.00 10184043.23 0.0089 0.0052 Uranus 23171-05-20 05:16 G 10184232.56 10184232.72 10184232.91 0.0136 0.0097 Neptune 23171-11-13 23:31 G 10184410.30 10184410.48 10184410.71 0.0089 0.0056 Uranus 23172-05-23 17:16 G 10184601.98 10184602.22 10184602.47 0.0136 0.0037 Jupiter 23172-06-18 05:45 G 10184627.67 10184627.74 10184627.82 0.0512 0.0486 Neptune 23172-11-15 11:31 G 10184777.81 10184777.98 10184778.19 0.0089 0.0059 Uranus 23173-05-28 04:19 G 10184971.44 10184971.68 10184971.94 0.0135 0.0024 Saturn 23173-06-13 07:12 G 10184987.69 10184987.80 10184987.92 0.0291 0.0256 Jupiter 23173-07-23 12:28 G 10185027.79 10185028.02 10185028.25 0.0528 0.0109 Neptune 23173-11-17 23:02 G 10185145.30 10185145.46 10185145.67 0.0089 0.0063 Uranus 23174-06-01 15:07 G 10185340.93 10185341.13 10185341.34 0.0135 0.0082 Saturn 23174-06-27 14:24 G 10185366.96 10185367.10 10185367.27 0.0291 0.0226 Neptune 23174-11-20 10:48 G 10185512.80 10185512.95 10185513.15 0.0089 0.0066 Neptune 23175-11-22 23:02 G 10185880.31 10185880.46 10185880.63 0.0089 0.0069 Neptune 23176-11-24 10:33 G 10186247.80 10186247.94 10186248.10 0.0089 0.0072 Neptune 23177-11-26 21:50 G 10186615.31 10186615.41 10186615.57 0.0089 0.0076 Jupiter 23177-12-18 02:24 G 10186636.54 10186636.60 10186636.67 0.0516 0.0494 Neptune 23178-11-29 10:04 G 10186982.80 10186982.92 10186983.04 0.0089 0.0078 Jupiter 23179-01-20 01:26 G 10187034.33 10187034.56 10187034.79 0.0501 0.0062 Neptune 23179-12-01 21:21 G 10187350.30 10187350.39 10187350.50 0.0089 0.0081 Neptune 23180-12-03 08:24 G 10187717.79 10187717.85 10187717.96 0.0089 0.0084 Neptune 23181-12-05 19:40 G 10188085.30 10188085.32 10188085.41 0.0089 0.0087 Jupiter 23184-06-23 00:43 G 10189015.40 10189015.53 10189015.68 0.0514 0.0411 Jupiter 23185-07-28 14:38 G 10189415.90 10189416.11 10189416.33 0.0530 0.0202 Saturn 23188-12-23 03:21 G 10190659.41 10190659.64 10190659.88 0.0269 0.0077 Pluto 23189-10-27 23:31 G 10190968.24 10190968.48 10190968.74 0.0064 0.0017 Jupiter 23189-12-22 20:09 G 10191024.21 10191024.34 10191024.48 0.0514 0.0415 Jupiter 23191-01-24 12:28 G 10191421.80 10191422.02 10191422.25 0.0499 0.0138 Jupiter 23196-06-27 18:00 G 10193403.08 10193403.25 10193403.43 0.0516 0.0335 Jupiter 23197-08-02 15:50 G 10193803.97 10193804.16 10193804.35 0.0532 0.0293 Jupiter 23201-12-27 15:21 G 10195411.97 10195412.14 10195412.32 0.0512 0.0335 Jupiter 23203-01-29 00:14 G 10195809.30 10195809.51 10195809.72 0.0497 0.0212 Saturn 23203-06-21 15:21 G 10195952.90 10195953.14 10195953.39 0.0291 0.0014

Jupiter 23208-07-02 15:21 G 10197790.94 10197791.14 10197791.34 0.0519 0.0253 Jupiter 23209-08-07 21:50 G 10198192.26 10198192.41 10198192.58 0.0534 0.0388 Jupiter 23214-01-01 08:38 G 10199799.66 10199799.86 10199800.06 0.0509 0.0255 Uranus 23214-11-17 02:24 G 10200119.57 10200119.60 10200119.67 0.0142 0.0139 Jupiter 23215-02-02 09:36 G 10200196.71 10200196.90 10200197.09 0.0495 0.0282 Uranus 23215-11-21 23:02 G 10200489.25 10200489.46 10200489.68 0.0142 0.0071 Neptune 23216-02-18 22:19 G 10200578.42 10200578.43 10200578.50 0.0088 0.0087 Uranus 23216-11-25 19:40 G 10200859.07 10200859.32 10200859.58 0.0143 0.0003 Neptune 23217-02-20 08:52 G 10200945.82 10200945.87 10200945.96 0.0088 0.0084 Uranus 23217-11-30 17:02 G 10201229.00 10201229.21 10201229.44 0.0143 0.0069 Saturn 23217-12-17 22:33 G 10201246.21 10201246.44 10201246.67 0.0269 0.0094 Neptune 23218-02-22 18:57 G 10201313.23 10201313.29 10201313.41 0.0088 0.0082 Uranus 23218-12-05 14:38 G 10201599.07 10201599.11 10201599.18 0.0144 0.0140 Neptune 23219-02-25 05:16 G 10201680.64 10201680.72 10201680.86 0.0088 0.0079 Neptune 23220-02-27 15:36 G 10202048.04 10202048.15 10202048.30 0.0088 0.0076 Jupiter 23220-07-07 15:21 G 10202178.92 10202179.14 10202179.36 0.0521 0.0168 Neptune 23221-03-01 01:55 G 10202415.46 10202415.58 10202415.75 0.0088 0.0073 Jupiter 23221-08-13 06:00 G 10202580.66 10202580.75 10202580.86 0.0536 0.0478 Neptune 23222-03-03 12:14 G 10202782.88 10202783.01 10202783.18 0.0088 0.0070 Neptune 23223-03-05 22:19 G 10203150.29 10203150.43 10203150.62 0.0088 0.0067 Neptune 23224-03-07 08:38 G 10203517.71 10203517.86 10203518.06 0.0088 0.0064 Neptune 23225-03-09 19:12 G 10203885.13 10203885.30 10203885.50 0.0088 0.0060 Jupiter 23226-01-05 23:45 G 10204187.27 10204187.49 10204187.71 0.0507 0.0174 Neptune 23226-03-12 05:16 G 10204252.55 10204252.72 10204252.94 0.0088 0.0057 Jupiter 23227-02-06 18:14 G 10204584.10 10204584.26 10204584.43 0.0494 0.0350 Neptune 23227-03-14 16:04 G 10204619.98 10204620.17 10204620.39 0.0088 0.0053 23227-04-13 00:57 G 10204649.38 10204649.54 10204649.70 0.1600 0.0847 Mars Neptune 23228-03-16 02:24 G 10204987.41 10204987.60 10204987.83 0.0088 0.0050 Neptune 23229-03-18 12:57 G 10205354.84 10205355.04 10205355.28 0.0088 0.0046 Neptune 23230-03-20 23:45 G 10205722.27 10205722.49 10205722.72 0.0088 0.0042 Neptune 23231-03-23 10:04 G 10206089.70 10206089.92 10206090.16 0.0088 0.0038 Neptune 23232-03-24 20:52 G 10206457.13 10206457.37 10206457.61 0.0088 0.0034 Saturn 23232-06-14 06:57 G 10206538.63 10206538.79 10206538.97 0.0291 0.0211 Jupiter 23232-07-12 16:19 G 10206566.95 10206567.18 10206567.41 0.0523 0.0080 Neptune 23233-03-27 07:12 G 10206824.56 10206824.80 10206825.05 0.0088 0.0030 Saturn 23233-06-28 14:24 G 10206918.02 10206918.10 10206918.19 0.0291 0.0270 Neptune 23234-03-29 17:16 G 10207191.99 10207192.22 10207192.49 0.0088 0.0027 Neptune 23235-04-01 04:19 G 10207559.43 10207559.68 10207559.93 0.0088 0.0022 Neptune 23236-04-02 14:24 G 10207926.86 10207927.10 10207927.37 0.0088 0.0019 Neptune 23237-04-05 01:26 G 10208294.30 10208294.56 10208294.81 0.0088 0.0014 Jupiter 23238-01-10 09:07 G 10208574.65 10208574.88 10208575.11 0.0505 0.0099 Neptune 23238-04-07 12:00 G 10208661.74 10208662.00 10208662.25 0.0088 0.0010 Jupiter 23239-02-10 23:31 G 10208971.36 10208971.48 10208971.61 0.0493 0.0412 Neptune 23239-04-09 22:33 G 10209029.19 10209029.44 10209029.70 0.0088 0.0006 Neptune 23240-04-11 09:21 G 10209396.63 10209396.89 10209397.15 0.0088 0.0002 Neptune 23241-04-13 20:24 G 10209764.09 10209764.35 10209764.61 0.0088 0.0002 Neptune 23242-04-16 06:57 G 10210131.54 10210131.79 10210132.05 0.0088 0.0007 Neptune 23243-04-18 18:00 G 10210499.00 10210499.25 10210499.51 0.0088 0.0011 Neptune 23244-04-20 04:48 G 10210866.45 10210866.70 10210866.96 0.0088 0.0015 Jupiter 23244-07-17 16:33 G 10210954.95 10210955.19 10210955.42 0.0525 0.0012 Neptune 23245-04-22 15:36 G 10211233.91 10211234.15 10211234.41 0.0088 0.0019 Neptune 23246-04-25 02:38 G 10211601.37 10211601.61 10211601.87 0.0088 0.0023 Saturn 23246-12-13 05:02 G 10211833.62 10211833.71 10211833.80 0.0269 0.0250 Neptune 23247-04-27 13:26 G 10211968.83 10211969.06 10211969.32 0.0088 0.0027 Saturn 23247-12-25 05:02 G 10212210.50 10212210.71 10212210.93 0.0269 0.0121 Neptune 23248-04-29 00:28 G 10212336.30 10212336.52 10212336.78 0.0088 0.0032 Neptune 23249-05-01 11:31 G 10212703.76 10212703.98 10212704.23 0.0088 0.0036 Jupiter 23250-01-14 22:04 G 10212962.18 10212962.42 10212962.65 0.0503 0.0021 Neptune 23250-05-03 22:33 G 10213071.23 10213071.44 10213071.69 0.0088 0.0039 Jupiter 23251-02-15 07:12 G 10213358.75 10213358.80 10213358.86 0.0491 0.0476

Neptune 23251-05-06 09:50 G 10213438.70 10213438.91 10213439.15 0.0088 0.0043 Neptune 23252-05-07 21:07 G 10213806.18 10213806.38 10213806.62 0.0088 0.0047 Neptune 23253-05-10 08:52 G 10214173.66 10214173.87 10214174.08 0.0088 0.0051 Neptune 23254-05-12 20:09 G 10214541.15 10214541.34 10214541.56 0.0088 0.0055 Neptune 23255-05-15 07:26 G 10214908.64 10214908.81 10214909.03 0.0088 0.0059 Uranus 23255-05-20 17:45 G 10214914.07 10214914.24 10214914.44 0.0136 0.0093 Jupiter 23255-06-18 10:48 G 10214942.89 10214942.95 10214943.02 0.0511 0.0488 Neptune 23256-05-16 19:26 G 10215276.13 10215276.31 10215276.50 0.0088 0.0062 Uranus 23256-05-24 05:45 G 10215283.50 10215283.74 10215283.99 0.0136 0.0032 Jupiter 23256-07-22 14:38 G 10215342.88 10215343.11 10215343.34 0.0527 0.0100 Neptune 23257-05-19 06:43 G 10215643.63 10215643.78 10215643.98 0.0088 0.0066 Uranus 23257-05-28 16:48 G 10215652.96 10215653.20 10215653.45 0.0135 0.0028 Neptune 23258-05-21 18:28 G 10216011.12 10216011.27 10216011.44 0.0088 0.0069 Uranus 23258-06-02 02:52 G 10216022.45 10216022.62 10216022.84 0.0135 0.0087 Neptune 23259-05-24 05:45 G 10216378.62 10216378.74 10216378.92 0.0088 0.0073 Neptune 23260-05-25 17:31 G 10216746.12 10216746.23 10216746.39 0.0089 0.0076 Jupiter 23260-12-17 10:19 G 10216951.87 10216951.93 10216951.99 0.0517 0.0497 Neptune 23261-05-28 05:16 G 10217113.63 10217113.72 10217113.86 0.0089 0.0079 Jupiter 23262-01-19 11:45 G 10217349.75 10217349.99 10217350.22 0.0501 0.0058 Neptune 23262-05-30 17:02 G 10217481.14 10217481.21 10217481.33 0.0089 0.0082 Saturn 23262-06-22 17:31 G 10217503.99 10217504.23 10217504.47 0.0291 0.0062 Neptune 23263-06-02 04:48 G 10217848.65 10217848.70 10217848.80 0.0089 0.0085 Neptune 23264-06-03 16:48 G 10218216.19 10218216.20 10218216.27 0.0089 0.0088 23265-10-13 11:16 G 10218712.81 10218712.97 10218713.12 0.1939 0.1215 Mars Jupiter 23267-06-23 05:16 G 10219330.59 10219330.72 10219330.86 0.0514 0.0415 Jupiter 23268-07-27 17:31 G 10219731.02 10219731.23 10219731.45 0.0530 0.0193 Jupiter 23272-12-22 06:28 G 10221339.64 10221339.77 10221339.91 0.0514 0.0418 Jupiter 23274-01-23 23:16 G 10221737.25 10221737.47 10221737.69 0.0499 0.0132 Saturn 23276-12-19 01:26 G 10222797.33 10222797.56 10222797.81 0.0269 0.0050 Pluto 23279-04-29 09:50 G 10223658.76 10223658.91 10223659.09 0.0079 0.0061

Jupiter 23279-06-28 01:55 G 10223718.40 10223718.58 10223718.75 0.0516 0.0339 Jupiter 23280-08-01 23:31 G 10224119.28 10224119.48 10224119.67 0.0532 0.0285 Jupiter 23284-12-27 00:00 G 10225727.33 10225727.50 10225727.68 0.0512 0.0339 Jupiter 23286-01-28 09:36 G 10226124.69 10226124.90 10226125.12 0.0497 0.0206 Saturn 23291-06-16 09:36 G 10228089.70 10228089.90 10228090.11 0.0291 0.0163 Jupiter 23291-07-03 00:57 G 10228106.34 10228106.54 10228106.75 0.0518 0.0257 Jupiter 23292-08-07 05:02 G 10228507.55 10228507.71 10228507.87 0.0533 0.0377 Jupiter 23296-12-31 11:16 G 10230114.78 10230114.97 10230115.17 0.0510 0.0263 Jupiter 23298-02-01 15:21 G 10230511.95 10230512.14 10230512.33 0.0496 0.0274 Uranus 23298-11-17 10:48 G 10230800.90 10230800.95 10230801.02 0.0142 0.0137 Neptune 23299-08-23 06:14 G 10231079.73 10231079.76 10231079.82 0.0090 0.0088 Uranus 23299-11-22 06:57 G 10231170.58 10231170.79 10231171.02 0.0142 0.0069 Neptune 23300-08-25 19:40 G 10231447.24 10231447.32 10231447.40 0.0090 0.0085 Uranus 23300-11-27 03:50 G 10231540.41 10231540.66 10231540.92 0.0143 0.0002 Neptune 23301-08-28 08:24 G 10231814.76 10231814.85 10231814.96 0.0090 0.0082 Uranus 23301-12-02 01:12 G 10231910.34 10231910.55 10231910.78 0.0143 0.0071 Neptune 23302-08-30 21:36 G 10232182.29 10232182.40 10232182.53 0.0090 0.0079 Uranus 23302-12-06 23:02 G 10232280.43 10232280.46 10232280.50 0.0144 0.0142 Jupiter 23303-07-08 22:48 G 10232494.23 10232494.45 10232494.67 0.0520 0.0173 Neptune 23303-09-02 10:33 G 10232549.82 10232549.94 10232550.10 0.0090 0.0076 Jupiter 23304-08-13 09:07 G 10232895.77 10232895.88 10232896.00 0.0535 0.0465 Neptune 23304-09-03 23:31 G 10232917.36 10232917.48 10232917.66 0.0090 0.0073 Neptune 23305-09-06 12:57 G 10233284.89 10233285.04 10233285.22 0.0090 0.0069 Saturn 23305-12-15 07:40 G 10233384.68 10233384.82 10233384.99 0.0269 0.0206 Mars 23306-04-16 01:55 G 10233506.40 10233506.58 10233506.76 0.1602 0.0505 Neptune 23306-09-09 02:38 G 10233652.44 10233652.61 10233652.79 0.0090 0.0065 Saturn 23306-12-27 07:55 G 10233761.65 10233761.83 10233762.04 0.0269 0.0166 Neptune 23307-09-11 15:07 G 10234019.97 10234020.13 10234020.34 0.0090 0.0062 Neptune 23308-09-13 04:19 G 10234387.50 10234387.68 10234387.90 0.0090 0.0058 Jupiter 23309-01-06 01:40 G 10234502.36 10234502.57 10234502.79 0.0508 0.0183

Neptune 23309-09-15 17:16 G 10234755.03 10234755.22 10234755.45 0.0090 0.0054 Jupiter 23310-02-07 00:00 G 10234899.34 10234899.50 10234899.67 0.0495 0.0343 Neptune 23310-09-18 06:14 G 10235122.57 10235122.76 10235123.00 0.0090 0.0050 Neptune 23311-09-20 19:12 G 10235490.10 10235490.30 10235490.54 0.0090 0.0046 Neptune 23312-09-22 07:55 G 10235857.62 10235857.83 10235858.08 0.0090 0.0042 Neptune 23313-09-24 21:21 G 10236225.15 10236225.39 10236225.62 0.0089 0.0037 Neptune 23314-09-27 10:04 G 10236592.68 10236592.92 10236593.16 0.0089 0.0033 Jupiter 23315-07-13 18:00 G 10236882.02 10236882.25 10236882.48 0.0522 0.0089 Neptune 23315-09-29 22:48 G 10236960.21 10236960.45 10236960.70 0.0089 0.0029 Neptune 23316-10-01 11:31 G 10237327.74 10237327.98 10237328.24 0.0089 0.0024 Neptune 23317-10-04 00:43 G 10237695.28 10237695.53 10237695.78 0.0089 0.0020 Neptune 23318-10-06 13:26 G 10238062.81 10238063.06 10238063.32 0.0089 0.0016 Neptune 23319-10-09 02:09 G 10238430.34 10238430.59 10238430.86 0.0089 0.0012 Neptune 23320-10-10 15:07 G 10238797.87 10238798.13 10238798.39 0.0089 0.0007 Jupiter 23321-01-10 17:31 G 10238890.00 10238890.23 10238890.46 0.0506 0.0103 Saturn 23321-06-24 21:50 G 10239055.19 10239055.41 10239055.64 0.0291 0.0112 Neptune 23321-10-13 03:36 G 10239165.39 10239165.65 10239165.91 0.0089 0.0002 Jupiter 23322-02-11 09:21 G 10239286.76 10239286.89 10239287.02 0.0493 0.0408 Neptune 23322-10-15 16:19 G 10239532.92 10239533.18 10239533.44 0.0089 0.0002 Neptune 23323-10-18 04:33 G 10239900.44 10239900.69 10239900.95 0.0089 0.0007 Neptune 23324-10-19 17:02 G 10240267.96 10240268.21 10240268.47 0.0089 0.0011 Neptune 23325-10-22 05:31 G 10240635.48 10240635.73 10240635.99 0.0089 0.0016 Neptune 23326-10-24 17:45 G 10241003.00 10241003.24 10241003.50 0.0089 0.0020 Jupiter 23327-07-18 18:00 G 10241270.01 10241270.25 10241270.48 0.0525 0.0006 Neptune 23327-10-27 06:14 G 10241370.52 10241370.76 10241371.01 0.0089 0.0025 Neptune 23328-10-28 18:14 G 10241738.03 10241738.26 10241738.52 0.0089 0.0029 Neptune 23329-10-31 06:43 G 10242105.55 10242105.78 10242106.03 0.0089 0.0033 Neptune 23330-11-02 19:12 G 10242473.07 10242473.30 10242473.54 0.0089 0.0037 Neptune 23331-11-05 07:26 G 10242840.59 10242840.81 10242841.05 0.0089 0.0041 Neptune 23332-11-06 19:40 G 10243208.10 10243208.32 10243208.55 0.0089 0.0045 Jupiter 23333-01-15 07:40 G 10243277.59 10243277.82 10243278.05 0.0504 0.0025 Neptune 23333-11-09 07:55 G 10243575.62 10243575.83 10243576.05 0.0089 0.0049 Jupiter 23334-02-15 16:48 G 10243674.14 10243674.20 10243674.27 0.0491 0.0469 Neptune 23334-11-11 19:40 G 10243943.13 10243943.32 10243943.54 0.0089 0.0053 Neptune 23335-11-14 07:40 G 10244310.63 10244310.82 10244311.02 0.0089 0.0057 Saturn 23335-12-22 06:43 G 10244348.54 10244348.78 10244349.03 0.0269 0.0003 Neptune 23336-11-15 19:12 G 10244678.13 10244678.30 10244678.50 0.0089 0.0061 Neptune 23337-11-18 06:57 G 10245045.64 10245045.79 10245045.99 0.0089 0.0065 Jupiter 23338-06-18 17:16 G 10245258.17 10245258.22 10245258.29 0.0511 0.0491 Neptune 23338-11-20 18:57 G 10245413.14 10245413.29 10245413.47 0.0089 0.0068 Uranus 23339-05-22 06:43 G 10245595.60 10245595.78 10245595.98 0.0136 0.0089 Jupiter 23339-07-23 20:38 G 10245658.13 10245658.36 10245658.59 0.0527 0.0092 Neptune 23339-11-23 06:14 G 10245780.63 10245780.76 10245780.93 0.0089 0.0072 Uranus 23340-05-25 18:28 G 10245965.02 10245965.27 10245965.52 0.0136 0.0028 Neptune 23340-11-24 18:14 G 10246148.14 10246148.26 10246148.41 0.0089 0.0075 Uranus 23341-05-30 05:16 G 10246334.48 10246334.72 10246334.97 0.0135 0.0032 Neptune 23341-11-27 06:00 G 10246515.64 10246515.75 10246515.88 0.0089 0.0078 Uranus 23342-06-03 15:36 G 10246703.98 10246704.15 10246704.35 0.0135 0.0092 Neptune 23342-11-29 17:16 G 10246883.15 10246883.22 10246883.35 0.0089 0.0082 Neptune 23343-12-02 04:48 G 10247250.65 10247250.70 10247250.81 0.0089 0.0085 Jupiter 23343-12-18 18:00 G 10247267.20 10247267.25 10247267.31 0.0517 0.0500 Neptune 23344-12-03 16:48 G 10247618.17 10247618.20 10247618.25 0.0089 0.0087 Jupiter 23345-01-19 19:55 G 10247665.10 10247665.33 10247665.56 0.0501 0.0052 Saturn 23350-06-18 14:24 G 10249640.88 10249641.10 10249641.34 0.0291 0.0113 Jupiter 23350-06-23 13:55 G 10249645.95 10249646.08 10249646.22 0.0513 0.0418 Jupiter 23351-07-29 00:57 G 10250046.32 10250046.54 10250046.76 0.0529 0.0184 Jupiter 23355-12-23 07:12 G 10251654.68 10251654.80 10251654.93 0.0515 0.0425 Jupiter 23357-01-24 02:38 G 10252052.39 10252052.61 10252052.84 0.0500 0.0125 Jupiter 23362-06-28 09:36 G 10254033.73 10254033.90 10254034.08 0.0515 0.0340 Jupiter 23363-08-03 03:07 G 10254434.44 10254434.63 10254434.83 0.0531 0.0276

Saturn 23364-12-16 12:28 G 10254935.83 10254936.02 10254936.23 0.0269 0.0159 Saturn 23365-12-28 13:12 G 10255312.90 10255313.05 10255313.20 0.0269 0.0212 Jupiter 23367-12-27 23:45 G 10256042.32 10256042.49 10256042.66 0.0513 0.0347 Jupiter 23369-01-28 12:28 G 10256439.81 10256440.02 10256440.24 0.0498 0.0198 Jupiter 23374-07-03 02:09 G 10258421.39 10258421.59 10258421.79 0.0517 0.0265 Jupiter 23375-08-08 02:52 G 10258822.46 10258822.62 10258822.80 0.0533 0.0364 Jupiter 23380-01-01 17:02 G 10260430.02 10260430.21 10260430.41 0.0511 0.0269 Saturn 23380-06-26 05:31 G 10260606.53 10260606.73 10260606.93 0.0291 0.0168 Jupiter 23381-02-01 23:31 G 10260827.29 10260827.48 10260827.68 0.0497 0.0269 Neptune 23382-02-23 03:21 G 10261213.62 10261213.64 10261213.72 0.0088 0.0086 Uranus 23382-11-18 20:38 G 10261482.29 10261482.36 10261482.45 0.0142 0.0134 Neptune 23383-02-25 13:40 G 10261581.01 10261581.07 10261581.17 0.0088 0.0083 Uranus 23383-11-23 16:48 G 10261851.98 10261852.20 10261852.43 0.0142 0.0066 Neptune 23384-02-28 00:14 G 10261948.42 10261948.51 10261948.63 0.0088 0.0080 Uranus 23384-11-27 13:26 G 10262221.81 10262222.06 10262222.32 0.0143 0.0005 Neptune 23385-03-01 10:19 G 10262315.83 10262315.93 10262316.07 0.0088 0.0077 Uranus 23385-12-02 10:48 G 10262591.74 10262591.95 10262592.17 0.0143 0.0075 Neptune 23386-03-03 20:24 G 10262683.24 10262683.35 10262683.52 0.0088 0.0074 Jupiter 23386-07-07 22:48 G 10262809.23 10262809.45 10262809.67 0.0520 0.0182 Neptune 23387-03-06 06:28 G 10263050.65 10263050.77 10263050.95 0.0088 0.0071 Jupiter 23387-08-13 07:55 G 10263210.71 10263210.83 10263210.95 0.0535 0.0453 Neptune 23388-03-07 17:16 G 10263418.07 10263418.22 10263418.39 0.0088 0.0067 Neptune 23389-03-10 03:07 G 10263785.48 10263785.63 10263785.83 0.0088 0.0064 Neptune 23390-03-12 13:40 G 10264152.90 10264153.07 10264153.27 0.0088 0.0060 Neptune 23391-03-14 23:31 G 10264520.31 10264520.48 10264520.70 0.0088 0.0057 Jupiter 23392-01-06 09:50 G 10264817.70 10264817.91 10264818.13 0.0508 0.0189 Neptune 23392-03-16 10:04 G 10264887.73 10264887.92 10264888.14 0.0088 0.0053 Jupiter 23393-02-06 08:38 G 10265214.70 10265214.86 10265215.04 0.0495 0.0336 Neptune 23393-03-18 20:38 G 10265255.16 10265255.36 10265255.59 0.0088 0.0049 Neptune 23394-03-21 06:57 G 10265622.59 10265622.79 10265623.03 0.0088 0.0045 Saturn 23394-12-23 13:26 G 10265899.82 10265900.06 10265900.31 0.0269 0.0049 Neptune 23395-03-23 17:45 G 10265990.02 10265990.24 10265990.48 0.0088 0.0041 Neptune 23396-03-25 04:19 G 10266357.45 10266357.68 10266357.92 0.0088 0.0037 Neptune 23397-03-27 14:38 G 10266724.89 10266725.11 10266725.36 0.0088 0.0033 Neptune 23398-03-30 01:12 G 10267092.32 10267092.55 10267092.80 0.0088 0.0029 Jupiter 23398-07-12 22:04 G 10267197.19 10267197.42 10267197.66 0.0522 0.0097 Neptune 23399-04-01 11:31 G 10267459.75 10267459.98 10267460.24 0.0088 0.0025 Neptune 23400-04-03 22:33 G 10267827.19 10267827.44 10267827.69 0.0088 0.0020 Neptune 23401-04-06 08:52 G 10268194.62 10268194.87 10268195.13 0.0088 0.0016 Neptune 23402-04-08 19:26 G 10268562.06 10268562.31 10268562.57 0.0088 0.0012 Neptune 23403-04-11 06:00 G 10268929.50 10268929.75 10268930.01 0.0088 0.0008 Jupiter 23404-01-12 00:28 G 10269205.29 10269205.52 10269205.75 0.0506 0.0108 Neptune 23404-04-12 17:02 G 10269296.95 10269297.21 10269297.47 0.0088 0.0003 Jupiter 23405-02-11 16:48 G 10269602.07 10269602.20 10269602.34 0.0493 0.0401 Neptune 23405-04-15 03:36 G 10269664.39 10269664.65 10269664.91 0.0088 0.0001 Neptune 23406-04-17 14:24 G 10270031.85 10270032.10 10270032.36 0.0088 0.0006 Neptune 23407-04-20 01:12 G 10270399.30 10270399.55 10270399.82 0.0088 0.0010 Neptune 23408-04-21 12:14 G 10270766.76 10270767.01 10270767.27 0.0088 0.0014 Neptune 23409-04-23 23:31 G 10271134.23 10271134.48 10271134.73 0.0088 0.0019 Saturn 23409-06-20 23:02 G 10271192.22 10271192.46 10271192.70 0.0290 0.0056 Neptune 23410-04-26 10:04 G 10271501.68 10271501.92 10271502.18 0.0088 0.0023 Jupiter 23410-07-19 00:14 G 10271585.28 10271585.51 10271585.75 0.0524 0.0008 Neptune 23411-04-28 21:07 G 10271869.15 10271869.38 10271869.64 0.0088 0.0027 Neptune 23412-04-30 08:24 G 10272236.61 10272236.85 10272237.09 0.0088 0.0032 Neptune 23413-05-02 19:26 G 10272604.07 10272604.31 10272604.54 0.0088 0.0036 Neptune 23414-05-05 06:00 G 10272971.54 10272971.75 10272972.00 0.0088 0.0040 Neptune 23415-05-07 17:02 G 10273339.01 10273339.21 10273339.46 0.0088 0.0045 Jupiter 23416-01-16 08:52 G 10273592.64 10273592.87 10273593.10 0.0504 0.0034 Neptune 23416-05-09 04:19 G 10273706.48 10273706.68 10273706.91 0.0088 0.0049 Jupiter 23417-02-15 20:38 G 10273989.29 10273989.36 10273989.45 0.0492 0.0462

Neptune 23417-05-11 15:36 G 10274073.96 10274074.15 10274074.38 0.0088 0.0052 Neptune 23418-05-14 02:52 G 10274441.44 10274441.62 10274441.84 0.0088 0.0056 Neptune 23419-05-16 14:09 G 10274808.93 10274809.09 10274809.30 0.0088 0.0060 Neptune 23420-05-18 02:09 G 10275176.42 10275176.59 10275176.78 0.0088 0.0064 Neptune 23421-05-20 13:12 G 10275543.91 10275544.05 10275544.24 0.0088 0.0068 Jupiter 23421-06-19 00:28 G 10275573.47 10275573.52 10275573.59 0.0510 0.0492 Neptune 23422-05-23 00:43 G 10275911.41 10275911.53 10275911.72 0.0088 0.0072 Jupiter 23422-07-24 00:43 G 10275973.31 10275973.53 10275973.77 0.0526 0.0086 Uranus 23423-05-23 18:57 G 10276277.09 10276277.29 10276277.49 0.0136 0.0085 Neptune 23423-05-25 12:28 G 10276278.91 10276279.02 10276279.18 0.0088 0.0075 Saturn 23423-12-19 18:57 G 10276487.08 10276487.29 10276487.52 0.0269 0.0110 Neptune 23424-05-27 00:43 G 10276646.41 10276646.53 10276646.65 0.0088 0.0078 Uranus 23424-05-27 06:28 G 10276646.52 10276646.77 10276647.02 0.0136 0.0024 \* Saturn 23424-12-30 19:40 G 10276864.28 10276864.32 10276864.39 0.0269 0.0262 Neptune 23425-05-29 11:45 G 10277013.92 10277013.99 10277014.12 0.0089 0.0082 Uranus 23425-05-31 17:16 G 10277015.98 10277016.22 10277016.48 0.0135 0.0037 Neptune 23426-05-31 23:31 G 10277381.43 10277381.48 10277381.58 0.0089 0.0085 Uranus 23426-06-05 03:36 G 10277385.49 10277385.65 10277385.84 0.0135 0.0096 Jupiter 23426-12-18 15:07 G 10277582.10 10277582.13 10277582.18 0.0518 0.0509 Neptune 23427-06-03 11:16 G 10277748.96 10277748.97 10277749.03 0.0089 0.0088 Jupiter 23428-01-20 20:09 G 10277980.11 10277980.34 10277980.58 0.0502 0.0045 23432-04-13 08:52 G 10279524.79 10279524.87 10279524.95 0.1596 0.1452 Mars Jupiter 23433-06-23 14:52 G 10279960.99 10279961.12 10279961.25 0.0512 0.0425 Jupiter 23434-07-28 21:50 G 10280361.19 10280361.41 10280361.63 0.0528 0.0170 Pluto 23437-10-31 02:38 G 10281551.46 10281551.61 10281551.81 0.0064 0.0047 Saturn 23438-06-15 08:52 G 10281778.76 10281778.87 10281779.00 0.0291 0.0253 Pluto 23438-11-01 14:24 G 10281917.91 10281918.10 10281918.35 0.0064 0.0036 Jupiter 23438-12-23 10:33 G 10281969.82 10281969.94 10281970.07 0.0516 0.0433 Saturn 23439-06-29 15:36 G 10282158.00 10282158.15 10282158.31 0.0291 0.0227 Jupiter 23440-01-25 08:52 G 10282367.64 10282367.87 10282368.09 0.0501 0.0118

Jupiter 23445-06-28 08:24 G 10284348.69 10284348.85 10284349.03 0.0515 0.0350 Jupiter 23446-08-03 00:00 G 10284749.30 10284749.50 10284749.70 0.0530 0.0262 Jupiter 23450-12-28 05:45 G 10286357.58 10286357.74 10286357.91 0.0513 0.0354 Jupiter 23452-01-29 20:09 G 10286755.13 10286755.34 10286755.55 0.0498 0.0191 Saturn 23453-12-25 21:50 G 10287451.19 10287451.41 10287451.64 0.0269 0.0100 Jupiter 23457-07-03 04:33 G 10288736.49 10288736.69 10288736.89 0.0517 0.0272 Jupiter 23458-08-08 04:48 G 10289137.53 10289137.70 10289137.88 0.0533 0.0353 Jupiter 23463-01-01 22:48 G 10290745.26 10290745.45 10290745.65 0.0511 0.0274 Jupiter 23464-02-03 05:45 G 10291142.54 10291142.74 10291142.94 0.0497 0.0262 Neptune 23465-08-28 13:26 G 10291715.02 10291715.06 10291715.15 0.0090 0.0087 Neptune 23466-08-31 02:24 G 10292082.54 10292082.60 10292082.72 0.0090 0.0084 Uranus 23466-11-20 06:43 G 10292163.69 10292163.78 10292163.88 0.0142 0.0131 Neptune 23467-09-02 15:50 G 10292450.06 10292450.16 10292450.29 0.0090 0.0080 Uranus 23467-11-25 02:38 G 10292533.38 10292533.61 10292533.84 0.0142 0.0063 Saturn 23468-06-22 11:02 G 10292743.72 10292743.96 10292744.21 0.0290 0.0007 Neptune 23468-09-04 04:33 G 10292817.59 10292817.69 10292817.85 0.0090 0.0077 Uranus 23468-11-28 23:16 G 10292903.22 10292903.47 10292903.73 0.0143 0.0007 Jupiter 23469-07-08 04:04 G 10293124.45 10293124.67 10293124.89 0.0519 0.0187 Neptune 23469-09-06 18:14 G 10293185.12 10293185.26 10293185.42 0.0090 0.0073 Uranus 23469-12-03 20:38 G 10293273.15 10293273.36 10293273.57 0.0143 0.0078 Jupiter 23470-08-13 11:45 G 10293525.87 10293525.99 10293526.12 0.0534 0.0443 Neptune 23470-09-09 06:57 G 10293552.66 10293552.79 10293552.98 0.0090 0.0070 Neptune 23471-09-11 20:24 G 10293920.20 10293920.35 10293920.55 0.0090 0.0066 Neptune 23472-09-13 09:21 G 10294287.73 10294287.89 10294288.11 0.0090 0.0062 Neptune 23473-09-15 22:33 G 10294655.27 10294655.44 10294655.66 0.0090 0.0058 Neptune 23474-09-18 11:45 G 10295022.81 10295022.99 10295023.22 0.0090 0.0054 Jupiter 23475-01-06 09:50 G 10295132.70 10295132.91 10295133.13 0.0509 0.0197 Neptune 23475-09-21 00:57 G 10295390.33 10295390.54 10295390.77 0.0090 0.0049 Jupiter 23476-02-07 10:33 G 10295529.77 10295529.94 10295530.12 0.0495 0.0328 Neptune 23476-09-22 13:55 G 10295757.87 10295758.08 10295758.32 0.0089 0.0045

Neptune 23477-09-25 02:38 G 10296125.40 10296125.61 10296125.86 0.0089 0.0041 Neptune 23478-09-27 15:50 G 10296492.93 10296493.16 10296493.41 0.0089 0.0036 Neptune 23479-09-30 04:33 G 10296860.46 10296860.69 10296860.95 0.0089 0.0032 Neptune 23480-10-01 17:31 G 10297227.99 10297228.23 10297228.48 0.0089 0.0027 Jupiter 23481-07-13 02:24 G 10297512.37 10297512.60 10297512.83 0.0522 0.0102 Neptune 23481-10-04 06:14 G 10297595.53 10297595.76 10297596.03 0.0089 0.0023 Jupiter 23482-08-18 16:33 G 10297914.16 10297914.19 10297914.23 0.0535 0.0528 Neptune 23482-10-06 19:12 G 10297963.06 10297963.30 10297963.57 0.0089 0.0018 Saturn 23482-12-21 02:38 G 10298038.38 10298038.61 10298038.86 0.0269 0.0060 Neptune 23483-10-09 08:24 G 10298330.59 10298330.85 10298331.10 0.0089 0.0013 Neptune 23484-10-10 20:52 G 10298698.12 10298698.37 10298698.64 0.0089 0.0009 Neptune 23485-10-13 10:04 G 10299065.66 10299065.92 10299066.18 0.0089 0.0003 Neptune 23486-10-15 22:33 G 10299433.18 10299433.44 10299433.70 0.0089 0.0001 Jupiter 23487-01-10 22:48 G 10299520.22 10299520.45 10299520.68 0.0507 0.0118 Neptune 23487-10-18 11:02 G 10299800.71 10299800.96 10299801.23 0.0089 0.0006 Jupiter 23488-02-11 18:14 G 10299917.12 10299917.26 10299917.40 0.0494 0.0393 Neptune 23488-10-19 23:31 G 10300168.23 10300168.48 10300168.74 0.0089 0.0011 Neptune 23489-10-22 12:00 G 10300535.75 10300536.00 10300536.26 0.0089 0.0015 Neptune 23490-10-25 00:14 G 10300903.27 10300903.51 10300903.77 0.0089 0.0020 Neptune 23491-10-27 12:28 G 10301270.78 10301271.02 10301271.28 0.0089 0.0025 Neptune 23492-10-29 00:43 G 10301638.30 10301638.53 10301638.79 0.0089 0.0029 Jupiter 23493-07-17 21:07 G 10301900.14 10301900.38 10301900.61 0.0523 0.0020 Neptune 23493-10-31 13:12 G 10302005.82 10302006.05 10302006.30 0.0089 0.0033 Neptune 23494-11-03 01:12 G 10302373.34 10302373.55 10302373.80 0.0089 0.0038 Neptune 23495-11-05 13:26 G 10302740.85 10302741.06 10302741.30 0.0089 0.0042 Neptune 23496-11-07 01:55 G 10303108.37 10303108.58 10303108.81 0.0089 0.0047 Saturn 23497-06-16 22:19 G 10303330.25 10303330.43 10303330.62 0.0291 0.0189 Neptune 23497-11-09 14:24 G 10303475.89 10303476.10 10303476.31 0.0089 0.0051 Saturn 23498-07-01 04:48 G 10303709.70 10303709.70 10303709.72 0.0291 0.0291 Neptune 23498-11-12 01:55 G 10303843.40 10303843.58 10303843.81 0.0089 0.0055 Jupiter 23499-01-15 13:12 G 10303907.82 10303908.05 10303908.28 0.0505 0.0042 Neptune 23499-11-14 13:55 G 10304210.91 10304211.08 10304211.30 0.0089 0.0059 Jupiter 23500-02-16 02:52 G 10304304.54 10304304.62 10304304.71 0.0493 0.0456 Neptune 23500-11-17 01:55 G 10304578.42 10304578.58 10304578.78 0.0089 0.0063 Neptune 23501-11-19 13:40 G 10304945.93 10304946.07 10304946.27 0.0089 0.0067 Neptune 23502-11-22 01:40 G 10305313.42 10305313.57 10305313.73 0.0089 0.0070 Neptune 23503-11-24 13:12 G 10305680.93 10305681.05 10305681.21 0.0089 0.0074 Jupiter 23504-06-18 23:31 G 10305888.44 10305888.48 10305888.52 0.0509 0.0500 Neptune 23504-11-26 00:28 G 10306048.43 10306048.52 10306048.68 0.0089 0.0078 Jupiter 23505-07-23 20:09 G 10306288.11 10306288.34 10306288.57 0.0526 0.0069 Neptune 23505-11-28 12:28 G 10306415.94 10306416.02 10306416.15 0.0089 0.0081 Neptune 23506-12-01 00:14 G 10306783.45 10306783.51 10306783.60 0.0089 0.0084 Uranus 23507-05-25 07:12 G 10306958.61 10306958.80 10306959.02 0.0136 0.0081 Neptune 23507-12-03 12:00 G 10307150.96 10307151.00 10307151.05 0.0089 0.0087 Uranus 23508-05-28 19:12 G 10307328.05 10307328.30 10307328.55 0.0136 0.0019 Uranus 23509-06-02 05:45 G 10307697.51 10307697.74 10307698.00 0.0136 0.0042 Jupiter 23509-12-18 19:26 G 10307897.29 10307897.31 10307897.32 0.0519 0.0517 Uranus 23510-06-06 16:33 G 10308067.03 10308067.19 10308067.36 0.0135 0.0101 Jupiter 23511-01-21 02:24 G 10308295.37 10308295.60 10308295.83 0.0503 0.0035 23511-04-17 08:38 G 10308381.68 10308381.86 10308382.05 0.1598 0.0132 Mars Saturn 23511-12-17 06:28 G 10308625.63 10308625.77 10308625.92 0.0269 0.0217 Saturn 23512-12-28 06:57 G 10309002.60 10309002.79 10309003.00 0.0269 0.0154 Jupiter 23516-06-23 15:50 G 10310276.04 10310276.16 10310276.29 0.0512 0.0431 Jupiter 23517-07-28 22:04 G 10310676.19 10310676.42 10310676.64 0.0528 0.0159 Jupiter 23521-12-23 14:52 G 10312285.01 10312285.12 10312285.25 0.0516 0.0439 Jupiter 23523-01-25 14:09 G 10312682.87 10312683.09 10312683.32 0.0501 0.0110 Pluto 23527-05-03 10:19 G 10314241.68 10314241.93 10314242.19 0.0080 0.0009 Saturn 23527-06-26 01:12 G 10314295.31 10314295.55 10314295.79 0.0290 0.0071 Jupiter 23528-06-28 12:28 G 10314663.86 10314664.02 10314664.19 0.0514 0.0355 Jupiter 23529-08-03 03:07 G 10315064.42 10315064.63 10315064.84 0.0530 0.0252

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Neptune 23561-03-28 21:50 G 10326625.19 10326625.41 10326625.66 0.0088 0.0036 Neptune 23562-03-31 08:38 G 10326992.62 10326992.86 10326993.10 0.0088 0.0031 Neptune 23563-04-02 18:57 G 10327360.06 10327360.29 10327360.55 0.0088 0.0027 Neptune 23564-04-04 05:16 G 10327727.49 10327727.72 10327727.99 0.0088 0.0023 Jupiter 23564-07-12 21:36 G 10327827.17 10327827.40 10327827.63 0.0521 0.0117 Neptune 23565-04-06 16:04 G 10328094.92 10328095.17 10328095.43 0.0088 0.0018 Jupiter 23565-08-18 08:38 G 10328228.81 10328228.86 10328228.94 0.0535 0.0511 Neptune 23566-04-09 02:24 G 10328462.35 10328462.60 10328462.86 0.0088 0.0014 Neptune 23567-04-11 13:12 G 10328829.80 10328830.05 10328830.31 0.0088 0.0009 Neptune 23568-04-12 23:45 G 10329197.23 10329197.49 10329197.75 0.0088 0.0005 Neptune 23569-04-15 10:19 G 10329564.67 10329564.93 10329565.19 0.0088 0.0001 Jupiter 23570-01-11 03:36 G 10329835.43 10329835.65 10329835.88 0.0508 0.0128 Neptune 23570-04-17 20:52 G 10329932.12 10329932.37 10329932.63 0.0088 0.0005 Saturn 23570-12-18 16:04 G 10330176.98 10330177.17 10330177.37 0.0269 0.0163 Jupiter 23571-02-12 00:14 G 10330232.37 10330232.51 10330232.66 0.0494 0.0385 Neptune 23571-04-20 07:40 G 10330299.57 10330299.82 10330300.08 0.0088 0.0009 Saturn 23571-12-30 16:33 G 10330554.05 10330554.19 10330554.36 0.0269 0.0208 Neptune 23572-04-21 18:28 G 10330667.03 10330667.27 10330667.54 0.0088 0.0014 Neptune 23573-04-24 05:16 G 10331034.48 10331034.72 10331034.98 0.0018 Neptune 23574-04-26 16:33 G 10331401.94 10331402.19 10331402.44 0.0088 0.0023 Neptune 23575-04-29 03:21 G 10331769.40 10331769.64 10331769.89 0.0088 0.0027 Neptune 23576-04-30 14:24 G 10332136.87 10332137.10 10332137.35 0.0088 0.0032 Jupiter 23576-07-17 19:55 G 10332215.10 10332215.33 10332215.57 0.0523 0.0031 Neptune 23577-05-03 01:12 G 10332504.33 10332504.55 10332504.80 0.0088 0.0036 Neptune 23578-05-05 12:14 G 10332871.80 10332872.01 10332872.26 0.0088 0.0041 Neptune 23579-05-07 23:45 G 10333239.27 10333239.49 10333239.71 0.0088 0.0045 Neptune 23580-05-09 10:19 G 10333606.74 10333606.93 10333607.17 0.0088 0.0050 Neptune 23581-05-11 21:36 G 10333974.21 10333974.40 10333974.62 0.0088 0.0053 Jupiter 23582-01-15 17:45 G 10334223.01 10334223.24 10334223.47 0.0505 0.0049 Neptune 23582-05-14 08:52 G 10334341.69 10334341.87 10334342.08 0.0088 0.0057

Jupiter 23583-02-16 08:09 G 10334619.75 10334619.84 10334619.93 0.0493 0.0448 Neptune 23583-05-16 20:09 G 10334709.18 10334709.34 10334709.55 0.0088 0.0062 Neptune 23584-05-18 07:26 G 10335076.66 10335076.81 10335077.01 0.0088 0.0066 Neptune 23585-05-20 18:57 G 10335444.16 10335444.29 10335444.48 0.0088 0.0070 Neptune 23586-05-23 06:28 G 10335811.66 10335811.77 10335811.95 0.0088 0.0074 Saturn 23586-06-27 17:02 G 10335847.00 10335847.21 10335847.43 0.0290 0.0140 Neptune 23587-05-25 18:28 G 10336179.16 10336179.27 10336179.42 0.0088 0.0077 Jupiter 23587-06-19 02:09 G 10336203.57 10336203.59 10336203.63 0.0509 0.0504 Neptune 23588-05-27 06:00 G 10336546.67 10336546.75 10336546.88 0.0088 0.0081 Jupiter 23588-07-22 22:33 G 10336603.21 10336603.44 10336603.67 0.0525 0.0060 Neptune 23589-05-29 17:45 G 10336914.18 10336914.24 10336914.34 0.0088 0.0084 23590-04-19 09:21 G 10337238.77 10337238.89 10337239.01 0.1600 0.1223 Mars Neptune 23590-06-01 05:16 G 10337281.71 10337281.72 10337281.79 0.0089 0.0088 Uranus 23591-05-25 20:38 G 10337640.15 10337640.36 10337640.57 0.0136 0.0076 Uranus 23592-05-29 07:55 G 10338009.58 10338009.83 10338010.09 0.0136 0.0015 Uranus 23593-06-02 18:57 G 10338379.06 10338379.29 10338379.54 0.0136 0.0046 Jupiter 23594-01-20 02:38 G 10338610.38 10338610.61 10338610.85 0.0503 0.0027 Uranus 23594-06-07 05:31 G 10338748.58 10338748.73 10338748.89 0.0135 0.0106 Jupiter 23599-06-23 19:40 G 10340591.21 10340591.32 10340591.45 0.0512 0.0436 Jupiter 23600-07-27 23:45 G 10340991.27 10340991.49 10340991.72 0.0527 0.0150 Saturn 23600-12-24 19:26 G 10341141.07 10341141.31 10341141.55 0.0269 0.0047 Jupiter 23604-12-22 12:00 G 10342599.89 10342600.00 10342600.12 0.0517 0.0449 Jupiter 23606-01-24 13:12 G 10342997.82 10342998.05 10342998.28 0.0501 0.0100 Jupiter 23611-06-28 10:33 G 10344978.78 10344978.94 10344979.11 0.0513 0.0367 Jupiter 23612-08-01 20:52 G 10345379.16 10345379.37 10345379.58 0.0529 0.0234 Saturn 23615-06-22 05:16 G 10346433.48 10346433.72 10346433.96 0.0291 0.0053 Jupiter 23616-12-27 05:02 G 10346987.56 10346987.71 10346987.88 0.0515 0.0376 Jupiter 23618-01-29 00:28 G 10347385.30 10347385.52 10347385.74 0.0500 0.0172 Jupiter 23623-07-03 04:48 G 10349366.50 10349366.70 10349366.89 0.0515 0.0291 Jupiter 23624-08-06 22:33 G 10349767.26 10349767.44 10349767.63 0.0531 0.0323

Jupiter 23628-12-31 23:16 G 10351375.28 10351375.47 10351375.66 0.0513 0.0296 Saturn 23629-12-20 01:12 G 10351728.34 10351728.55 10351728.78 0.0269 0.0109 Jupiter 23630-02-02 11:16 G 10351772.77 10351772.97 10351773.18 0.0498 0.0243 Neptune 23630-08-31 07:12 G 10351982.79 10351982.80 10351982.87 0.0090 0.0089 Saturn 23631-01-01 01:55 G 10352105.53 10352105.58 10352105.64 0.0269 0.0261 Neptune 23631-09-02 20:24 G 10352350.29 10352350.35 10352350.45 0.0090 0.0085 Neptune 23632-09-04 09:50 G 10352717.81 10352717.91 10352718.03 0.0090 0.0081 Neptune 23633-09-06 22:33 G 10353085.34 10353085.44 10353085.59 0.0090 0.0078 Neptune 23634-09-09 11:31 G 10353452.86 10353452.98 10353453.16 0.0090 0.0074 Uranus 23634-11-22 07:26 G 10353526.71 10353526.81 10353526.96 0.0142 0.0123 Jupiter 23635-07-08 00:00 G 10353754.28 10353754.50 10353754.71 0.0518 0.0211 Neptune 23635-09-12 00:43 G 10353820.39 10353820.53 10353820.72 0.0090 0.0070 Uranus 23635-11-27 03:50 G 10353896.43 10353896.66 10353896.90 0.0142 0.0054 Jupiter 23636-08-12 02:38 G 10354155.47 10354155.61 10354155.76 0.0533 0.0412 Neptune 23636-09-13 13:40 G 10354187.93 10354188.07 10354188.28 0.0090 0.0066 Uranus 23636-12-01 00:43 G 10354266.28 10354266.53 10354266.79 0.0143 0.0017 Neptune 23637-09-16 03:07 G 10354555.47 10354555.63 10354555.85 0.0090 0.0062 Uranus 23637-12-05 22:04 G 10354636.23 10354636.42 10354636.63 0.0143 0.0087 Neptune 23638-09-18 16:33 G 10354923.00 10354923.19 10354923.40 0.0090 0.0057 Neptune 23639-09-21 05:31 G 10355290.54 10355290.73 10355290.96 0.0090 0.0053 Neptune 23640-09-22 18:43 G 10355658.07 10355658.28 10355658.51 0.0090 0.0048 Jupiter 23641-01-05 16:19 G 10355762.97 10355763.18 10355763.39 0.0510 0.0215 Neptune 23641-09-25 07:40 G 10356025.61 10356025.82 10356026.06 0.0090 0.0044 Jupiter 23642-02-06 20:38 G 10356160.18 10356160.36 10356160.54 0.0496 0.0312 Neptune 23642-09-27 20:38 G 10356393.14 10356393.36 10356393.60 0.0090 0.0039 Neptune 23643-09-30 09:07 G 10356760.66 10356760.88 10356761.14 0.0089 0.0035 Saturn 23644-06-15 02:52 G 10357019.54 10357019.62 10357019.72 0.0290 0.0268 Neptune 23644-10-01 22:04 G 10357128.19 10357128.42 10357128.68 0.0089 0.0030 Saturn 23645-06-29 09:07 G 10357398.72 10357398.88 10357399.06 0.0290 0.0208 Neptune 23645-10-04 11:02 G 10357495.72 10357495.96 10357496.22 0.0089 0.0025

Neptune 23646-10-07 00:00 G 10357863.25 10357863.50 10357863.76 0.0089 0.0020 Jupiter 23647-07-12 23:16 G 10358142.25 10358142.47 10358142.70 0.0520 0.0126 Neptune 23647-10-09 12:28 G 10358230.78 10358231.02 10358231.29 0.0089 0.0016 Jupiter 23648-08-17 10:19 G 10358543.86 10358543.93 10358544.02 0.0535 0.0501 Neptune 23648-10-11 01:40 G 10358598.32 10358598.57 10358598.83 0.0089 0.0010 Neptune 23649-10-13 14:38 G 10358965.85 10358966.11 10358966.37 0.0089 0.0005 Neptune 23650-10-16 03:36 G 10359333.39 10359333.65 10359333.91 0.0089 0.0001 Neptune 23651-10-18 16:04 G 10359700.92 10359701.17 10359701.43 0.0089 0.0005 Neptune 23652-10-20 04:48 G 10360068.45 10360068.70 10360068.96 0.0089 0.0010 Jupiter 23653-01-10 04:19 G 10360150.46 10360150.68 10360150.90 0.0508 0.0137 Neptune 23653-10-22 17:31 G 10360435.98 10360436.23 10360436.49 0.0089 0.0014 Jupiter 23654-02-11 02:09 G 10360547.44 10360547.59 10360547.74 0.0494 0.0376 Neptune 23654-10-25 05:45 G 10360803.50 10360803.74 10360804.00 0.0089 0.0019 Neptune 23655-10-27 18:28 G 10361171.02 10361171.27 10361171.52 0.0089 0.0024 Neptune 23656-10-29 06:43 G 10361538.54 10361538.78 10361539.03 0.0089 0.0029 Neptune 23657-10-31 18:57 G 10361906.06 10361906.29 10361906.54 0.0089 0.0033 Neptune 23658-11-03 06:57 G 10362273.58 10362273.79 10362274.04 0.0089 0.0038 Jupiter 23659-07-17 22:33 G 10362530.21 10362530.44 10362530.68 0.0523 0.0040 Neptune 23659-11-05 19:26 G 10362641.09 10362641.31 10362641.55 0.0089 0.0043 Saturn 23659-12-27 02:52 G 10362692.40 10362692.62 10362692.85 0.0269 0.0099 Neptune 23660-11-07 07:26 G 10363008.61 10363008.81 10363009.05 0.0089 0.0047 Neptune 23661-11-09 19:55 G 10363376.13 10363376.33 10363376.55 0.0089 0.0051 Neptune 23662-11-12 07:40 G 10363743.65 10363743.82 10363744.05 0.0089 0.0056 Neptune 23663-11-14 19:55 G 10364111.16 10364111.33 10364111.54 0.0089 0.0060 Neptune 23664-11-16 08:24 G 10364478.69 10364478.85 10364479.04 0.0089 0.0064 Jupiter 23665-01-14 17:02 G 10364537.98 10364538.21 10364538.44 0.0506 0.0060 Neptune 23665-11-18 20:09 G 10364846.19 10364846.34 10364846.52 0.0089 0.0068 Jupiter 23666-02-15 09:07 G 10364934.78 10364934.88 10364934.99 0.0493 0.0439 Neptune 23666-11-21 08:09 G 10365213.71 10365213.84 10365214.00 0.0089 0.0072 Neptune 23667-11-23 19:40 G 10365581.21 10365581.32 10365581.47 0.0089 0.0076

Neptune 23668-11-25 07:26 G 10365948.72 10365948.81 10365948.94 0.0089 0.0080 Neptune 23669-11-27 19:26 G 10366316.23 10366316.31 10366316.40 0.0089 0.0083 Neptune 23670-11-30 06:28 G 10366683.74 10366683.77 10366683.84 0.0089 0.0087 Jupiter 23671-07-22 18:14 G 10366918.03 10366918.26 10366918.49 0.0524 0.0042 Uranus 23674-05-21 21:50 G 10367952.37 10367952.41 10367952.49 0.0137 0.0133 Saturn 23674-06-23 20:24 G 10367985.11 10367985.35 10367985.60 0.0291 0.0015 Uranus 23675-05-26 10:19 G 10368321.72 10368321.93 10368322.15 0.0136 0.0071 Uranus 23676-05-29 22:04 G 10368691.16 10368691.42 10368691.67 0.0136 0.0010 Jupiter 23677-01-19 05:31 G 10368925.49 10368925.73 10368925.96 0.0504 0.0014 Uranus 23677-06-03 08:38 G 10369060.64 10369060.86 10369061.11 0.0136 0.0052 Uranus 23678-06-07 19:12 G 10369430.17 10369430.30 10369430.46 0.0135 0.0111 Jupiter 23682-06-22 18:00 G 10370906.14 10370906.25 10370906.37 0.0510 0.0446 Jupiter 23683-07-27 17:31 G 10371306.00 10371306.23 10371306.46 0.0526 0.0130 Pluto 23686-11-03 15:50 G 10372500.90 10372501.16 10372501.42 0.0064 0.0003 Jupiter 23687-12-22 13:26 G 10372914.96 10372915.06 10372915.17 0.0518 0.0461 Saturn 23688-12-21 09:50 G 10373279.67 10373279.91 10373280.15 0.0269 0.0055 Jupiter 23689-01-23 18:28 G 10373313.04 10373313.27 10373313.50 0.0502 0.0090 Jupiter 23694-06-27 10:04 G 10375293.77 10375293.92 10375294.09 0.0513 0.0375 Jupiter 23695-08-01 18:43 G 10375694.07 10375694.28 10375694.50 0.0529 0.0221 Jupiter 23699-12-27 09:36 G 10377302.74 10377302.90 10377303.05 0.0515 0.0382 Jupiter 23701-01-29 06:00 G 10377700.54 10377700.75 10377700.98 0.0500 0.0165 Saturn 23703-06-18 18:14 G 10378571.09 10378571.26 10378571.45 0.0290 0.0201 Saturn 23704-07-02 00:28 G 10378950.45 10378950.52 10378950.60 0.0290 0.0276 Jupiter 23706-07-03 06:43 G 10379681.59 10379681.78 10379681.97 0.0515 0.0298 Jupiter 23707-08-08 00:00 G 10380082.32 10380082.50 10380082.69 0.0531 0.0313 Jupiter 23712-01-02 01:12 G 10381690.37 10381690.55 10381690.74 0.0513 0.0305 Jupiter 23713-02-02 13:55 G 10382087.87 10382088.08 10382088.28 0.0498 0.0234 Neptune 23713-03-03 00:43 G 10382116.50 10382116.53 10382116.60 0.0088 0.0086 Neptune 23714-03-05 10:48 G 10382483.89 10382483.95 10382484.06 0.0088 0.0083 Neptune 23715-03-07 21:21 G 10382851.30 10382851.39 10382851.52 0.0088 0.0079

Neptune 23716-03-09 07:26 G 10383218.71 10383218.81 10383218.97 0.0088 0.0076 23716-04-16 17:31 G 10383257.06 10383257.23 10383257.39 0.1594 0.0725 Mars Neptune 23717-03-11 17:45 G 10383586.12 10383586.24 10383586.41 0.0088 0.0072 Saturn 23717-12-17 08:24 G 10383866.71 10383866.85 10383866.99 0.0269 0.0221 Neptune 23718-03-14 04:04 G 10383953.53 10383953.67 10383953.85 0.0088 0.0068 Jupiter 23718-07-08 03:36 G 10384069.44 10384069.65 10384069.86 0.0518 0.0219 Uranus 23718-11-23 20:38 G 10384208.25 10384208.36 10384208.53 0.0142 0.0118 Saturn 23718-12-29 09:21 G 10384243.69 10384243.89 10384244.10 0.0269 0.0150 Neptune 23719-03-16 14:24 G 10384320.94 10384321.10 10384321.29 0.0088 0.0064 Jupiter 23719-08-13 04:48 G 10384470.55 10384470.70 10384470.86 0.0533 0.0401 Uranus 23719-11-28 17:16 G 10384577.99 10384578.22 10384578.47 0.0142 0.0049 Neptune 23720-03-18 00:28 G 10384688.35 10384688.52 10384688.72 0.0088 0.0060 Uranus 23720-12-02 14:24 G 10384947.85 10384948.10 10384948.35 0.0143 0.0022 Neptune 23721-03-20 10:48 G 10385055.77 10385055.95 10385056.17 0.0088 0.0056 Uranus 23721-12-07 11:31 G 10385317.80 10385317.98 10385318.19 0.0143 0.0093 Neptune 23722-03-22 20:52 G 10385423.19 10385423.37 10385423.60 0.0088 0.0052 Neptune 23723-03-25 07:12 G 10385790.61 10385790.80 10385791.04 0.0088 0.0048 Jupiter 23724-01-06 16:19 G 10386077.97 10386078.18 10386078.39 0.0511 0.0225 Neptune 23724-03-26 18:00 G 10386158.03 10386158.25 10386158.48 0.0088 0.0043 Jupiter 23725-02-06 22:33 G 10386475.26 10386475.44 10386475.63 0.0497 0.0302 Neptune 23725-03-29 04:04 G 10386525.46 10386525.67 10386525.92 0.0088 0.0039 Neptune 23726-03-31 15:07 G 10386892.89 10386893.13 10386893.37 0.0088 0.0034 Neptune 23727-04-03 01:12 G 10387260.32 10387260.55 10387260.81 0.0088 0.0030 Neptune 23728-04-04 12:00 G 10387627.76 10387628.00 10387628.25 0.0088 0.0025 Neptune 23729-04-06 22:19 G 10387995.19 10387995.43 10387995.69 0.0088 0.0021 Neptune 23730-04-09 09:07 G 10388362.63 10388362.88 10388363.14 0.0088 0.0016 Jupiter 23730-07-12 22:04 G 10388457.19 10388457.42 10388457.64 0.0519 0.0141 Neptune 23731-04-11 19:40 G 10388730.07 10388730.32 10388730.58 0.0088 0.0011 Jupiter 23731-08-18 04:19 G 10388858.59 10388858.68 10388858.79 0.0534 0.0480 Neptune 23732-04-13 06:14 G 10389097.51 10389097.76 10389098.02 0.0088 0.0007

Neptune 23733-04-15 16:48 G 10389464.95 10389465.20 10389465.46 0.0088 0.0002 Saturn 23733-06-26 09:07 G 10389536.65 10389536.88 10389537.12 0.0291 0.0080 Neptune 23734-04-18 03:36 G 10389832.39 10389832.65 10389832.90 0.0088 0.0003 Neptune 23735-04-20 14:09 G 10390199.84 10390200.09 10390200.35 0.0088 0.0008 Jupiter 23736-01-11 06:14 G 10390465.54 10390465.76 10390465.98 0.0509 0.0150 Neptune 23736-04-22 00:43 G 10390567.28 10390567.53 10390567.79 0.0088 0.0012 Jupiter 23737-02-11 07:40 G 10390862.66 10390862.82 10390862.98 0.0495 0.0366 Neptune 23737-04-24 11:31 G 10390934.73 10390934.98 10390935.24 0.0088 0.0017 Neptune 23738-04-26 22:04 G 10391302.19 10391302.42 10391302.69 0.0088 0.0022 Neptune 23739-04-29 09:07 G 10391669.65 10391669.88 10391670.14 0.0088 0.0027 Neptune 23740-04-30 20:09 G 10392037.11 10392037.34 10392037.59 0.0088 0.0031 Neptune 23741-05-03 06:57 G 10392404.57 10392404.79 10392405.04 0.0088 0.0036 Neptune 23742-05-05 18:14 G 10392772.04 10392772.26 10392772.50 0.0088 0.0041 Jupiter 23742-07-17 18:57 G 10392845.05 10392845.29 10392845.52 0.0521 0.0056 Neptune 23743-05-08 05:02 G 10393139.51 10393139.71 10393139.95 0.0088 0.0046 Neptune 23744-05-09 16:19 G 10393506.98 10393507.18 10393507.40 0.0088 0.0049 Neptune 23745-05-12 03:07 G 10393874.45 10393874.63 10393874.86 0.0088 0.0054 Neptune 23746-05-14 14:24 G 10394241.93 10394242.10 10394242.32 0.0088 0.0059 Neptune 23747-05-17 01:40 G 10394609.40 10394609.57 10394609.76 0.0088 0.0063 Saturn 23747-12-24 16:33 G 10394830.95 10394831.19 10394831.44 0.0269 0.0004 Jupiter 23748-01-15 21:36 G 10394853.17 10394853.40 10394853.63 0.0507 0.0072 Neptune 23748-05-18 12:57 G 10394976.89 10394977.04 10394977.22 0.0088 0.0067 Jupiter 23749-02-15 16:33 G 10395250.08 10395250.19 10395250.30 0.0494 0.0430 Neptune 23749-05-21 00:14 G 10395344.37 10395344.51 10395344.68 0.0088 0.0071 Neptune 23750-05-23 11:45 G 10395711.87 10395711.99 10395712.14 0.0088 0.0075 Neptune 23751-05-25 23:02 G 10396079.37 10396079.46 10396079.60 0.0088 0.0079 Neptune 23752-05-27 10:19 G 10396446.87 10396446.93 10396447.06 0.0088 0.0083 Neptune 23753-05-29 22:48 G 10396814.40 10396814.45 10396814.51 0.0088 0.0086 Jupiter 23754-07-22 17:16 G 10397232.98 10397233.22 10397233.45 0.0524 0.0032 Uranus 23758-05-23 12:28 G 10398633.93 10398634.02 10398634.11 0.0137 0.0127

Uranus 23759-05-28 00:28 G 10399003.31 10399003.52 10399003.75 0.0136 0.0066 Jupiter 23760-01-20 11:45 G 10399240.76 10399240.99 10399241.23 0.0505 0.0012 Uranus 23760-05-31 12:00 G 10399372.75 10399373.00 10399373.26 0.0136 0.0005 Jupiter 23761-02-20 00:14 G 10399637.50 10399637.51 10399637.53 0.0492 0.0491 Uranus 23761-06-04 23:02 G 10399742.24 10399742.46 10399742.70 0.0135 0.0056 Uranus 23762-06-09 09:21 G 10400111.78 10400111.89 10400112.04 0.0135 0.0116 Saturn 23762-06-20 07:26 G 10400122.59 10400122.81 10400123.03 0.0291 0.0136 Jupiter 23765-06-22 20:52 G 10401221.26 10401221.37 10401221.48 0.0510 0.0451 Jupiter 23766-07-27 19:40 G 10401621.10 10401621.32 10401621.55 0.0526 0.0121 Jupiter 23770-12-22 17:16 G 10403230.13 10403230.22 10403230.32 0.0518 0.0468 Jupiter 23772-01-24 22:33 G 10403628.21 10403628.44 10403628.67 0.0502 0.0081 Pluto 23775-05-05 03:21 G 10404824.51 10404824.64 10404824.81 0.0080 0.0065 Saturn 23776-12-18 13:26 G 10405417.89 10405418.06 10405418.26 0.0269 0.0171 Jupiter 23777-06-27 15:21 G 10405608.98 10405609.14 10405609.29 0.0512 0.0381 Saturn 23777-12-30 14:09 G 10405794.94 10405795.09 10405795.26 0.0269 0.0199 Jupiter 23778-08-01 22:33 G 10406009.23 10406009.44 10406009.66 0.0528 0.0211 Jupiter 23782-12-27 11:02 G 10407617.82 10407617.96 10407618.12 0.0516 0.0391 Jupiter 23784-01-29 09:07 G 10408015.66 10408015.88 10408016.10 0.0500 0.0156 Jupiter 23789-07-02 08:24 G 10409996.66 10409996.85 10409997.04 0.0514 0.0310 Jupiter 23790-08-06 21:36 G 10410397.20 10410397.40 10410397.59 0.0530 0.0294 Saturn 23792-06-27 19:40 G 10411088.11 10411088.32 10411088.54 0.0291 0.0142 Jupiter 23795-01-01 02:09 G 10412005.41 10412005.59 10412005.78 0.0514 0.0318 23795-04-19 17:16 G 10412114.04 10412114.22 10412114.39 0.1596 0.0604 Mars Jupiter 23796-02-02 19:12 G 10412403.10 10412403.30 10412403.51 0.0499 0.0224 Neptune 23796-09-04 13:26 G 10412618.00 10412618.06 10412618.14 0.0090 0.0086 Neptune 23797-09-07 02:09 G 10412985.52 10412985.59 10412985.72 0.0090 0.0083 Neptune 23798-09-09 15:50 G 10413353.04 10413353.16 10413353.29 0.0090 0.0078 Neptune 23799-09-12 04:48 G 10413720.56 10413720.70 10413720.85 0.0090 0.0074 Neptune 23800-09-14 17:45 G 10414088.10 10414088.24 10414088.42 0.0090 0.0070 Jupiter 23801-07-08 03:21 G 10414384.43 10414384.64 10414384.85 0.0516 0.0232

Neptune 23801-09-17 06:43 G 10414455.63 10414455.78 10414455.98 0.0090 0.0066 Jupiter 23802-08-12 23:45 G 10414785.33 10414785.49 10414785.65 0.0532 0.0381 Neptune 23802-09-19 20:09 G 10414823.16 10414823.34 10414823.54 0.0090 0.0061 Uranus 23802-11-25 07:55 G 10414889.68 10414889.83 10414889.98 0.0142 0.0114 Neptune 23803-09-22 09:07 G 10415190.70 10415190.88 10415191.10 0.0090 0.0057 Uranus 23803-11-30 03:50 G 10415259.43 10415259.66 10415259.91 0.0142 0.0045 Neptune 23804-09-23 22:33 G 10415558.24 10415558.44 10415558.66 0.0090 0.0052 Uranus 23804-12-04 00:43 G 10415629.29 10415629.53 10415629.79 0.0143 0.0026 Neptune 23805-09-26 12:00 G 10415925.78 10415926.00 10415926.22 0.0090 0.0047 Uranus 23805-12-08 22:19 G 10415999.25 10415999.43 10415999.63 0.0143 0.0096 Neptune 23806-09-29 00:28 G 10416293.31 10416293.52 10416293.77 0.0090 0.0043 Saturn 23806-12-26 21:21 G 10416382.15 10416382.39 10416382.64 0.0268 0.0046 Jupiter 23807-01-06 19:55 G 10416393.13 10416393.33 10416393.54 0.0512 0.0237 Neptune 23807-10-01 13:40 G 10416660.85 10416661.07 10416661.32 0.0090 0.0038 Jupiter 23808-02-08 05:45 G 10416790.56 10416790.74 10416790.93 0.0497 0.0293 Neptune 23808-10-03 02:38 G 10417028.38 10417028.61 10417028.86 0.0090 0.0033 Neptune 23809-10-05 15:36 G 10417395.91 10417396.15 10417396.40 0.0089 0.0028 Neptune 23810-10-08 04:19 G 10417763.44 10417763.68 10417763.94 0.0089 0.0023 Neptune 23811-10-10 17:16 G 10418130.97 10418131.22 10418131.48 0.0089 0.0017 Neptune 23812-10-12 06:00 G 10418498.50 10418498.75 10418499.01 0.0089 0.0013 Jupiter 23813-07-12 22:33 G 10418772.22 10418772.44 10418772.66 0.0519 0.0150 Neptune 23813-10-14 18:57 G 10418866.03 10418866.29 10418866.55 0.0089 0.0007 Jupiter 23814-08-18 03:36 G 10419173.54 10419173.65 10419173.77 0.0534 0.0468 Neptune 23814-10-17 07:40 G 10419233.56 10419233.82 10419234.08 0.0089 0.0002 Neptune 23815-10-19 20:24 G 10419601.09 10419601.35 10419601.61 0.0089 0.0003 Neptune 23816-10-21 09:07 G 10419968.63 10419968.88 10419969.15 0.0089 0.0009 Neptune 23817-10-23 21:36 G 10420336.16 10420336.40 10420336.67 0.0089 0.0014 Neptune 23818-10-26 10:19 G 10420703.69 10420703.93 10420704.19 0.0089 0.0018 Jupiter 23819-01-11 13:12 G 10420780.83 10420781.05 10420781.27 0.0509 0.0156 Neptune 23819-10-28 22:48 G 10421071.21 10421071.45 10421071.71 0.0089 0.0023 Jupiter 23820-02-12 15:50 G 10421178.01 10421178.16 10421178.32 0.0495 0.0360 Neptune 23820-10-30 11:16 G 10421438.74 10421438.97 10421439.23 0.0089 0.0028 Saturn 23821-06-22 16:48 G 10421673.97 10421674.20 10421674.45 0.0291 0.0076 Neptune 23821-11-01 23:31 G 10421806.26 10421806.48 10421806.74 0.0089 0.0033 Neptune 23822-11-04 11:45 G 10422173.77 10422173.99 10422174.24 0.0089 0.0038 Neptune 23823-11-07 00:14 G 10422541.29 10422541.51 10422541.74 0.0089 0.0043 Neptune 23824-11-08 12:14 G 10422908.81 10422909.01 10422909.25 0.0089 0.0048 Jupiter 23825-07-17 22:04 G 10423160.19 10423160.42 10423160.66 0.0521 0.0064 Neptune 23825-11-11 00:14 G 10423276.33 10423276.51 10423276.74 0.0089 0.0053 Neptune 23826-11-13 12:43 G 10423643.84 10423644.03 10423644.24 0.0089 0.0056 Neptune 23827-11-16 00:43 G 10424011.37 10424011.53 10424011.74 0.0089 0.0061 Neptune 23828-11-17 12:57 G 10424378.89 10424379.04 10424379.23 0.0089 0.0065 Neptune 23829-11-20 01:40 G 10424746.41 10424746.57 10424746.73 0.0089 0.0069 Neptune 23830-11-22 12:57 G 10425113.93 10425114.04 10425114.21 0.0089 0.0074 Jupiter 23831-01-16 03:21 G 10425168.41 10425168.64 10425168.87 0.0507 0.0079 Neptune 23831-11-25 00:57 G 10425481.45 10425481.54 10425481.69 0.0089 0.0078 Jupiter 23832-02-16 22:33 G 10425565.33 10425565.44 10425565.56 0.0494 0.0422 Neptune 23832-11-26 12:57 G 10425848.97 10425849.04 10425849.16 0.0089 0.0082 Neptune 23833-11-29 00:28 G 10426216.48 10426216.52 10426216.62 0.0089 0.0086 Saturn 23835-12-21 17:45 G 10426969.03 10426969.24 10426969.46 0.0269 0.0123 Saturn 23837-01-01 17:31 G 10427346.15 10427346.23 10427346.34 0.0269 0.0246 Jupiter 23837-07-22 22:48 G 10427548.22 10427548.45 10427548.68 0.0524 0.0022 Uranus 23842-05-25 02:24 G 10429315.51 10429315.60 10429315.74 0.0137 0.0122 Jupiter 23843-01-20 16:19 G 10429555.95 10429556.18 10429556.42 0.0505 0.0010 Uranus 23843-05-29 14:38 G 10429684.90 10429685.11 10429685.35 0.0136 0.0060 Jupiter 23844-02-21 06:14 G 10429952.72 10429952.76 10429952.81 0.0493 0.0483 Uranus 23844-06-02 02:38 G 10430054.35 10430054.61 10430054.86 0.0136 0.0002 Uranus 23845-06-06 13:26 G 10430423.85 10430424.06 10430424.30 0.0135 0.0063 Uranus 23846-06-10 23:45 G 10430793.41 10430793.49 10430793.62 0.0135 0.0122 Jupiter 23848-06-23 01:55 G 10431536.48 10431536.58 10431536.68 0.0509 0.0460

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Uranus 23888-12-04 12:57 G 10446310.79 10446311.04 10446311.29 0.0143 0.0030 Neptune 23889-03-29 10:33 G 10446425.73 10446425.94 10446426.18 0.0088 0.0042 Uranus 23889-12-09 10:04 G 10446680.76 10446680.92 10446681.11 0.0143 0.0101 Jupiter 23890-01-06 03:36 G 10446708.45 10446708.65 10446708.86 0.0512 0.0242 Neptune 23890-03-31 20:38 G 10446793.15 10446793.36 10446793.61 0.0088 0.0038 Jupiter 23891-02-07 13:55 G 10447105.89 10447106.08 10447106.27 0.0497 0.0286 Neptune 23891-04-03 07:12 G 10447160.58 10447160.80 10447161.05 0.0088 0.0033 Neptune 23892-04-04 17:45 G 10447528.01 10447528.24 10447528.49 0.0088 0.0028 Neptune 23893-04-07 04:19 G 10447895.44 10447895.68 10447895.94 0.0088 0.0023 Neptune 23894-04-09 14:38 G 10448262.88 10448263.11 10448263.38 0.0088 0.0019 Saturn 23894-12-22 19:55 G 10448520.10 10448520.33 10448520.57 0.0269 0.0078 Neptune 23895-04-12 01:26 G 10448630.31 10448630.56 10448630.82 0.0088 0.0014 Neptune 23896-04-13 12:00 G 10448997.75 10448998.00 10448998.26 0.0088 0.0009 Jupiter 23896-07-12 05:45 G 10449087.52 10449087.74 10449087.97 0.0519 0.0157 Neptune 23897-04-15 22:33 G 10449365.18 10449365.44 10449365.70 0.0088 0.0004 Jupiter 23897-08-17 10:04 G 10449488.81 10449488.92 10449489.04 0.0534 0.0459 Neptune 23898-04-18 09:21 G 10449732.63 10449732.89 10449733.14 0.0088 0.0001 Neptune 23899-04-20 19:40 G 10450100.06 10450100.32 10450100.58 0.0088 0.0006 Neptune 23900-04-23 06:14 G 10450467.51 10450467.76 10450468.02 0.0088 0.0011 Neptune 23901-04-25 16:48 G 10450834.96 10450835.20 10450835.46 0.0088 0.0016 Jupiter 23902-01-11 19:26 G 10451096.09 10451096.31 10451096.53 0.0510 0.0163 Neptune 23902-04-28 03:36 G 10451202.41 10451202.65 10451202.91 0.0088 0.0021 Jupiter 23903-02-12 23:02 G 10451493.30 10451493.46 10451493.63 0.0496 0.0353 Neptune 23903-04-30 14:24 G 10451569.86 10451570.10 10451570.36 0.0088 0.0026 Neptune 23904-05-02 01:26 G 10451937.32 10451937.56 10451937.80 0.0088 0.0030 Neptune 23905-05-04 12:28 G 10452304.79 10452305.02 10452305.26 0.0088 0.0035 Neptune 23906-05-06 23:16 G 10452672.25 10452672.47 10452672.71 0.0088 0.0040 Neptune 23907-05-09 10:04 G 10453039.72 10453039.92 10453040.17 0.0088 0.0046 Neptune 23908-05-10 21:36 G 10453407.19 10453407.40 10453407.62 0.0088 0.0049 Jupiter 23908-07-18 03:07 G 10453475.39 10453475.63 10453475.86 0.0520 0.0076

Neptune 23909-05-13 08:38 G 10453774.67 10453774.86 10453775.08 0.0088 0.0054 Saturn 23909-06-18 22:19 G 10453811.28 10453811.43 10453811.58 0.0291 0.0231 Neptune 23910-05-15 19:55 G 10454142.14 10454142.33 10454142.53 0.0088 0.0059 Saturn 23910-07-03 06:00 G 10454190.64 10454190.75 10454190.89 0.0291 0.0250 Neptune 23911-05-18 06:43 G 10454509.62 10454509.78 10454509.98 0.0088 0.0064 Neptune 23912-05-19 18:00 G 10454877.10 10454877.25 10454877.43 0.0088 0.0068 23912-10-21 04:04 G 10455031.48 10455031.67 10455031.86 0.1945 0.0702 Mars Neptune 23913-05-22 05:02 G 10455244.59 10455244.71 10455244.88 0.0088 0.0072 Jupiter 23914-01-16 07:40 G 10455483.59 10455483.82 10455484.05 0.0508 0.0090 Neptune 23914-05-24 16:19 G 10455612.08 10455612.18 10455612.34 0.0088 0.0077 Jupiter 23915-02-17 06:57 G 10455880.67 10455880.79 10455880.92 0.0495 0.0415 Neptune 23915-05-27 03:36 G 10455979.57 10455979.65 10455979.78 0.0088 0.0081 Neptune 23916-05-28 15:07 G 10456347.08 10456347.13 10456347.24 0.0088 0.0085 Neptune 23917-05-31 02:52 G 10456714.62 10456714.62 10456714.66 0.0088 0.0088 Jupiter 23920-07-23 01:12 G 10457863.32 10457863.55 10457863.79 0.0522 0.0012 Mars 23921-04-18 01:55 G 10458132.47 10458132.58 10458132.68 0.1591 0.1314 Saturn 23923-12-19 02:38 G 10459107.50 10459107.61 10459107.75 0.0268 0.0230 Saturn 23924-12-30 02:09 G 10459484.39 10459484.59 10459484.81 0.0268 0.0137 Jupiter 23926-01-20 22:33 G 10459871.21 10459871.44 10459871.67 0.0506 0.0012 Uranus 23926-05-26 16:19 G 10459997.07 10459997.18 10459997.33 0.0137 0.0117 Jupiter 23927-02-21 16:04 G 10460268.11 10460268.17 10460268.23 0.0493 0.0475 Uranus 23927-05-31 04:48 G 10460366.48 10460366.70 10460366.94 0.0136 0.0055 Uranus 23928-06-03 16:33 G 10460735.94 10460736.19 10460736.45 0.0136 0.0007 Uranus 23929-06-08 03:50 G 10461105.44 10461105.66 10461105.88 0.0136 0.0068 Uranus 23930-06-12 14:38 G 10461475.03 10461475.11 10461475.19 0.0135 0.0128 Jupiter 23931-06-24 06:43 G 10461851.70 10461851.78 10461851.88 0.0508 0.0463 Jupiter 23932-07-27 23:31 G 10462251.25 10462251.48 10462251.71 0.0525 0.0096 Pluto 23934-11-07 15:21 G 10463083.97 10463084.14 10463084.36 0.0064 0.0042 Pluto 23935-11-09 03:36 G 10463450.47 10463450.65 10463450.87 0.0064 0.0040 Jupiter 23936-12-23 01:26 G 10463860.49 10463860.56 10463860.65 0.0520 0.0483

Jupiter 23938-01-25 13:26 G 10464258.83 10464259.06 10464259.29 0.0504 0.0067 Saturn 23939-06-27 03:21 G 10464776.40 10464776.64 10464776.89 0.0291 0.0032 Jupiter 23943-06-29 00:28 G 10466239.38 10466239.52 10466239.68 0.0511 0.0393 Jupiter 23944-08-02 01:55 G 10466639.36 10466639.58 10466639.80 0.0527 0.0186 Jupiter 23948-12-27 22:48 G 10468248.32 10468248.45 10468248.60 0.0517 0.0406 Jupiter 23950-01-30 01:40 G 10468646.35 10468646.57 10468646.79 0.0502 0.0140 Saturn 23953-12-24 21:07 G 10470071.13 10470071.38 10470071.62 0.0268 0.0034 Jupiter 23955-07-03 19:40 G 10470627.15 10470627.32 10470627.51 0.0513 0.0321 Jupiter 23956-08-07 06:28 G 10471027.57 10471027.77 10471027.97 0.0529 0.0275 Jupiter 23961-01-01 17:31 G 10472636.06 10472636.23 10472636.42 0.0515 0.0327 Neptune 23961-09-08 05:31 G 10472885.68 10472885.73 10472885.79 0.0090 0.0087 Jupiter 23962-02-03 12:57 G 10473033.84 10473034.04 10473034.26 0.0500 0.0212 Neptune 23962-09-10 18:28 G 10473253.18 10473253.27 10473253.37 0.0090 0.0083 Neptune 23963-09-13 07:26 G 10473620.71 10473620.81 10473620.95 0.0090 0.0079 Neptune 23964-09-14 20:09 G 10473988.23 10473988.34 10473988.51 0.0090 0.0075 Neptune 23965-09-17 09:36 G 10474355.76 10474355.90 10474356.08 0.0090 0.0070 Neptune 23966-09-19 22:19 G 10474723.28 10474723.43 10474723.63 0.0090 0.0066 Jupiter 23967-07-08 15:50 G 10475014.96 10475015.16 10475015.37 0.0515 0.0245 Neptune 23967-09-22 11:45 G 10475090.82 10475090.99 10475091.20 0.0090 0.0061 Saturn 23968-06-19 23:02 G 10475362.28 10475362.46 10475362.66 0.0291 0.0185 Jupiter 23968-08-12 08:09 G 10475415.67 10475415.84 10475416.01 0.0531 0.0358 Neptune 23968-09-24 01:12 G 10475458.36 10475458.55 10475458.76 0.0090 0.0056 Neptune 23969-09-26 14:24 G 10475825.89 10475826.10 10475826.32 0.0090 0.0051 Neptune 23970-09-29 03:07 G 10476193.44 10476193.63 10476193.88 0.0090 0.0047 Uranus 23970-11-27 06:00 G 10476252.60 10476252.75 10476252.93 0.0142 0.0107 Neptune 23971-10-01 16:48 G 10476560.97 10476561.20 10476561.43 0.0090 0.0041 Uranus 23971-12-02 02:24 G 10476622.36 10476622.60 10476622.85 0.0142 0.0037 Neptune 23972-10-03 06:00 G 10476928.52 10476928.75 10476928.99 0.0090 0.0036 Uranus 23972-12-05 23:16 G 10476992.23 10476992.47 10476992.72 0.0143 0.0033 Jupiter 23973-01-06 07:12 G 10477023.60 10477023.80 10477024.00 0.0513 0.0252

Neptune 23973-10-05 18:43 G 10477296.05 10477296.28 10477296.53 0.0090 0.0031 Uranus 23973-12-10 20:38 G 10477362.19 10477362.36 10477362.54 0.0143 0.0104 Jupiter 23974-02-07 21:36 G 10477421.21 10477421.40 10477421.59 0.0499 0.0278 Neptune 23974-10-08 07:40 G 10477663.58 10477663.82 10477664.08 0.0090 0.0026 Neptune 23975-10-10 20:24 G 10478031.11 10478031.35 10478031.62 0.0089 0.0021 Neptune 23976-10-12 09:21 G 10478398.65 10478398.89 10478399.16 0.0089 0.0016 Neptune 23977-10-14 22:19 G 10478766.17 10478766.43 10478766.69 0.0089 0.0010 Neptune 23978-10-17 11:02 G 10479133.70 10479133.96 10479134.22 0.0089 0.0005 Jupiter 23979-07-13 12:00 G 10479402.78 10479403.00 10479403.23 0.0517 0.0164 Neptune 23979-10-20 00:00 G 10479501.24 10479501.50 10479501.76 0.0089 0.0001 Jupiter 23980-08-17 11:16 G 10479803.85 10479803.97 10479804.10 0.0532 0.0443 Neptune 23980-10-21 12:28 G 10479868.77 10479869.02 10479869.29 0.0089 0.0007 Neptune 23981-10-24 01:26 G 10480236.31 10480236.56 10480236.82 0.0089 0.0011 Neptune 23982-10-26 14:09 G 10480603.84 10480604.09 10480604.35 0.0089 0.0017 Saturn 23982-12-20 03:21 G 10480658.48 10480658.64 10480658.82 0.0268 0.0188 Neptune 23983-10-29 02:52 G 10480971.38 10480971.62 10480971.88 0.0089 0.0022 Saturn 23984-01-01 02:38 G 10481035.44 10481035.61 10481035.80 0.0268 0.0179 Neptune 23984-10-30 15:21 G 10481338.91 10481339.14 10481339.40 0.0089 0.0027 Jupiter 23985-01-11 00:14 G 10481411.29 10481411.51 10481411.73 0.0511 0.0172 Neptune 23985-11-02 03:50 G 10481706.43 10481706.66 10481706.92 0.0089 0.0033 Jupiter 23986-02-12 08:09 G 10481808.68 10481808.84 10481809.01 0.0497 0.0346 Neptune 23986-11-04 16:19 G 10482073.96 10482074.18 10482074.43 0.0089 0.0038 Neptune 23987-11-07 04:48 G 10482441.48 10482441.70 10482441.94 0.0089 0.0042 Neptune 23988-11-08 17:02 G 10482809.00 10482809.21 10482809.44 0.0089 0.0047 Neptune 23989-11-11 05:02 G 10483176.52 10483176.71 10483176.94 0.0089 0.0052 Neptune 23990-11-13 17:16 G 10483544.04 10483544.22 10483544.44 0.0089 0.0057 Jupiter 23991-07-18 07:12 G 10483790.57 10483790.80 10483791.03 0.0519 0.0082 Neptune 23991-11-16 05:45 G 10483911.56 10483911.74 10483911.93 0.0089 0.0062 Jupiter 23992-08-22 14:38 G 10484192.08 10484192.11 10484192.15 0.0534 0.0527 Neptune 23992-11-17 17:31 G 10484279.08 10484279.23 10484279.42 0.0089 0.0066 Neptune 23993-11-20 05:16 G 10484646.60 10484646.72 10484646.91 0.0089 0.0071

Neptune 23994-11-22 17:31 G 10485014.12 10485014.23 10485014.40 0.0089 0.0075

Neptune 23995-11-25 06:00 G 10485381.65 10485381.75 10485381.88 0.0089 0.0079

Neptune 23996-11-26 18:00 G 10485749.17 10485749.25 10485749.35 0.0089 0.0083

Jupiter 23997-01-15 17:45 G 10485799.01 10485799.24 10485799.47 0.0509 0.0093

Neptune 23997-11-29 06:00 G 10486116.71 10486116.75 10486116.80 0.0089 0.0087

Jupiter 23998-02-16 18:28 G 10486196.15 10486196.27 10486196.41 0.0495 0.0411

Saturn 23998-06-28 04:48 G 10486327.47 10486327.70 10486327.94 0.0291 0.0080

Mars 24000-04-20 01:40 G 10486989.39 10486989.57 10486989.76 0.1592 0.0034

## 25TH MILLENNIUM CE

## This is a list of transits of Earth in the 25th millennium CE.

FROM MAX- C START MAX END SUNRAD DEPTH S

TRANSIT

TIME

Jupiter 24003-07-23 06:57 G 10488178.55 10488178.79 10488179.02 0.0522 0.0008

Jupiter 24009-01-20 09:21 G 10490186.66 10490186.89 10490187.12 0.0506 0.0016

Jupiter 24010-02-21 02:38 G 10490583.55 10490583.61 10490583.68 0.0493 0.0470

Uranus 24010-05-27 05:31 G 10490678.61 10490678.73 10490678.90 0.0137 0.0112

Uranus 24011-05-31 18:14 G 10491048.03 10491048.26 10491048.51 0.0136 0.0050

Uranus 24012-06-04 06:14 G 10491417.51 10491417.76 10491418.02 0.0136 0.0013

Saturn 24012-12-25 21:21 G 10491622.14 10491622.39 10491622.64 0.0268 0.0008

Uranus 24013-06-08 17:31 G 10491787.03 10491787.23 10491787.46 0.0136 0.0074

Uranus 24014-06-13 04:04 G 10492156.65 10492156.67 10492156.73 0.0135 0.0134

Jupiter 24014-06-23 16:33 G 10492167.10 10492167.19 10492167.29 0.0508 0.0464

Jupiter 24015-07-28 08:24 G 10492566.62 10492566.85 10492567.09 0.0524 0.0091 Jupiter 24019-12-23 10:19 G 10494175.86 10494175.93 10494176.02 0.0520 0.0486 Jupiter 24021-01-24 22:48 G 10494574.22 10494574.45 10494574.68 0.0504 0.0062 Pluto 24024-05-09 02:38 G 10495774.38 10495774.61 10495774.88 0.0080 0.0025 Jupiter 24026-06-28 11:02 G 10496554.82 10496554.96 10496555.11 0.0510 0.0395 Saturn 24027-06-21 21:50 G 10496913.20 10496913.41 10496913.63 0.0291 0.0142 Jupiter 24027-08-02 09:36 G 10496954.68 10496954.90 10496955.12 0.0526 0.0176 Jupiter 24031-12-28 01:26 G 10498563.43 10498563.56 10498563.71 0.0518 0.0414 Jupiter 24033-01-29 08:24 G 10498961.62 10498961.85 10498962.07 0.0503 0.0132 Jupiter 24038-07-03 05:02 G 10500942.54 10500942.71 10500942.90 0.0512 0.0323 Jupiter 24039-08-07 10:48 G 10501342.75 10501342.95 10501343.15 0.0528 0.0264 Saturn 24041-12-21 03:21 G 10502209.44 10502209.64 10502209.85 0.0268 0.0147 Saturn 24043-01-02 02:24 G 10502586.47 10502586.60 10502586.75 0.0268 0.0219 Jupiter 24044-01-01 20:52 G 10502951.20 10502951.37 10502951.55 0.0516 0.0335 Neptune 24044-03-09 20:24 G 10503019.31 10503019.35 10503019.44 0.0088 0.0085 Jupiter 24045-02-02 20:38 G 10503349.15 10503349.36 10503349.57 0.0501 0.0205 Neptune 24045-03-12 06:43 G 10503386.71 10503386.78 10503386.90 0.0088 0.0081 Neptune 24046-03-14 17:02 G 10503754.11 10503754.21 10503754.35 0.0088 0.0077 Neptune 24047-03-17 03:21 G 10504121.52 10504121.64 10504121.81 0.0088 0.0073 Neptune 24048-03-18 13:26 G 10504488.93 10504489.06 10504489.25 0.0088 0.0069 Neptune 24049-03-21 00:00 G 10504856.34 10504856.50 10504856.69 0.0088 0.0064 Neptune 24050-03-23 10:04 G 10505223.76 10505223.92 10505224.14 0.0088 0.0060 Jupiter 24050-07-07 21:36 G 10505330.20 10505330.40 10505330.61 0.0514 0.0249 Neptune 24051-03-25 20:24 G 10505591.17 10505591.35 10505591.57 0.0088 0.0055 Jupiter 24051-08-12 11:16 G 10505730.80 10505730.97 10505731.15 0.0530 0.0349 Neptune 24052-03-27 06:28 G 10505958.59 10505958.77 10505959.01 0.0088 0.0051 Neptune 24053-03-29 16:48 G 10506326.00 10506326.20 10506326.44 0.0088 0.0046 Neptune 24054-04-01 03:21 G 10506693.42 10506693.64 10506693.88 0.0088 0.0041 Uranus 24054-11-27 20:38 G 10506934.19 10506934.36 10506934.54 0.0142 0.0101 Neptune 24055-04-03 13:40 G 10507060.84 10507061.07 10507061.31 0.0088 0.0036 Uranus 24055-12-02 16:48 G 10507303.95 10507304.20 10507304.44 0.0142 0.0032 Jupiter 24056-01-06 17:02 G 10507339.01 10507339.21 10507339.41 0.0514 0.0254 Neptune 24056-04-05 00:00 G 10507428.27 10507428.50 10507428.75 0.0088 0.0031 Uranus 24056-12-06 13:12 G 10507673.82 10507674.05 10507674.31 0.0143 0.0040 Jupiter 24057-02-07 09:07 G 10507736.69 10507736.88 10507737.08 0.0499 0.0275 Neptune 24057-04-07 10:33 G 10507795.70 10507795.94 10507796.19 0.0088 0.0026 Saturn 24057-06-29 05:16 G 10507878.50 10507878.72 10507878.94 0.0292 0.0126 Uranus 24057-12-11 10:19 G 10508043.78 10508043.93 10508044.10 0.0143 0.0110 Neptune 24058-04-09 20:52 G 10508163.13 10508163.37 10508163.63 0.0088 0.0021 Neptune 24059-04-12 07:26 G 10508530.56 10508530.81 10508531.07 0.0088 0.0016 Neptune 24060-04-13 18:00 G 10508898.00 10508898.25 10508898.51 0.0088 0.0011 Neptune 24061-04-16 04:48 G 10509265.44 10509265.70 10509265.95 0.0088 0.0006 Neptune 24062-04-18 15:07 G 10509632.87 10509633.13 10509633.39 0.0088 0.0001 Jupiter 24062-07-12 18:00 G 10509718.03 10509718.25 10509718.48 0.0517 0.0168 Neptune 24063-04-21 01:40 G 10510000.32 10510000.57 10510000.83 0.0088 0.0004 Jupiter 24063-08-17 16:48 G 10510119.07 10510119.20 10510119.33 0.0532 0.0436 Neptune 24064-04-22 12:14 G 10510367.75 10510368.01 10510368.27 0.0088 0.0009 Neptune 24065-04-24 22:33 G 10510735.20 10510735.44 10510735.71 0.0088 0.0015 Neptune 24066-04-27 09:07 G 10511102.65 10511102.88 10511103.15 0.0088 0.0020 Neptune 24067-04-29 19:40 G 10511470.09 10511470.32 10511470.58 0.0088 0.0025 Jupiter 24068-01-11 11:45 G 10511726.77 10511726.99 10511727.21 0.0511 0.0175 Neptune 24068-05-01 06:28 G 10511837.54 10511837.77 10511838.03 0.0088 0.0030 Jupiter 24069-02-11 19:40 G 10512124.15 10512124.32 10512124.49 0.0497 0.0341 Neptune 24069-05-03 17:02 G 10512205.00 10512205.21 10512205.47 0.0088 0.0035 Neptune 24070-05-06 03:50 G 10512572.46 10512572.66 10512572.92 0.0088 0.0040 Neptune 24071-05-08 15:21 G 10512939.92 10512940.14 10512940.36 0.0088 0.0044 Saturn 24071-12-27 21:21 G 10513173.16 10513173.39 10513173.64 0.0268 0.0050 Neptune 24072-05-10 02:09 G 10513307.39 10513307.59 10513307.82 0.0088 0.0049 Neptune 24073-05-12 13:12 G 10513674.86 10513675.05 10513675.27 0.0088 0.0054 Neptune 24074-05-15 00:14 G 10514042.34 10514042.51 10514042.72 0.0088 0.0059 Jupiter 24074-07-17 16:48 G 10514105.97 10514106.20 10514106.44 0.0519 0.0087 Neptune 24075-05-17 11:31 G 10514409.81 10514409.98 10514410.17 0.0088 0.0064 Jupiter 24075-08-22 23:45 G 10514507.45 10514507.49 10514507.55 0.0534 0.0521 Neptune 24076-05-18 22:19 G 10514777.29 10514777.43 10514777.62 0.0088 0.0069 Neptune 24077-05-21 10:04 G 10515144.78 10515144.92 10515145.07 0.0088 0.0073 Neptune 24078-05-23 20:38 G 10515512.26 10515512.36 10515512.51 0.0088 0.0078 24079-04-23 01:40 G 10515846.47 10515846.57 10515846.67 0.1594 0.1332 Mars Neptune 24079-05-26 08:09 G 10515879.76 10515879.84 10515879.96 0.0088 0.0082 Jupiter 24080-01-16 03:50 G 10516114.43 10516114.66 10516114.89 0.0509 0.0097 Neptune 24080-05-27 19:26 G 10516247.27 10516247.31 10516247.39 0.0088 0.0086 Jupiter 24081-02-16 05:02 G 10516511.58 10516511.71 10516511.85 0.0495 0.0406 Saturn 24086-06-22 20:24 G 10518464.12 10518464.35 10518464.59 0.0291 0.0099 Jupiter 24086-07-22 16:33 G 10518493.95 10518494.19 10518494.42 0.0521 0.0005 Jupiter 24092-01-20 14:24 G 10520501.87 10520502.10 10520502.33 0.0507 0.0023 Jupiter 24093-02-20 11:31 G 10520898.91 10520898.98 10520899.06 0.0494 0.0464 Uranus 24094-05-27 19:12 G 10521360.16 10521360.30 10521360.48 0.0137 0.0107 Uranus 24095-06-01 08:09 G 10521729.61 10521729.84 10521730.09 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Jupiter 24121-07-03 11:16 G 10531257.80 10531257.97 10531258.16 0.0512 0.0326 Jupiter 24122-08-07 15:36 G 10531657.95 10531658.15 10531658.36 0.0528 0.0256 Neptune 24126-09-10 20:38 G 10533153.35 10533153.36 10533153.43 0.0090 0.0089 Jupiter 24127-01-02 07:55 G 10533266.66 10533266.83 10533267.01 0.0516 0.0338 Neptune 24127-09-13 10:04 G 10533520.85 10533520.92 10533521.03 0.0090 0.0084 Jupiter 24128-02-04 08:09 G 10533664.63 10533664.84 10533665.06 0.0501 0.0201 Neptune 24128-09-14 23:02 G 10533888.37 10533888.46 10533888.60 0.0090 0.0080 Neptune 24129-09-17 12:14 G 10534255.89 10534256.01 10534256.17 0.0090 0.0075 Neptune 24130-09-20 01:40 G 10534623.41 10534623.57 10534623.73 0.0090 0.0070 Saturn 24130-12-29 22:04 G 10534724.19 10534724.42 10534724.65 0.0268 0.0091 Neptune 24131-09-22 14:52 G 10534990.95 10534991.12 10534991.30 0.0090 0.0065 Neptune 24132-09-24 03:21 G 10535358.47 10535358.64 10535358.85 0.0090 0.0061 Jupiter 24133-07-08 06:57 G 10535645.59 10535645.79 10535646.00 0.0514 0.0251 Neptune 24133-09-26 16:33 G 10535726.01 10535726.19 10535726.41 0.0090 0.0056 Jupiter 24134-08-12 20:24 G 10536046.17 10536046.35 10536046.53 0.0530 0.0343 Neptune 24134-09-29 05:31 G 10536093.54 10536093.73 10536093.97 0.0090 0.0051 Neptune 24135-10-01 19:12 G 10536461.09 10536461.30 10536461.53 0.0090 0.0045 Neptune 24136-10-03 08:09 G 10536828.62 10536828.84 10536829.09 0.0090 0.0040 Neptune 24137-10-05 21:07 G 10537196.16 10537196.38 10537196.64 0.0090 0.0035 Neptune 24138-10-08 10:33 G 10537563.70 10537563.94 10537564.19 0.0090 0.0029 Uranus 24138-11-29 10:33 G 10537615.77 10537615.94 10537616.14 0.0142 0.0095 Jupiter 24139-01-07 02:52 G 10537654.42 10537654.62 10537654.82 0.0514 0.0257 Neptune 24139-10-10 23:31 G 10537931.24 10537931.48 10537931.74 0.0090 0.0024 Uranus 24139-12-04 06:43 G 10537985.53 10537985.78 10537986.03 0.0142 0.0026 Jupiter 24140-02-08 19:40 G 10538052.13 10538052.32 10538052.52 0.0499 0.0270 Neptune 24140-10-12 12:14 G 10538298.77 10538299.01 10538299.27 0.0090 0.0018 Uranus 24140-12-08 02:52 G 10538355.40 10538355.62 10538355.88 0.0143 0.0046 Neptune 24141-10-15 01:12 G 10538666.30 10538666.55 10538666.81 0.0090 0.0013 Uranus 24141-12-13 00:00 G 10538725.37 10538725.50 10538725.66 0.0143 0.0116 Neptune 24142-10-17 14:09 G 10539033.83 10539034.09 10539034.35 0.0089 0.0007 Neptune 24143-10-20 02:52 G 10539401.36 10539401.62 10539401.88 0.0089 0.0002 Neptune 24144-10-21 15:36 G 10539768.90 10539769.15 10539769.41 0.0089 0.0004 Saturn 24145-06-24 19:40 G 10540015.08 10540015.32 10540015.56 0.0291 0.0056 Jupiter 24145-07-13 05:02 G 10540033.49 10540033.71 10540033.93 0.0516 0.0171 Neptune 24145-10-24 04:04 G 10540136.42 10540136.67 10540136.94 0.0089 0.0010 Jupiter 24146-08-18 00:43 G 10540434.40 10540434.53 10540434.67 0.0531 0.0427 Neptune 24146-10-26 17:02 G 10540503.96 10540504.21 10540504.47 0.0089 0.0015 Neptune 24147-10-29 05:45 G 10540871.49 10540871.74 10540872.00 0.0089 0.0020 Neptune 24148-10-30 18:14 G 10541239.02 10541239.26 10541239.52 0.0089 0.0026 Neptune 24149-11-02 06:57 G 10541606.56 10541606.79 10541607.04 0.0089 0.0031 Neptune 24150-11-04 19:26 G 10541974.09 10541974.31 10541974.56 0.0089 0.0037 Jupiter 24151-01-11 15:21 G 10542041.92 10542042.14 10542042.36 0.0512 0.0182 Neptune 24151-11-07 08:09 G 10542341.62 10542341.84 10542342.08 0.0089 0.0042 Jupiter 24152-02-13 02:24 G 10542439.43 10542439.60 10542439.77 0.0498 0.0335 Neptune 24152-11-08 20:38 G 10542709.15 10542709.36 10542709.59 0.0089 0.0047 Neptune 24153-11-11 08:38 G 10543076.67 10543076.86 10543077.09 0.0089 0.0052 Neptune 24154-11-13 20:52 G 10543444.20 10543444.37 10543444.59 0.0089 0.0057 Neptune 24155-11-16 09:07 G 10543811.72 10543811.88 10543812.09 0.0089 0.0062 Neptune 24156-11-17 21:36 G 10544179.24 10544179.40 10544179.58 0.0089 0.0067 Jupiter 24157-07-18 01:55 G 10544421.35 10544421.58 10544421.82 0.0518 0.0090 Neptune 24157-11-20 09:36 G 10544546.77 10544546.90 10544547.07 0.0089 0.0071 Jupiter 24158-08-23 04:19 G 10544822.62 10544822.68 10544822.75 0.0533 0.0510 Neptune 24158-11-22 21:36 G 10544914.30 10544914.40 10544914.56 0.0089 0.0076 Neptune 24159-11-25 09:50 G 10545281.82 10545281.91 10545282.04 0.0089 0.0080 Saturn 24159-12-25 03:50 G 10545311.42 10545311.66 10545311.90 0.0268 0.0065 Neptune 24160-11-26 21:50 G 10545649.36 10545649.41 10545649.51 0.0089 0.0085 Neptune 24161-11-29 10:19 G 10546016.93 10546016.93 10546016.95 0.0089 0.0089 Jupiter 24163-01-16 07:12 G 10546429.57 10546429.80 10546430.02 0.0510 0.0104 Jupiter 24164-02-17 12:28 G 10546826.88 10546827.02 10546827.16 0.0496 0.0400 Jupiter 24169-07-22 20:38 G 10548809.13 10548809.36 10548809.60 0.0520 0.0012

Saturn 24174-06-18 22:19 G 10550601.34 10550601.43 10550601.54 0.0291 0.0264 Jupiter 24175-01-21 00:14 G 10550817.28 10550817.51 10550817.74 0.0508 0.0026 Saturn 24175-07-03 06:28 G 10550980.61 10550980.77 10550980.93 0.0292 0.0217 Jupiter 24176-02-21 22:48 G 10551214.36 10551214.45 10551214.53 0.0495 0.0461 Uranus 24178-05-29 09:07 G 10552041.73 10552041.88 10552042.07 0.0137 0.0102 Uranus 24179-06-02 22:19 G 10552411.19 10552411.43 10552411.68 0.0137 0.0039 Uranus 24180-06-06 10:19 G 10552780.68 10552780.93 10552781.19 0.0136 0.0023 Jupiter 24180-06-23 10:04 G 10552797.83 10552797.92 10552798.01 0.0507 0.0465 Uranus 24181-06-10 21:36 G 10553150.22 10553150.40 10553150.62 0.0136 0.0085 Jupiter 24181-07-27 19:40 G 10553197.09 10553197.32 10553197.56 0.0523 0.0077 Pluto 24183-11-11 01:12 G 10554033.30 10554033.55 10554033.81 0.0064 0.0007 Jupiter 24185-12-22 21:50 G 10554806.35 10554806.41 10554806.48 0.0521 0.0496 Jupiter 24187-01-25 15:36 G 10555204.92 10555205.15 10555205.38 0.0505 0.0051 Saturn 24188-12-19 00:28 G 10555898.42 10555898.52 10555898.66 0.0268 0.0233 Saturn 24189-12-30 23:45 G 10556275.28 10556275.49 10556275.71 0.0268 0.0134 Jupiter 24192-06-28 02:38 G 10557185.47 10557185.61 10557185.76 0.0509 0.0399 Jupiter 24193-08-01 21:36 G 10557585.18 10557585.40 10557585.62 0.0525 0.0163 24196-10-20 22:19 G 10558761.24 10558761.43 10558761.62 0.1949 0.0773 Mars Jupiter 24197-12-27 19:26 G 10559194.18 10559194.31 10559194.45 0.0519 0.0418 Jupiter 24199-01-30 05:16 G 10559592.49 10559592.72 10559592.94 0.0503 0.0126 Saturn 24204-06-26 20:52 G 10561566.13 10561566.37 10561566.62 0.0291 0.0010 Jupiter 24204-07-03 22:19 G 10561573.25 10561573.43 10561573.61 0.0511 0.0326 24205-04-21 10:48 G 10561864.77 10561864.95 10561865.12 0.1589 0.0589 Mars Jupiter 24205-08-08 00:43 G 10561973.33 10561973.53 10561973.74 0.0527 0.0251 Neptune 24209-03-13 13:12 G 10563287.02 10563287.05 10563287.13 0.0088 0.0086 Jupiter 24210-01-02 10:04 G 10563581.75 10563581.92 10563582.10 0.0517 0.0344 Neptune 24210-03-16 00:00 G 10563654.41 10563654.50 10563654.60 0.0088 0.0081 Jupiter 24211-02-04 12:57 G 10563979.83 10563980.04 10563980.26 0.0502 0.0194 Neptune 24211-03-18 09:50 G 10564021.80 10564021.91 10564022.05 0.0088 0.0077 Neptune 24212-03-19 19:55 G 10564389.21 10564389.33 10564389.50 0.0088 0.0073

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Neptune 24232-05-02 12:28 G 10571737.78 10571738.02 10571738.26 0.0088 0.0028 Neptune 24233-05-04 22:48 G 10572105.23 10572105.45 10572105.71 0.0088 0.0034 Saturn 24233-06-21 01:12 G 10572152.39 10572152.55 10572152.72 0.0291 0.0215 Jupiter 24234-01-11 22:48 G 10572357.24 10572357.45 10572357.67 0.0513 0.0187 Neptune 24234-05-07 09:36 G 10572472.68 10572472.90 10572473.14 0.0088 0.0039 Saturn 24234-07-05 09:07 G 10572531.79 10572531.88 10572531.99 0.0292 0.0266 Jupiter 24235-02-13 12:14 G 10572754.84 10572755.01 10572755.19 0.0498 0.0332 Neptune 24235-05-09 20:24 G 10572840.14 10572840.35 10572840.59 0.0088 0.0044 Neptune 24236-05-11 07:12 G 10573207.61 10573207.80 10573208.03 0.0088 0.0050 Neptune 24237-05-13 18:14 G 10573575.08 10573575.26 10573575.48 0.0088 0.0054 Neptune 24238-05-16 05:16 G 10573942.55 10573942.72 10573942.93 0.0088 0.0059 Neptune 24239-05-18 16:04 G 10574310.03 10574310.17 10574310.38 0.0088 0.0065 Neptune 24240-05-20 04:04 G 10574677.51 10574677.67 10574677.83 0.0088 0.0069 Jupiter 24240-07-18 05:02 G 10574736.49 10574736.71 10574736.95 0.0518 0.0097 Neptune 24241-05-22 14:38 G 10575044.99 10575045.11 10575045.27 0.0088 0.0074 Jupiter 24241-08-23 05:45 G 10575137.67 10575137.74 10575137.83 0.0533 0.0501 Neptune 24242-05-25 01:40 G 10575412.48 10575412.57 10575412.72 0.0088 0.0079 Neptune 24243-05-27 12:57 G 10575779.97 10575780.04 10575780.15 0.0088 0.0083 Neptune 24244-05-29 00:00 G 10576147.49 10576147.50 10576147.58 0.0088 0.0088 Jupiter 24246-01-16 17:02 G 10576744.99 10576745.21 10576745.44 0.0510 0.0108 Jupiter 24247-02-17 22:33 G 10577142.31 10577142.44 10577142.59 0.0496 0.0396 Saturn 24247-12-22 04:04 G 10577449.51 10577449.67 10577449.86 0.0268 0.0188 Saturn 24249-01-02 02:52 G 10577826.45 10577826.62 10577826.82 0.0268 0.0179 Jupiter 24252-07-23 03:21 G 10579124.41 10579124.64 10579124.88 0.0520 0.0016 Jupiter 24258-01-21 08:52 G 10581132.64 10581132.87 10581133.10 0.0508 0.0030 Jupiter 24259-02-22 07:55 G 10581529.75 10581529.83 10581529.92 0.0495 0.0456 Uranus 24262-05-31 00:14 G 10582723.34 10582723.51 10582723.70 0.0137 0.0096 Uranus 24263-06-04 13:12 G 10583092.81 10583093.05 10583093.31 0.0136 0.0034 Jupiter 24263-06-24 19:55 G 10583113.24 10583113.33 10583113.42 0.0507 0.0465 Saturn 24263-06-29 00:57 G 10583117.29 10583117.54 10583117.78 0.0291 0.0040

Uranus 24264-06-08 01:12 G 10583462.31 10583462.55 10583462.81 0.0136 0.0029 Jupiter 24264-07-28 04:48 G 10583512.47 10583512.70 10583512.93 0.0522 0.0073 Uranus 24265-06-12 12:57 G 10583831.85 10583832.04 10583832.22 0.0136 0.0090 Jupiter 24268-12-22 22:33 G 10585121.38 10585121.44 10585121.51 0.0522 0.0501 Jupiter 24270-01-25 18:28 G 10585520.03 10585520.27 10585520.50 0.0506 0.0045 Pluto 24272-05-11 15:07 G 10586357.01 10586357.13 10586357.27 0.0080 0.0068 Jupiter 24275-06-29 12:14 G 10587500.87 10587501.01 10587501.16 0.0509 0.0398 Jupiter 24276-08-02 04:19 G 10587900.45 10587900.68 10587900.90 0.0524 0.0159 Saturn 24277-12-28 08:52 G 10588413.62 10588413.87 10588414.11 0.0268 0.0023 Jupiter 24280-12-27 18:14 G 10589509.13 10589509.26 10589509.39 0.0520 0.0426 Jupiter 24282-01-30 06:57 G 10589907.57 10589907.79 10589908.02 0.0504 0.0119 24284-04-23 09:50 G 10590721.74 10590721.91 10590722.08 0.1590 0.0723 Mars Jupiter 24287-07-04 01:55 G 10591888.41 10591888.58 10591888.76 0.0510 0.0332 Jupiter 24288-08-07 00:57 G 10592288.33 10592288.54 10592288.75 0.0526 0.0240 Neptune 24291-09-13 12:14 G 10593420.99 10593421.01 10593421.04 0.0090 0.0089 Saturn 24292-06-22 07:26 G 10593703.61 10593703.81 10593704.02 0.0291 0.0162 Neptune 24292-09-15 00:43 G 10593788.48 10593788.53 10593788.64 0.0090 0.0085 Jupiter 24293-01-01 15:07 G 10593896.96 10593897.13 10593897.30 0.0518 0.0349 Neptune 24293-09-17 14:09 G 10594155.99 10594156.09 10594156.22 0.0090 0.0080 Jupiter 24294-02-03 20:52 G 10594295.16 10594295.37 10594295.59 0.0502 0.0190 Neptune 24294-09-20 03:36 G 10594523.52 10594523.65 10594523.80 0.0090 0.0075 Neptune 24295-09-22 16:33 G 10594891.04 10594891.19 10594891.36 0.0090 0.0070 Neptune 24296-09-24 05:45 G 10595258.57 10595258.74 10595258.93 0.0090 0.0065 Neptune 24297-09-26 18:43 G 10595626.10 10595626.28 10595626.48 0.0090 0.0060 Neptune 24298-09-29 07:55 G 10595993.64 10595993.83 10595994.05 0.0090 0.0055 Jupiter 24299-07-08 18:57 G 10596276.09 10596276.29 10596276.49 0.0513 0.0258 Neptune 24299-10-01 20:52 G 10596361.18 10596361.37 10596361.61 0.0090 0.0050 Jupiter 24300-08-13 02:09 G 10596676.41 10596676.59 10596676.78 0.0528 0.0325 Neptune 24300-10-04 10:04 G 10596728.71 10596728.92 10596729.16 0.0090 0.0044 Neptune 24301-10-06 23:16 G 10597096.25 10597096.47 10597096.72 0.0090 0.0039

Neptune 24302-10-09 12:43 G 10597463.80 10597464.03 10597464.28 0.0090 0.0033 Neptune 24303-10-12 01:40 G 10597831.34 10597831.57 10597831.83 0.0090 0.0028 Neptune 24304-10-13 14:52 G 10598198.88 10598199.12 10598199.38 0.0090 0.0022 Jupiter 24305-01-07 11:45 G 10598284.80 10598284.99 10598285.19 0.0515 0.0270 Neptune 24305-10-16 04:04 G 10598566.42 10598566.67 10598566.93 0.0090 0.0016 Jupiter 24306-02-09 09:21 G 10598682.70 10598682.89 10598683.10 0.0500 0.0260 Neptune 24306-10-18 16:48 G 10598933.95 10598934.20 10598934.46 0.0090 0.0010 Uranus 24306-12-02 15:36 G 10598978.95 10598979.15 10598979.36 0.0142 0.0084 Saturn 24306-12-24 09:36 G 10599000.69 10599000.90 10599001.11 0.0268 0.0140 Neptune 24307-10-21 05:45 G 10599301.49 10599301.74 10599302.00 0.0089 0.0005 Uranus 24307-12-07 11:16 G 10599348.72 10599348.97 10599349.23 0.0142 0.0014 Saturn 24308-01-05 08:24 G 10599377.73 10599377.85 10599377.99 0.0268 0.0226 Neptune 24308-10-22 18:28 G 10599669.01 10599669.27 10599669.53 0.0089 0.0001 Uranus 24308-12-11 07:26 G 10599718.59 10599718.81 10599719.06 0.0142 0.0058 Neptune 24309-10-25 07:12 G 10600036.55 10600036.80 10600037.06 0.0089 0.0007 Uranus 24309-12-16 04:33 G 10600088.59 10600088.69 10600088.81 0.0143 0.0128 Neptune 24310-10-27 20:09 G 10600404.08 10600404.34 10600404.60 0.0089 0.0013 Jupiter 24311-07-14 14:09 G 10600663.87 10600664.09 10600664.31 0.0515 0.0181 Neptune 24311-10-30 08:38 G 10600771.61 10600771.86 10600772.12 0.0089 0.0018 Jupiter 24312-08-18 06:14 G 10601064.62 10601064.76 10601064.91 0.0531 0.0410 Neptune 24312-10-31 21:07 G 10601139.15 10601139.38 10601139.65 0.0089 0.0025 Neptune 24313-11-03 10:04 G 10601506.68 10601506.92 10601507.17 0.0089 0.0030 Neptune 24314-11-05 22:33 G 10601874.22 10601874.44 10601874.70 0.0089 0.0036 Neptune 24315-11-08 11:31 G 10602241.76 10602241.98 10602242.21 0.0089 0.0041 Neptune 24316-11-09 23:45 G 10602609.29 10602609.49 10602609.73 0.0089 0.0046 Jupiter 24317-01-12 06:14 G 10602672.55 10602672.76 10602672.98 0.0513 0.0190 Neptune 24317-11-12 12:14 G 10602976.82 10602977.01 10602977.24 0.0089 0.0052 Jupiter 24318-02-13 19:55 G 10603070.17 10603070.33 10603070.52 0.0498 0.0328 Neptune 24318-11-15 00:57 G 10603344.35 10603344.54 10603344.75 0.0089 0.0057 Neptune 24319-11-17 13:12 G 10603711.87 10603712.05 10603712.24 0.0089 0.0062

Neptune 24320-11-19 00:57 G 10604079.40 10604079.54 10604079.74 0.0089 0.0067 Neptune 24321-11-21 13:40 G 10604446.93 10604447.07 10604447.23 0.0089 0.0072 Saturn 24322-07-01 07:55 G 10604668.60 10604668.83 10604669.06 0.0291 0.0094 Neptune 24322-11-24 01:40 G 10604814.45 10604814.57 10604814.71 0.0089 0.0077 Jupiter 24323-07-19 12:43 G 10605051.80 10605052.03 10605052.26 0.0517 0.0099 Neptune 24323-11-26 13:26 G 10605181.98 10605182.06 10605182.19 0.0089 0.0081 Jupiter 24324-08-23 12:14 G 10605452.92 10605453.01 10605453.09 0.0532 0.0494 Neptune 24324-11-28 01:12 G 10605549.52 10605549.55 10605549.65 0.0089 0.0086 Jupiter 24329-01-16 17:45 G 10607060.02 10607060.24 10607060.47 0.0511 0.0116 Jupiter 24330-02-18 01:55 G 10607457.44 10607457.58 10607457.73 0.0497 0.0389 Jupiter 24335-07-24 10:04 G 10609439.69 10609439.92 10609440.16 0.0519 0.0018 Saturn 24336-12-30 14:09 G 10609964.86 10609965.09 10609965.33 0.0268 0.0070 Jupiter 24341-01-21 08:24 G 10611447.62 10611447.85 10611448.08 0.0509 0.0038 Jupiter 24342-02-22 10:33 G 10611844.84 10611844.94 10611845.03 0.0496 0.0450 Uranus 24346-06-01 14:24 G 10613404.93 10613405.10 10613405.31 0.0137 0.0091 Jupiter 24346-06-24 22:48 G 10613428.38 10613428.45 10613428.54 0.0506 0.0471 Uranus 24347-06-06 03:36 G 10613774.40 10613774.65 10613774.90 0.0137 0.0028 Jupiter 24347-07-29 04:19 G 10613827.44 10613827.68 10613827.91 0.0521 0.0062 Uranus 24348-06-09 15:21 G 10614143.90 10614144.14 10614144.39 0.0136 0.0035 Uranus 24349-06-14 02:24 G 10614513.45 10614513.60 10614513.80 0.0136 0.0097 Saturn 24351-06-25 16:48 G 10615254.98 10615255.20 10615255.44 0.0292 0.0104 Jupiter 24351-12-24 00:43 G 10615436.48 10615436.53 10615436.58 0.0523 0.0509 Jupiter 24353-01-26 00:00 G 10615835.26 10615835.50 10615835.73 0.0507 0.0039 Jupiter 24358-06-29 13:26 G 10617815.92 10617816.06 10617816.20 0.0508 0.0405 Jupiter 24359-08-03 02:24 G 10618215.38 10618215.60 10618215.83 0.0524 0.0147 Jupiter 24363-12-28 23:45 G 10619824.37 10619824.49 10619824.62 0.0520 0.0433 Jupiter 24365-01-30 14:38 G 10620222.88 10620223.11 10620223.34 0.0505 0.0112 Saturn 24365-12-25 16:48 G 10620551.97 10620552.20 10620552.43 0.0268 0.0089 Jupiter 24370-07-04 05:02 G 10622203.55 10622203.71 10622203.89 0.0510 0.0337 Jupiter 24371-08-08 03:36 G 10622603.44 10622603.65 10622603.85 0.0526 0.0232

Neptune 24374-03-16 06:28 G 10623554.74 10623554.77 10623554.83 0.0088 0.0086 Neptune 24375-03-18 16:33 G 10623922.12 10623922.19 10623922.30 0.0088 0.0082 Jupiter 24376-01-02 20:38 G 10624212.20 10624212.36 10624212.54 0.0518 0.0353 Neptune 24376-03-20 02:24 G 10624289.52 10624289.60 10624289.75 0.0088 0.0078 Jupiter 24377-02-04 03:21 G 10624610.43 10624610.64 10624610.86 0.0503 0.0184 Neptune 24377-03-22 12:57 G 10624656.91 10624657.04 10624657.20 0.0088 0.0073 Neptune 24378-03-24 23:16 G 10625024.33 10625024.47 10625024.65 0.0088 0.0068 Neptune 24379-03-27 09:50 G 10625391.74 10625391.91 10625392.09 0.0088 0.0063 Neptune 24380-03-28 20:09 G 10625759.15 10625759.34 10625759.54 0.0088 0.0058 Neptune 24381-03-31 06:00 G 10626126.57 10626126.75 10626126.98 0.0088 0.0054 Saturn 24381-07-02 18:57 G 10626220.09 10626220.29 10626220.50 0.0291 0.0155 Neptune 24382-04-02 16:33 G 10626493.98 10626494.19 10626494.41 0.0088 0.0048 Jupiter 24382-07-09 00:57 G 10626591.35 10626591.54 10626591.75 0.0512 0.0262 Neptune 24383-04-05 02:52 G 10626861.40 10626861.62 10626861.85 0.0088 0.0043 Jupiter 24383-08-13 07:26 G 10626991.62 10626991.81 10626991.99 0.0528 0.0318 Neptune 24384-04-06 12:43 G 10627228.82 10627229.03 10627229.28 0.0088 0.0038 Neptune 24385-04-08 23:02 G 10627596.24 10627596.46 10627596.71 0.0088 0.0033 Neptune 24386-04-11 09:36 G 10627963.65 10627963.90 10627964.14 0.0088 0.0027 Neptune 24387-04-13 19:40 G 10628331.08 10628331.32 10628331.58 0.0088 0.0022 Jupiter 24388-01-07 11:31 G 10628599.79 10628599.98 10628600.18 0.0516 0.0278 Neptune 24388-04-15 06:00 G 10628698.50 10628698.75 10628699.01 0.0088 0.0017 Jupiter 24389-02-08 10:33 G 10628997.74 10628997.94 10628998.14 0.0501 0.0252 Neptune 24389-04-17 16:33 G 10629065.93 10629066.19 10629066.45 0.0088 0.0011 Neptune 24390-04-20 02:52 G 10629433.36 10629433.62 10629433.88 0.0088 0.0006 Uranus 24390-12-03 04:33 G 10629660.48 10629660.69 10629660.91 0.0142 0.0079 Neptune 24391-04-22 13:26 G 10629800.80 10629801.06 10629801.32 0.0088 0.0000 Uranus 24391-12-08 00:14 G 10630030.26 10630030.51 10630030.76 0.0142 0.0009 Neptune 24392-04-24 00:00 G 10630168.25 10630168.50 10630168.76 0.0088 0.0005 Uranus 24392-12-11 20:24 G 10630400.13 10630400.35 10630400.59 0.0142 0.0062 Neptune 24393-04-26 10:19 G 10630535.68 10630535.93 10630536.19 0.0088 0.0011

Uranus 24393-12-16 17:02 G 10630770.15 10630770.21 10630770.32 0.0143 0.0134 Neptune 24394-04-28 21:07 G 10630903.13 10630903.38 10630903.64 0.0088 0.0016 Jupiter 24394-07-13 19:55 G 10630979.12 10630979.33 10630979.55 0.0515 0.0185 Saturn 24394-12-20 20:09 G 10631139.26 10631139.34 10631139.44 0.0269 0.0248 Neptune 24395-05-01 07:26 G 10631270.57 10631270.81 10631271.07 0.0088 0.0022 Jupiter 24395-08-18 09:36 G 10631379.75 10631379.90 10631380.05 0.0530 0.0402 Saturn 24396-01-01 21:07 G 10631516.16 10631516.38 10631516.60 0.0269 0.0120 Neptune 24396-05-02 18:14 G 10631638.02 10631638.26 10631638.51 0.0088 0.0027 Neptune 24397-05-05 05:02 G 10632005.47 10632005.71 10632005.95 0.0088 0.0032 Neptune 24398-05-07 15:07 G 10632372.92 10632373.13 10632373.38 0.0088 0.0038 Neptune 24399-05-10 01:55 G 10632740.37 10632740.58 10632740.82 0.0088 0.0043 Jupiter 24400-01-12 03:36 G 10632987.44 10632987.65 10632987.87 0.0513 0.0200 Neptune 24400-05-11 12:57 G 10633107.83 10633108.04 10633108.26 0.0088 0.0048 Jupiter 24401-02-12 20:24 G 10633385.18 10633385.35 10633385.53 0.0499 0.0320 Neptune 24401-05-13 23:45 G 10633475.29 10633475.49 10633475.70 0.0088 0.0053 Neptune 24402-05-16 10:04 G 10633842.76 10633842.92 10633843.14 0.0088 0.0059 Neptune 24403-05-18 21:21 G 10634210.24 10634210.39 10634210.59 0.0088 0.0064 Neptune 24404-05-20 08:09 G 10634577.71 10634577.84 10634578.03 0.0088 0.0070 Neptune 24405-05-22 19:55 G 10634945.20 10634945.33 10634945.48 0.0088 0.0074 Neptune 24406-05-25 06:57 G 10635312.69 10635312.79 10635312.92 0.0088 0.0079 Jupiter 24406-07-18 11:45 G 10635366.77 10635366.99 10635367.22 0.0516 0.0111 Neptune 24407-05-27 18:00 G 10635680.19 10635680.25 10635680.36 0.0088 0.0084 Jupiter 24407-08-23 07:40 G 10635767.72 10635767.82 10635767.92 0.0531 0.0479 Neptune 24408-05-29 05:45 G 10636047.72 10636047.74 10636047.77 0.0088 0.0088 Mars 24410-04-21 19:26 G 10636740.19 10636740.31 10636740.43 0.1587 0.1194 Saturn 24410-06-27 05:02 G 10636806.47 10636806.71 10636806.96 0.0292 0.0041 Jupiter 24412-01-16 20:52 G 10637375.14 10637375.37 10637375.60 0.0512 0.0124 Jupiter 24413-02-17 07:26 G 10637772.67 10637772.81 10637772.97 0.0498 0.0383 Jupiter 24418-07-23 07:12 G 10639754.57 10639754.80 10639755.04 0.0519 0.0031 Jupiter 24424-01-21 13:55 G 10641762.85 10641763.08 10641763.31 0.0509 0.0046

Saturn 24424-12-27 01:40 G 10642103.33 10642103.57 10642103.82 0.0268 0.0036 Jupiter 24425-02-21 17:16 G 10642160.13 10642160.22 10642160.33 0.0496 0.0443 Jupiter 24429-06-24 01:12 G 10643743.47 10643743.55 10643743.62 0.0505 0.0475 Uranus 24430-06-02 05:02 G 10644086.52 10644086.71 10644086.92 0.0137 0.0085 Jupiter 24430-07-28 04:48 G 10644142.47 10644142.70 10644142.94 0.0521 0.0053 Uranus 24431-06-06 18:00 G 10644456.00 10644456.25 10644456.50 0.0137 0.0022 Pluto 24431-11-13 22:33 G 10644616.31 10644616.44 10644616.61 0.0064 0.0052 Uranus 24432-06-10 06:00 G 10644825.50 10644825.75 10644825.99 0.0136 0.0041 Pluto 24432-11-14 11:02 G 10644982.74 10644982.96 10644983.20 0.0064 0.0030 Uranus 24433-06-14 16:48 G 10645195.05 10645195.20 10645195.38 0.0136 0.0102 Jupiter 24434-12-23 05:02 G 10645751.67 10645751.71 10645751.75 0.0523 0.0513 Jupiter 24436-01-26 05:02 G 10646150.48 10646150.71 10646150.94 0.0507 0.0031 Saturn 24439-06-21 01:12 G 10647392.45 10647392.55 10647392.68 0.0291 0.0258 Saturn 24440-07-04 08:38 G 10647771.71 10647771.86 10647772.03 0.0291 0.0219 Jupiter 24441-06-28 17:45 G 10648131.10 10648131.24 10648131.38 0.0508 0.0408 Jupiter 24442-08-02 06:28 G 10648530.54 10648530.77 10648530.99 0.0523 0.0140 Jupiter 24446-12-27 22:48 G 10650139.34 10650139.45 10650139.58 0.0520 0.0441 Jupiter 24448-01-30 14:38 G 10650537.88 10650538.11 10650538.34 0.0505 0.0103 Jupiter 24453-07-03 10:19 G 10652518.76 10652518.93 10652519.11 0.0510 0.0341 Saturn 24453-12-22 04:19 G 10652690.52 10652690.68 10652690.86 0.0269 0.0196 Jupiter 24454-08-07 06:28 G 10652918.56 10652918.77 10652918.98 0.0525 0.0224 Saturn 24455-01-03 05:16 G 10653067.53 10653067.72 10653067.90 0.0269 0.0172 Neptune 24456-09-15 03:50 G 10653688.66 10653688.66 10653688.66 0.0090 0.0090 Neptune 24457-09-17 17:02 G 10654056.14 10654056.21 10654056.30 0.0090 0.0085 Neptune 24458-09-20 06:00 G 10654423.65 10654423.75 10654423.88 0.0090 0.0080 Jupiter 24459-01-01 17:16 G 10654527.06 10654527.22 10654527.39 0.0518 0.0363 Neptune 24459-09-22 19:12 G 10654791.18 10654791.30 10654791.46 0.0090 0.0075 Jupiter 24460-02-04 01:55 G 10654925.36 10654925.58 10654925.80 0.0503 0.0175 Neptune 24460-09-24 07:55 G 10655158.69 10655158.83 10655159.02 0.0090 0.0070 Neptune 24461-09-26 21:07 G 10655526.23 10655526.38 10655526.58 0.0090 0.0065

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Neptune 24481-11-11 15:36 G 10662876.95 10662877.15 10662877.38 0.0089 0.0051 Neptune 24482-11-14 03:50 G 10663244.49 10663244.66 10663244.89 0.0089 0.0057 Jupiter 24483-01-11 07:12 G 10663302.59 10663302.80 10663303.01 0.0514 0.0210 Neptune 24483-11-16 16:33 G 10663612.02 10663612.19 10663612.39 0.0089 0.0061 Saturn 24483-12-29 11:31 G 10663654.73 10663654.98 10663655.22 0.0268 0.0018 Jupiter 24484-02-13 02:09 G 10663700.41 10663700.59 10663700.78 0.0500 0.0311 Neptune 24484-11-18 05:16 G 10663979.56 10663979.72 10663979.89 0.0089 0.0067 Neptune 24485-11-20 17:02 G 10664347.08 10664347.21 10664347.39 0.0089 0.0072 Neptune 24486-11-23 05:16 G 10664714.62 10664714.72 10664714.88 0.0089 0.0078 Neptune 24487-11-25 17:16 G 10665082.15 10665082.22 10665082.35 0.0089 0.0082 Neptune 24488-11-27 05:31 G 10665449.70 10665449.73 10665449.81 0.0089 0.0087 24489-04-23 18:43 G 10665597.09 10665597.28 10665597.47 0.1588 0.0126 Mars Jupiter 24489-07-17 11:16 G 10665681.75 10665681.97 10665682.20 0.0516 0.0120 Jupiter 24490-08-22 06:14 G 10666082.66 10666082.76 10666082.88 0.0531 0.0468 Jupiter 24495-01-16 00:57 G 10667690.32 10667690.54 10667690.77 0.0512 0.0131 Jupiter 24496-02-17 12:28 G 10668087.88 10668088.02 10668088.18 0.0498 0.0376 Saturn 24498-06-22 17:16 G 10668944.04 10668944.22 10668944.41 0.0291 0.0190 Saturn 24499-07-07 00:43 G 10669323.49 10669323.53 10669323.57 0.0291 0.0287 Jupiter 24501-07-23 09:50 G 10670069.68 10670069.91 10670070.14 0.0518 0.0038 Jupiter 24507-01-21 13:26 G 10672077.83 10672078.06 10672078.29 0.0510 0.0055 Jupiter 24508-02-22 18:00 G 10672475.15 10672475.25 10672475.37 0.0496 0.0435 Jupiter 24512-06-24 05:02 G 10674058.65 10674058.71 10674058.79 0.0505 0.0479 Saturn 24512-12-24 13:12 G 10674241.86 10674242.05 10674242.27 0.0269 0.0143 Jupiter 24513-07-28 07:40 G 10674457.59 10674457.82 10674458.06 0.0521 0.0046 Saturn 24514-01-05 13:55 G 10674618.96 10674619.08 10674619.22 0.0269 0.0226 Uranus 24514-06-03 17:31 G 10674768.03 10674768.23 10674768.44 0.0137 0.0080 Uranus 24515-06-08 06:28 G 10675137.52 10675137.77 10675138.02 0.0137 0.0017 Uranus 24516-06-11 18:14 G 10675507.02 10675507.26 10675507.50 0.0136 0.0046 Uranus 24517-06-16 05:45 G 10675876.59 10675876.74 10675876.90 0.0136 0.0107 Jupiter 24519-01-26 02:52 G 10676465.39 10676465.62 10676465.85 0.0508 0.0021

Jupiter 24520-02-27 01:55 G 10676862.57 10676862.58 10676862.60 0.0495 0.0493 Pluto 24521-05-16 09:50 G 10677306.65 10677306.91 10677307.17 0.0080 0.0005 Jupiter 24524-06-28 17:31 G 10678446.11 10678446.23 10678446.37 0.0507 0.0420 Jupiter 24525-08-02 02:09 G 10678845.36 10678845.59 10678845.82 0.0522 0.0123 Saturn 24528-07-01 11:45 G 10679909.76 10679909.99 10679910.23 0.0292 0.0095 Jupiter 24529-12-27 20:38 G 10680454.26 10680454.36 10680454.49 0.0522 0.0454 Jupiter 24531-01-30 16:33 G 10680852.96 10680853.19 10680853.42 0.0506 0.0092 Jupiter 24536-07-03 08:09 G 10682833.68 10682833.84 10682834.01 0.0509 0.0352 Jupiter 24537-08-07 00:14 G 10683233.30 10683233.51 10683233.73 0.0524 0.0207 Neptune 24539-03-18 23:16 G 10683822.46 10683822.47 10683822.54 0.0088 0.0087 Neptune 24540-03-20 09:50 G 10684189.83 10684189.91 10684190.01 0.0088 0.0082 Neptune 24541-03-22 20:09 G 10684557.23 10684557.34 10684557.47 0.0088 0.0077 Jupiter 24542-01-01 18:28 G 10684842.11 10684842.27 10684842.43 0.0520 0.0375 Neptune 24542-03-25 05:45 G 10684924.62 10684924.74 10684924.91 0.0088 0.0073 Saturn 24542-12-31 21:21 G 10685206.15 10685206.39 10685206.63 0.0268 0.0073 Jupiter 24543-02-04 06:43 G 10685240.56 10685240.78 10685241.00 0.0504 0.0165 Neptune 24543-03-27 16:04 G 10685292.03 10685292.17 10685292.36 0.0088 0.0068 Neptune 24544-03-29 02:24 G 10685659.45 10685659.60 10685659.80 0.0088 0.0063 Neptune 24545-03-31 12:28 G 10686026.86 10686027.02 10686027.24 0.0088 0.0058 Neptune 24546-04-02 23:31 G 10686394.28 10686394.48 10686394.69 0.0088 0.0052 Neptune 24547-04-05 09:36 G 10686761.69 10686761.90 10686762.13 0.0088 0.0047 Neptune 24548-04-06 19:40 G 10687129.11 10687129.32 10687129.57 0.0088 0.0042 Jupiter 24548-07-07 23:31 G 10687221.29 10687221.48 10687221.68 0.0511 0.0281 Neptune 24549-04-09 06:14 G 10687496.53 10687496.76 10687497.00 0.0088 0.0036 Jupiter 24549-08-12 00:14 G 10687621.32 10687621.51 10687621.71 0.0527 0.0290 Neptune 24550-04-11 16:19 G 10687863.95 10687864.18 10687864.43 0.0088 0.0031 Neptune 24551-04-14 02:52 G 10688231.37 10688231.62 10688231.87 0.0088 0.0025 Neptune 24552-04-15 12:57 G 10688598.80 10688599.04 10688599.30 0.0088 0.0020 Neptune 24553-04-17 23:16 G 10688966.22 10688966.47 10688966.73 0.0088 0.0014 Jupiter 24554-01-06 15:21 G 10689229.95 10689230.14 10689230.33 0.0517 0.0295

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24627-10-03 02:38 G 10716161.42 10716161.61 10716161.82 0.0090 0.0058 Neptune 24628-10-04 15:21 G 10716528.95 10716529.14 10716529.37 0.0090 0.0053 Neptune 24629-10-07 04:33 G 10716896.49 10716896.69 10716896.93 0.0090 0.0047 Neptune 24630-10-09 17:45 G 10717264.02 10717264.24 10717264.48 0.0090 0.0041 Saturn 24630-12-29 05:45 G 10717344.50 10717344.74 10717344.99 0.0269 0.0036 Jupiter 24631-07-09 03:07 G 10717536.44 10717536.63 10717536.82 0.0511 0.0287 Neptune 24631-10-12 06:43 G 10717631.56 10717631.78 10717632.04 0.0090 0.0035 Jupiter 24632-08-12 02:38 G 10717936.42 10717936.61 10717936.81 0.0526 0.0280 Neptune 24632-10-13 19:55 G 10717999.10 10717999.33 10717999.59 0.0090 0.0029 Neptune 24633-10-16 09:07 G 10718366.64 10718366.88 10718367.14 0.0090 0.0023 Neptune 24634-10-18 22:19 G 10718734.18 10718734.43 10718734.69 0.0090 0.0017 Neptune 24635-10-21 11:31 G 10719101.72 10719101.98 10719102.24 0.0090 0.0010 Neptune 24636-10-23 00:28 G 10719469.27 10719469.52 10719469.79 0.0090 0.0005 Jupiter 24637-01-06 14:24 G 10719544.91 10719545.10 10719545.29 0.0517 0.0306 Neptune 24637-10-25 13:26 G 10719836.80 10719837.06 10719837.32 0.0090 0.0002 Jupiter 24638-02-08 19:26 G 10719943.11 10719943.31 10719943.52 0.0502 0.0226 Neptune 24638-10-28 02:24 G 10720204.34 10720204.60 10720204.86 0.0089 0.0008 Neptune 24639-10-30 14:38 G 10720571.87 10720572.11 10720572.38 0.0089 0.0015 Neptune 24640-11-01 03:36 G 10720939.41 10720939.65 10720939.91 0.0089 0.0020 Neptune 24641-11-03 16:04 G 10721306.94 10721307.17 10721307.43 0.0089 0.0027 Uranus 24641-12-01 22:19 G 10721335.37 10721335.43 10721335.53 0.0141 0.0133 Neptune 24642-11-06 04:33 G 10721674.47 10721674.69 10721674.95 0.0089 0.0033 Uranus 24642-12-06 17:02 G 10721704.99 10721705.21 10721705.45 0.0141 0.0064 Jupiter 24643-07-13 18:43 G 10721924.07 10721924.28 10721924.50 0.0512 0.0218 Neptune 24643-11-08 17:16 G 10722042.01 10722042.22 10722042.47 0.0089 0.0038 Uranus 24643-12-11 12:28 G 10722074.77 10722075.02 10722075.28 0.0142 0.0006

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Neptune 24715-04-15 10:04 G 10748131.70 10748131.92 10748132.18 0.0088 0.0029 Jupiter 24715-08-12 23:02 G 10748251.27 10748251.46 10748251.67 0.0525 0.0264 Neptune 24716-04-16 20:24 G 10748499.12 10748499.35 10748499.61 0.0088 0.0023 Neptune 24717-04-19 06:43 G 10748866.54 10748866.78 10748867.04 0.0088 0.0017 Neptune 24718-04-21 17:16 G 10749233.97 10749234.22 10749234.48 0.0088 0.0011 Saturn 24718-12-26 19:26 G 10749483.11 10749483.31 10749483.53 0.0268 0.0137 Neptune 24719-04-24 03:36 G 10749601.39 10749601.65 10749601.91 0.0088 0.0005 Jupiter 24720-01-07 14:52 G 10749859.94 10749860.12 10749860.31 0.0519 0.0318 Saturn 24720-01-07 19:26 G 10749860.19 10749860.31 10749860.44 0.0268 0.0228 \* Neptune 24720-04-25 13:55 G 10749968.83 10749969.08 10749969.34 0.0088 0.0002 Jupiter 24721-02-09 00:43 G 10750258.32 10750258.53 10750258.74 0.0503 0.0217 Neptune 24721-04-28 00:14 G 10750336.26 10750336.51 10750336.77 0.0088 0.0007 Neptune 24722-04-30 11:02 G 10750703.70 10750703.96 10750704.21 0.0088 0.0012 Neptune 24723-05-02 21:21 G 10751071.15 10751071.39 10751071.65 0.0088 0.0018 Neptune 24724-05-04 07:55 G 10751438.59 10751438.83 10751439.09 0.0088 0.0024 Neptune 24725-05-06 18:28 G 10751806.04 10751806.27 10751806.53 0.0088 0.0030 Uranus 24725-12-03 12:28 G 10752016.93 10752017.02 10752017.15 0.0141 0.0128 Neptune 24726-05-09 05:16 G 10752173.49 10752173.72 10752173.97 0.0088 0.0035 Jupiter 24726-07-13 19:55 G 10752239.12 10752239.33 10752239.54 0.0512 0.0225 Uranus 24726-12-08 07:26 G 10752386.59 10752386.81 10752387.05 0.0141 0.0059 Neptune 24727-05-11 15:50 G 10752540.95 10752541.16 10752541.40 0.0088 0.0041 Jupiter 24727-08-17 22:48 G 10752639.28 10752639.45 10752639.63 0.0528 0.0347 Uranus 24727-12-13 02:52 G 10752756.37 10752756.62 10752756.88 0.0142 0.0012 Neptune 24728-05-13 02:24 G 10752908.40 10752908.60 10752908.84 0.0088 0.0047 Uranus 24728-12-16 22:33 G 10753126.26 10753126.44 10753126.67 0.0142 0.0084 Neptune 24729-05-15 13:26 G 10753275.86 10753276.06 10753276.27 0.0088 0.0052 Neptune 24730-05-17 23:45 G 10753643.32 10753643.49 10753643.71 0.0088 0.0058 Neptune 24731-05-20 11:02 G 10754010.79 10754010.96 10754011.14 0.0088 0.0063 Jupiter 24732-01-12 12:00 G 10754247.80 10754248.00 10754248.21 0.0516 0.0238 Neptune 24732-05-21 21:07 G 10754378.25 10754378.38 10754378.57 0.0088 0.0069

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Jupiter 24780-01-31 03:50 G 10771798.43 10771798.66 10771798.89 0.0508 0.0066 Jupiter 24785-07-03 16:19 G 10773779.03 10773779.18 10773779.34 0.0507 0.0372 Jupiter 24786-08-07 00:57 G 10774178.32 10774178.54 10774178.77 0.0523 0.0171 Neptune 24787-09-24 01:12 G 10774591.49 10774591.55 10774591.65 0.0090 0.0085 Neptune 24788-09-25 14:24 G 10774959.01 10774959.10 10774959.24 0.0090 0.0080 Neptune 24789-09-28 03:50 G 10775326.53 10775326.66 10775326.82 0.0090 0.0074 Neptune 24790-09-30 16:48 G 10775694.06 10775694.20 10775694.39 0.0090 0.0069 Jupiter 24791-01-02 00:00 G 10775787.36 10775787.50 10775787.65 0.0522 0.0401 Neptune 24791-10-03 06:00 G 10776061.58 10776061.75 10776061.95 0.0090 0.0063 Jupiter 24792-02-04 19:26 G 10776186.09 10776186.31 10776186.53 0.0506 0.0140 Neptune 24792-10-04 19:12 G 10776429.12 10776429.30 10776429.52 0.0090 0.0057 Saturn 24793-07-04 11:02 G 10776701.75 10776701.96 10776702.19 0.0292 0.0135 Neptune 24793-10-07 08:24 G 10776796.65 10776796.85 10776797.07 0.0090 0.0051 Neptune 24794-10-09 21:21 G 10777164.18 10777164.39 10777164.62 0.0090 0.0045 Neptune 24795-10-12 10:19 G 10777531.71 10777531.93 10777532.18 0.0090 0.0039 Neptune 24796-10-13 23:31 G 10777899.25 10777899.48 10777899.73 0.0090 0.0033 Jupiter 24797-07-08 08:52 G 10778166.69 10778166.87 10778167.06 0.0509 0.0301 Neptune 24797-10-16 12:14 G 10778266.78 10778267.01 10778267.28 0.0090 0.0027 Jupiter 24798-08-12 02:24 G 10778566.40 10778566.60 10778566.81 0.0525 0.0256 Neptune 24798-10-19 01:26 G 10778634.32 10778634.56 10778634.82 0.0090 0.0021 Neptune 24799-10-21 14:52 G 10779001.87 10779002.12 10779002.38 0.0090 0.0014 Neptune 24800-10-23 03:50 G 10779369.41 10779369.66 10779369.93 0.0090 0.0008 Neptune 24801-10-25 17:16 G 10779736.96 10779737.22 10779737.48 0.0089 0.0001 Neptune 24802-10-28 06:00 G 10780104.49 10780104.75 10780105.01 0.0089 0.0005 Jupiter 24803-01-06 22:04 G 10780175.24 10780175.42 10780175.60 0.0519 0.0323 Neptune 24803-10-30 18:57 G 10780472.04 10780472.29 10780472.55 0.0089 0.0012 Jupiter 24804-02-09 08:09 G 10780573.63 10780573.84 10780574.05 0.0503 0.0210 Neptune 24804-11-01 07:55 G 10780839.58 10780839.83 10780840.09 0.0089 0.0018 Neptune 24805-11-03 20:24 G 10781207.11 10781207.35 10781207.61 0.0089 0.0024 Neptune 24806-11-06 09:07 G 10781574.65 10781574.88 10781575.14 0.0089 0.0031

Saturn 24806-12-22 18:57 G 10781621.23 10781621.29 10781621.37 0.0269 0.0257 Neptune 24807-11-08 21:50 G 10781942.19 10781942.41 10781942.66 0.0089 0.0037 Saturn 24808-01-03 19:12 G 10781998.08 10781998.30 10781998.53 0.0268 0.0108 Neptune 24808-11-10 10:33 G 10782309.73 10782309.94 10782310.18 0.0089 0.0043 Jupiter 24809-07-13 02:52 G 10782554.41 10782554.62 10782554.83 0.0512 0.0230 Neptune 24809-11-12 23:02 G 10782677.26 10782677.46 10782677.69 0.0089 0.0049 Uranus 24809-12-04 02:24 G 10782698.49 10782698.60 10782698.75 0.0141 0.0122 Jupiter 24810-08-17 05:16 G 10782954.54 10782954.72 10782954.90 0.0527 0.0338 Neptune 24810-11-15 11:45 G 10783044.80 10783044.99 10783045.21 0.0089 0.0054 Uranus 24810-12-08 21:07 G 10783068.16 10783068.38 10783068.63 0.0141 0.0054 Neptune 24811-11-18 00:14 G 10783412.34 10783412.51 10783412.71 0.0089 0.0061 Uranus 24811-12-13 16:48 G 10783437.95 10783438.20 10783438.46 0.0142 0.0018 Neptune 24812-11-19 12:43 G 10783779.88 10783780.03 10783780.23 0.0089 0.0067 Uranus 24812-12-17 12:57 G 10783807.85 10783808.04 10783808.25 0.0142 0.0089 Neptune 24813-11-22 01:40 G 10784147.42 10784147.57 10784147.72 0.0089 0.0072 Neptune 24814-11-24 13:40 G 10784514.97 10784515.07 10784515.23 0.0089 0.0078 Jupiter 24815-01-11 17:16 G 10784563.02 10784563.22 10784563.43 0.0517 0.0245 Neptune 24815-11-27 02:38 G 10784882.52 10784882.61 10784882.71 0.0089 0.0083 Jupiter 24816-02-13 19:55 G 10784961.15 10784961.33 10784961.53 0.0501 0.0280 Neptune 24816-11-28 14:24 G 10785250.09 10785250.10 10785250.17 0.0089 0.0088 Jupiter 24821-07-17 21:21 G 10786942.17 10786942.39 10786942.61 0.0513 0.0156 Saturn 24822-06-28 09:07 G 10787287.65 10787287.88 10787288.12 0.0292 0.0078 Jupiter 24822-08-22 05:31 G 10787342.59 10787342.73 10787342.87 0.0529 0.0416 Jupiter 24827-01-16 08:09 G 10788950.62 10788950.84 10788951.06 0.0515 0.0171 Jupiter 24828-02-18 05:31 G 10789348.56 10789348.73 10789348.90 0.0500 0.0342 Jupiter 24833-07-22 16:19 G 10791329.94 10791330.18 10791330.41 0.0515 0.0079 Jupiter 24834-08-27 07:26 G 10791730.73 10791730.81 10791730.89 0.0530 0.0494 Saturn 24836-12-29 02:09 G 10792585.35 10792585.59 10792585.84 0.0268 0.0044 Jupiter 24839-01-21 02:09 G 10793338.36 10793338.59 10793338.82 0.0513 0.0092 Jupiter 24840-02-22 17:02 G 10793736.08 10793736.21 10793736.35 0.0498 0.0405

24843-10-28 03:50 G 10795079.46 10795079.66 10795079.85 0.1953 0.0654 Mars Jupiter 24844-06-23 19:26 G 10795319.29 10795319.31 10795319.34 0.0502 0.0498 Jupiter 24845-07-27 10:19 G 10795717.70 10795717.93 10795718.17 0.0518 0.0004 Uranus 24849-06-03 03:36 G 10797124.58 10797124.65 10797124.76 0.0138 0.0129 Uranus 24850-06-07 17:02 G 10797494.00 10797494.21 10797494.45 0.0137 0.0064 Jupiter 24851-01-25 20:38 G 10797726.13 10797726.36 10797726.60 0.0511 0.0015 Uranus 24851-06-12 06:14 G 10797863.51 10797863.76 10797864.02 0.0137 0.0000 Saturn 24851-06-22 08:09 G 10797873.84 10797873.84 10797873.87 0.0291 0.0290 Jupiter 24852-02-27 04:04 G 10798123.59 10798123.67 10798123.75 0.0497 0.0465 Uranus 24852-06-15 18:14 G 10798233.04 10798233.26 10798233.49 0.0136 0.0063 Saturn 24852-07-05 15:36 G 10798252.97 10798253.15 10798253.34 0.0292 0.0187 Uranus 24853-06-20 06:14 G 10798602.67 10798602.76 10798602.86 0.0136 0.0125 Jupiter 24856-06-28 09:36 G 10799706.78 10799706.90 10799707.01 0.0504 0.0438 Jupiter 24857-08-01 08:52 G 10800105.64 10800105.87 10800106.10 0.0520 0.0083 Jupiter 24861-12-27 08:24 G 10801714.77 10801714.85 10801714.95 0.0524 0.0482 Jupiter 24863-01-30 12:43 G 10802113.80 10802114.03 10802114.27 0.0508 0.0061 Saturn 24865-12-23 20:38 G 10803172.22 10803172.36 10803172.52 0.0269 0.0214 Saturn 24867-01-04 20:24 G 10803549.15 10803549.35 10803549.55 0.0268 0.0151 Jupiter 24868-07-03 00:43 G 10804094.38 10804094.53 10804094.69 0.0507 0.0374 Neptune 24869-03-23 11:45 G 10804357.98 10804357.99 10804358.05 0.0088 0.0087 Jupiter 24869-08-06 08:52 G 10804493.65 10804493.87 10804494.10 0.0523 0.0166 Neptune 24870-03-25 21:50 G 10804725.35 10804725.41 10804725.53 0.0088 0.0082 Neptune 24871-03-28 07:55 G 10805092.74 10805092.83 10805092.98 0.0088 0.0077 Neptune 24872-03-29 18:43 G 10805460.14 10805460.28 10805460.44 0.0088 0.0071 Neptune 24873-04-01 04:33 G 10805827.54 10805827.69 10805827.88 0.0088 0.0066 Jupiter 24874-01-01 07:12 G 10806102.66 10806102.80 10806102.95 0.0522 0.0405 Neptune 24874-04-03 14:38 G 10806194.95 10806195.11 10806195.32 0.0088 0.0061 Jupiter 24875-02-04 03:07 G 10806501.41 10806501.63 10806501.86 0.0506 0.0134 Neptune 24875-04-06 01:12 G 10806562.36 10806562.55 10806562.76 0.0088 0.0055 Neptune 24876-04-07 11:31 G 10806929.78 10806929.98 10806930.20 0.0088 0.0049

Neptune 24877-04-09 21:36 G 10807297.20 10807297.40 10807297.65 0.0088 0.0044 Neptune 24878-04-12 08:09 G 10807664.63 10807664.84 10807665.09 0.0088 0.0038 Neptune 24879-04-14 18:43 G 10808032.05 10808032.28 10808032.53 0.0088 0.0032 Neptune 24880-04-16 05:02 G 10808399.47 10808399.71 10808399.96 0.0088 0.0026 Jupiter 24880-07-07 17:45 G 10808482.06 10808482.24 10808482.43 0.0508 0.0306 Neptune 24881-04-18 15:36 G 10808766.90 10808767.15 10808767.40 0.0088 0.0020 Saturn 24881-06-29 10:33 G 10808838.69 10808838.94 10808839.18 0.0292 0.0032 Jupiter 24881-08-11 08:38 G 10808881.65 10808881.86 10808882.06 0.0524 0.0245 Neptune 24882-04-21 01:40 G 10809134.32 10809134.57 10809134.83 0.0088 0.0014 Neptune 24883-04-23 12:14 G 10809501.76 10809502.01 10809502.27 0.0088 0.0008 Neptune 24884-04-24 22:33 G 10809869.18 10809869.44 10809869.69 0.0088 0.0002 Neptune 24885-04-27 08:52 G 10810236.61 10810236.87 10810237.13 0.0088 0.0004 Jupiter 24886-01-05 23:16 G 10810490.30 10810490.47 10810490.65 0.0520 0.0332 Neptune 24886-04-29 19:26 G 10810604.05 10810604.31 10810604.56 0.0088 0.0010 Jupiter 24887-02-08 13:40 G 10810888.86 10810889.07 10810889.29 0.0505 0.0203 Neptune 24887-05-02 05:31 G 10810971.48 10810971.73 10810971.99 0.0088 0.0016 Neptune 24888-05-03 16:04 G 10811338.93 10811339.17 10811339.43 0.0088 0.0022 Neptune 24889-05-06 02:38 G 10811706.37 10811706.61 10811706.86 0.0088 0.0028 Neptune 24890-05-08 13:26 G 10812073.83 10812074.06 10812074.30 0.0088 0.0034 Neptune 24891-05-10 23:45 G 10812441.28 10812441.49 10812441.74 0.0088 0.0040 Neptune 24892-05-12 10:33 G 10812808.73 10812808.94 10812809.17 0.0088 0.0046 Jupiter 24892-07-12 10:48 G 10812869.75 10812869.95 10812870.17 0.0510 0.0234 Neptune 24893-05-14 21:07 G 10813176.19 10813176.38 10813176.61 0.0088 0.0052 Jupiter 24893-08-16 08:24 G 10813269.67 10813269.85 10813270.04 0.0526 0.0327 Uranus 24893-12-04 14:38 G 10813379.99 10813380.11 10813380.27 0.0141 0.0118 Neptune 24894-05-17 08:09 G 10813543.65 10813543.84 10813544.04 0.0088 0.0057 Uranus 24894-12-09 09:36 G 10813749.67 10813749.90 10813750.15 0.0141 0.0049 Neptune 24895-05-19 18:28 G 10813911.11 10813911.27 10813911.47 0.0088 0.0063 Uranus 24895-12-14 05:31 G 10814119.48 10814119.73 10814119.98 0.0142 0.0022 Saturn 24895-12-31 03:07 G 10814136.38 10814136.63 10814136.87 0.0268 0.0003

Neptune 24896-05-21 05:02 G 10814278.58 10814278.71 10814278.90 0.0088 0.0069 Uranus 24896-12-18 01:26 G 10814489.38 10814489.56 10814489.76 0.0142 0.0093 Neptune 24897-05-23 16:04 G 10814646.06 10814646.17 10814646.33 0.0088 0.0074 Jupiter 24898-01-10 19:40 G 10814878.12 10814878.32 10814878.53 0.0518 0.0254 Neptune 24898-05-26 03:07 G 10815013.53 10815013.63 10815013.75 0.0088 0.0080 Jupiter 24899-02-13 03:07 G 10815276.43 10815276.63 10815276.82 0.0503 0.0273 24899-04-25 12:43 G 10815347.89 10815348.03 10815348.17 0.1584 0.1076 Mars Neptune 24899-05-28 13:40 G 10815381.03 10815381.07 10815381.17 0.0088 0.0085 Jupiter 24904-07-18 02:38 G 10817257.38 10817257.61 10817257.83 0.0512 0.0161 Jupiter 24905-08-22 08:24 G 10817657.70 10817657.85 10817658.00 0.0528 0.0407 Jupiter 24910-01-16 17:02 G 10819265.99 10819266.21 10819266.43 0.0516 0.0174 Saturn 24910-06-24 09:21 G 10819424.76 10819424.89 10819425.02 0.0291 0.0244 Jupiter 24911-02-18 16:19 G 10819664.02 10819664.18 10819664.36 0.0501 0.0340 Saturn 24911-07-08 16:48 G 10819804.06 10819804.20 10819804.35 0.0292 0.0234 Jupiter 24916-07-22 22:04 G 10821645.19 10821645.42 10821645.65 0.0515 0.0083 Jupiter 24917-08-27 12:14 G 10822045.93 10822046.01 10822046.11 0.0530 0.0488 Jupiter 24922-01-21 12:28 G 10823653.80 10823654.02 10823654.25 0.0513 0.0096 Jupiter 24923-02-23 03:36 G 10824051.52 10824051.65 10824051.79 0.0498 0.0400 Saturn 24924-12-25 21:50 G 10824723.23 10824723.41 10824723.61 0.0268 0.0171 Saturn 24926-01-06 20:52 G 10825100.20 10825100.37 10825100.54 0.0267 0.0193 Jupiter 24927-06-25 05:02 G 10825634.69 10825634.71 10825634.73 0.0502 0.0499 Jupiter 24928-07-27 19:26 G 10826033.08 10826033.31 10826033.55 0.0517 0.0006 Pluto 24929-11-21 15:50 G 10826514.92 10826515.16 10826515.43 0.0064 0.0013 Uranus 24933-06-04 16:19 G 10827806.09 10827806.18 10827806.30 0.0138 0.0124 Jupiter 24934-01-26 05:45 G 10828041.50 10828041.74 10828041.97 0.0511 0.0019 Uranus 24934-06-09 06:00 G 10828175.53 10828175.75 10828175.98 0.0137 0.0060 Jupiter 24935-02-27 13:55 G 10828439.00 10828439.08 10828439.17 0.0497 0.0460 Uranus 24935-06-13 18:57 G 10828545.03 10828545.29 10828545.54 0.0137 0.0005 Uranus 24936-06-17 07:12 G 10828914.58 10828914.80 10828915.02 0.0136 0.0068 Uranus 24937-06-21 18:28 G 10829284.22 10829284.27 10829284.37 0.0136 0.0130

Jupiter 24939-06-29 20:24 G 10830022.25 10830022.35 10830022.47 0.0504 0.0439 Saturn 24940-07-01 09:21 G 10830389.65 10830389.89 10830390.14 0.0292 0.0012 Jupiter 24940-08-01 17:45 G 10830421.01 10830421.24 10830421.47 0.0519 0.0076 Jupiter 24944-12-27 09:50 G 10832029.83 10832029.91 10832029.99 0.0525 0.0488 Jupiter 24946-01-30 17:31 G 10832429.00 10832429.23 10832429.46 0.0509 0.0054 Jupiter 24951-07-04 11:45 G 10834409.84 10834409.99 10834410.15 0.0506 0.0373 Jupiter 24952-08-06 15:50 G 10834808.94 10834809.16 10834809.39 0.0521 0.0158 Neptune 24952-09-25 18:57 G 10834859.23 10834859.29 10834859.39 0.0090 0.0085 Neptune 24953-09-28 08:24 G 10835226.75 10835226.85 10835226.99 0.0090 0.0079 Neptune 24954-09-30 21:07 G 10835594.27 10835594.38 10835594.56 0.0090 0.0074 Saturn 24955-01-02 02:52 G 10835687.38 10835687.62 10835687.87 0.0268 0.0039 Neptune 24955-10-03 10:33 G 10835961.80 10835961.94 10835962.14 0.0090 0.0068 Neptune 24956-10-04 23:45 G 10836329.33 10836329.49 10836329.71 0.0090 0.0062 Jupiter 24957-01-01 08:09 G 10836417.70 10836417.84 10836417.99 0.0523 0.0412 Neptune 24957-10-07 13:26 G 10836696.86 10836697.06 10836697.27 0.0090 0.0055 Jupiter 24958-02-04 08:52 G 10836816.64 10836816.87 10836817.09 0.0507 0.0128 Neptune 24958-10-10 02:24 G 10837064.39 10837064.60 10837064.82 0.0090 0.0049 Neptune 24959-10-12 15:21 G 10837431.93 10837432.14 10837432.38 0.0090 0.0043 Neptune 24960-10-14 04:19 G 10837799.46 10837799.68 10837799.93 0.0090 0.0037 Neptune 24961-10-16 17:31 G 10838166.99 10838167.23 10838167.48 0.0090 0.0030 Neptune 24962-10-19 06:28 G 10838534.53 10838534.77 10838535.03 0.0090 0.0024 Jupiter 24963-07-09 00:57 G 10838797.36 10838797.54 10838797.73 0.0508 0.0308 Neptune 24963-10-21 19:40 G 10838902.06 10838902.32 10838902.57 0.0090 0.0017 Jupiter 24964-08-11 12:43 G 10839196.82 10839197.03 10839197.24 0.0523 0.0238 Neptune 24964-10-23 08:38 G 10839269.61 10839269.86 10839270.12 0.0090 0.0011 Neptune 24965-10-25 21:21 G 10839637.14 10839637.39 10839637.66 0.0090 0.0005 Neptune 24966-10-28 10:48 G 10840004.69 10840004.95 10840005.20 0.0090 0.0003 Neptune 24967-10-30 23:31 G 10840372.23 10840372.48 10840372.75 0.0089 0.0010 Neptune 24968-11-01 12:28 G 10840739.77 10840740.02 10840740.28 0.0089 0.0016 Jupiter 24969-01-06 08:09 G 10840805.66 10840805.84 10840806.01 0.0521 0.0334

Saturn 24969-06-25 09:07 G 10840975.71 10840975.88 10840976.06 0.0291 0.0201 Neptune 24969-11-04 01:26 G 10841107.31 10841107.56 10841107.82 0.0089 0.0022 Jupiter 24970-02-09 00:28 G 10841204.31 10841204.52 10841204.74 0.0505 0.0201 Saturn 24970-07-09 17:02 G 10841355.15 10841355.21 10841355.29 0.0292 0.0280 Neptune 24970-11-06 13:55 G 10841474.85 10841475.08 10841475.34 0.0089 0.0029 Neptune 24971-11-09 02:52 G 10841842.39 10841842.62 10841842.87 0.0089 0.0035 Neptune 24972-11-10 15:07 G 10842209.92 10842210.13 10842210.38 0.0089 0.0042 Neptune 24973-11-13 03:50 G 10842577.46 10842577.66 10842577.90 0.0089 0.0048 Neptune 24974-11-15 16:33 G 10842945.00 10842945.19 10842945.41 0.0089 0.0054 Jupiter 24975-07-13 17:31 G 10843185.03 10843185.23 10843185.44 0.0510 0.0236 Neptune 24975-11-18 05:16 G 10843312.54 10843312.72 10843312.92 0.0089 0.0060 Jupiter 24976-08-16 14:09 G 10843584.90 10843585.09 10843585.27 0.0526 0.0321 Neptune 24976-11-19 17:31 G 10843680.08 10843680.23 10843680.43 0.0089 0.0066 Neptune 24977-11-22 06:00 G 10844047.62 10844047.75 10844047.93 0.0089 0.0072 Uranus 24977-12-06 01:55 G 10844061.45 10844061.58 10844061.75 0.0141 0.0114 Mars 24978-04-28 12:00 G 10844204.82 10844205.00 10844205.19 0.1585 0.0240 Neptune 24978-11-24 18:43 G 10844415.18 10844415.28 10844415.43 0.0089 0.0077 Uranus 24978-12-10 21:07 G 10844431.14 10844431.38 10844431.62 0.0141 0.0044 Neptune 24979-11-27 07:40 G 10844782.73 10844782.82 10844782.92 0.0089 0.0083 Uranus 24979-12-15 16:33 G 10844800.95 10844801.19 10844801.45 0.0142 0.0026 Neptune 24980-11-28 19:55 G 10845150.32 10845150.33 10845150.39 0.0089 0.0088 Uranus 24980-12-19 12:43 G 10845170.85 10845171.03 10845171.22 0.0142 0.0097 Jupiter 24981-01-11 06:43 G 10845193.58 10845193.78 10845193.99 0.0518 0.0256 Jupiter 24982-02-13 14:38 G 10845591.91 10845592.11 10845592.31 0.0503 0.0269 Saturn 24983-12-27 22:19 G 10846274.23 10846274.43 10846274.66 0.0268 0.0130 Saturn 24985-01-07 20:52 G 10846651.26 10846651.37 10846651.50 0.0267 0.0233 Jupiter 24987-07-18 12:14 G 10847572.79 10847573.01 10847573.23 0.0512 0.0163 Jupiter 24988-08-21 17:31 G 10847973.09 10847973.23 10847973.39 0.0528 0.0402 Jupiter 24993-01-16 02:38 G 10849581.40 10849581.61 10849581.83 0.0516 0.0177 Jupiter 24994-02-18 02:52 G 10849979.45 10849979.62 10849979.79 0.0501 0.0335

Saturn 24999-07-03 07:12 G 10851940.56 10851940.80 10851941.05 0.0292 0.0053

Jupiter 24999-07-23 08:52 G 10851960.64 10851960.87 10851961.10 0.0514 0.0086

Jupiter 25000-08-27 20:24 G 10852361.26 10852361.35 10852361.46 0.0529 0.0480

## 26TH MILLENNIUM CE

## This is a list of transits of Earth in the 26th millennium CE.

FROM MAX- C START MAX END SUNRAD DEPTH S

TRANSIT

TIME

Jupiter 25005-01-21 16:19 G 10853968.95 10853969.18 10853969.41 0.0514 0.0102 Jupiter 25006-02-23 10:48 G 10854366.82 10854366.95 10854367.10 0.0500 0.0396 Jupiter 25010-06-25 17:45 G 10855950.22 10855950.24 10855950.28 0.0502 0.0497 Jupiter 25011-07-29 05:02 G 10856348.48 10856348.71 10856348.95 0.0516 0.0007 Saturn 25014-01-04 02:52 G 10857238.39 10857238.62 10857238.86 0.0268 0.0079 Jupiter 25017-01-26 09:21 G 10858356.66 10858356.89 10858357.13 0.0512 0.0025 Uranus 25017-06-06 02:38 G 10858487.51 10858487.61 10858487.75 0.0138 0.0121 Jupiter 25018-02-27 21:36 G 10858754.32 10858754.40 10858754.51 0.0498 0.0457 Pluto 25018-05-23 12:57 G 10858838.80 10858839.04 10858839.29 0.0080 0.0028 Uranus 25018-06-10 16:04 G 10858856.95 10858857.17 10858857.42 0.0137 0.0057 Uranus 25019-06-15 05:16 G 10859226.47 10859226.72 10859226.98 0.0137 0.0008 Uranus 25020-06-18 17:31 G 10859596.03 10859596.23 10859596.46 0.0136 0.0072 Uranus 25021-06-23 05:02 G 10859965.69 10859965.71 10859965.78 0.0136 0.0134 Jupiter 25022-06-30 05:02 G 10860337.60 10860337.71 10860337.83 0.0503 0.0439 Jupiter 25023-08-02 23:02 G 10860736.23 10860736.46 10860736.70 0.0518 0.0073 Jupiter 25027-12-28 17:16 G 10862345.15 10862345.22 10862345.31 0.0525 0.0491

Saturn 25028-06-27 07:40 G 10862526.63 10862526.82 10862527.04 0.0292 0.0159 Jupiter 25029-01-31 03:50 G 10862744.43 10862744.66 10862744.89 0.0510 0.0052 Neptune 25034-03-27 07:26 G 10864625.77 10864625.81 10864625.86 0.0088 0.0086 Jupiter 25034-07-04 18:57 G 10864725.14 10864725.29 10864725.46 0.0505 0.0376 Neptune 25035-03-29 17:31 G 10864993.14 10864993.23 10864993.34 0.0088 0.0081 Jupiter 25035-08-07 21:21 G 10865124.16 10865124.39 10865124.61 0.0521 0.0152 Neptune 25036-03-31 03:07 G 10865360.53 10865360.63 10865360.78 0.0088 0.0076 Neptune 25037-04-02 13:40 G 10865727.93 10865728.07 10865728.24 0.0088 0.0070 Neptune 25038-04-04 23:31 G 10866095.33 10866095.48 10866095.68 0.0088 0.0065 Neptune 25039-04-07 09:50 G 10866462.74 10866462.91 10866463.12 0.0088 0.0059 Jupiter 25040-01-02 19:12 G 10866733.16 10866733.30 10866733.44 0.0523 0.0414 Neptune 25040-04-08 20:09 G 10866830.15 10866830.34 10866830.56 0.0088 0.0053 Jupiter 25041-02-04 20:24 G 10867132.12 10867132.35 10867132.58 0.0507 0.0125 Neptune 25041-04-11 06:43 G 10867197.57 10867197.78 10867198.00 0.0088 0.0047 Neptune 25042-04-13 17:02 G 10867564.99 10867565.21 10867565.44 0.0088 0.0041 Saturn 25042-12-29 23:16 G 10867825.24 10867825.47 10867825.71 0.0268 0.0089 Neptune 25043-04-16 02:52 G 10867932.41 10867932.62 10867932.88 0.0088 0.0036 Neptune 25044-04-17 13:55 G 10868299.84 10868300.08 10868300.32 0.0088 0.0029 Neptune 25045-04-20 00:14 G 10868667.26 10868667.51 10868667.76 0.0088 0.0023 Neptune 25046-04-22 10:33 G 10869034.70 10869034.94 10869035.20 0.0088 0.0017 Jupiter 25046-07-09 10:48 G 10869112.77 10869112.95 10869113.14 0.0508 0.0308 Neptune 25047-04-24 20:52 G 10869402.12 10869402.37 10869402.63 0.0088 0.0011 Jupiter 25047-08-12 22:04 G 10869512.21 10869512.42 10869512.63 0.0523 0.0234 Neptune 25048-04-26 07:12 G 10869769.55 10869769.80 10869770.06 0.0088 0.0005 Neptune 25049-04-28 17:45 G 10870136.98 10870137.24 10870137.50 0.0088 0.0002 Neptune 25050-05-01 04:04 G 10870504.41 10870504.67 10870504.93 0.0088 0.0008 Neptune 25051-05-03 14:24 G 10870871.85 10870872.10 10870872.36 0.0088 0.0014 Jupiter 25052-01-07 17:45 G 10871121.07 10871121.24 10871121.43 0.0521 0.0336 Neptune 25052-05-05 00:57 G 10871239.29 10871239.54 10871239.79 0.0088 0.0020 Jupiter 25053-02-09 11:02 G 10871519.75 10871519.96 10871520.18 0.0505 0.0198

Neptune 25053-05-07 11:31 G 10871606.74 10871606.98 10871607.23 0.0088 0.0026 Neptune 25054-05-09 21:50 G 10871974.18 10871974.41 10871974.66 0.0088 0.0033 Neptune 25055-05-12 08:24 G 10872341.64 10872341.85 10872342.10 0.0088 0.0039 Neptune 25056-05-13 19:12 G 10872709.09 10872709.30 10872709.54 0.0088 0.0045 Mars 25057-05-01 11:16 G 10873061.95 10873061.97 10873062.00 0.1585 0.1564 Neptune 25057-05-16 06:00 G 10873076.56 10873076.75 10873076.98 0.0088 0.0051 Neptune 25058-05-18 16:33 G 10873444.02 10873444.19 10873444.41 0.0088 0.0057 Saturn 25058-07-05 06:14 G 10873491.53 10873491.76 10873491.99 0.0292 0.0095 Jupiter 25058-07-14 05:31 G 10873500.53 10873500.73 10873500.94 0.0510 0.0236 Neptune 25059-05-21 03:50 G 10873811.48 10873811.66 10873811.84 0.0088 0.0062 Jupiter 25059-08-17 23:45 G 10873900.31 10873900.49 10873900.68 0.0525 0.0316 Neptune 25060-05-22 14:38 G 10874178.95 10874179.11 10874179.28 0.0088 0.0068 Neptune 25061-05-25 00:57 G 10874546.43 10874546.54 10874546.70 0.0088 0.0074 Uranus 25061-12-07 12:00 G 10874742.86 10874743.00 10874743.17 0.0141 0.0111 Neptune 25062-05-27 11:45 G 10874913.91 10874913.99 10874914.13 0.0088 0.0080 Uranus 25062-12-12 06:57 G 10875112.55 10875112.79 10875113.04 0.0141 0.0041 Neptune 25063-05-29 22:33 G 10875281.40 10875281.44 10875281.53 0.0088 0.0086 Uranus 25063-12-17 02:24 G 10875482.36 10875482.60 10875482.86 0.0142 0.0029 Jupiter 25064-01-12 09:36 G 10875508.70 10875508.90 10875509.10 0.0519 0.0261 Uranus 25064-12-20 22:19 G 10875852.26 10875852.43 10875852.62 0.0142 0.0100 Jupiter 25065-02-13 19:55 G 10875907.14 10875907.33 10875907.54 0.0504 0.0265 Jupiter 25070-07-18 23:31 G 10877888.26 10877888.48 10877888.70 0.0512 0.0163 Jupiter 25071-08-23 00:43 G 10878288.38 10878288.53 10878288.69 0.0527 0.0396 Saturn 25071-12-25 03:07 G 10878412.54 10878412.63 10878412.73 0.0269 0.0246 Saturn 25073-01-05 03:07 G 10878789.42 10878789.63 10878789.85 0.0268 0.0119 Jupiter 25076-01-17 04:33 G 10879896.48 10879896.69 10879896.91 0.0517 0.0183 Jupiter 25077-02-18 08:38 G 10880294.69 10880294.86 10880295.04 0.0502 0.0330 Jupiter 25082-07-23 14:52 G 10882275.89 10882276.12 10882276.35 0.0513 0.0090 Jupiter 25083-08-27 23:45 G 10882676.39 10882676.49 10882676.60 0.0529 0.0471 Saturn 25087-06-29 07:55 G 10884077.60 10884077.83 10884078.06 0.0292 0.0114

Jupiter 25088-01-22 01:12 G 10884284.32 10884284.55 10884284.78 0.0515 0.0104 Jupiter 25089-02-22 21:50 G 10884682.27 10884682.41 10884682.55 0.0500 0.0394 Jupiter 25093-06-25 01:26 G 10886265.54 10886265.56 10886265.58 0.0501 0.0497 Jupiter 25094-07-28 10:19 G 10886663.69 10886663.93 10886664.16 0.0516 0.0012 Jupiter 25100-01-26 20:38 G 10888672.13 10888672.36 10888672.59 0.0512 0.0027 Jupiter 25101-02-28 09:07 G 10889069.80 10889069.88 10889069.99 0.0498 0.0453 Uranus 25101-06-07 13:12 G 10889168.94 10889169.05 10889169.20 0.0138 0.0118 Saturn 25102-01-01 00:57 G 10889376.30 10889376.54 10889376.78 0.0268 0.0046 Uranus 25102-06-12 03:21 G 10889538.41 10889538.64 10889538.88 0.0137 0.0053 Uranus 25103-06-16 16:19 G 10889907.93 10889908.18 10889908.44 0.0137 0.0012 Uranus 25104-06-20 04:33 G 10890277.50 10890277.69 10890277.92 0.0136 0.0076 Jupiter 25105-06-30 14:24 G 10890652.99 10890653.10 10890653.22 0.0503 0.0439 Jupiter 25106-08-03 07:40 G 10891051.59 10891051.82 10891052.05 0.0518 0.0068 Jupiter 25110-12-29 02:52 G 10892660.54 10892660.62 10892660.71 0.0526 0.0491 Jupiter 25112-02-01 13:40 G 10893059.84 10893060.07 10893060.30 0.0510 0.0049 Neptune 25116-09-27 00:57 G 10894759.54 10894759.54 10894759.55 0.0090 0.0090 Jupiter 25117-07-05 06:28 G 10895040.62 10895040.77 10895040.94 0.0505 0.0375 Saturn 25117-07-07 06:00 G 10895042.54 10895042.75 10895042.97 0.0292 0.0139 Neptune 25117-09-29 13:40 G 10895126.99 10895127.07 10895127.17 0.0090 0.0084 Jupiter 25118-08-08 07:55 G 10895439.61 10895439.83 10895440.05 0.0520 0.0150 Neptune 25118-10-02 02:52 G 10895494.51 10895494.62 10895494.76 0.0090 0.0078 Neptune 25119-10-04 16:19 G 10895862.04 10895862.18 10895862.34 0.0090 0.0072 Neptune 25120-10-06 05:31 G 10896229.57 10896229.73 10896229.91 0.0090 0.0066 Neptune 25121-10-08 18:43 G 10896597.10 10896597.28 10896597.48 0.0090 0.0060 Neptune 25122-10-11 07:40 G 10896964.64 10896964.82 10896965.05 0.0090 0.0054 Jupiter 25123-01-02 20:52 G 10897048.24 10897048.37 10897048.51 0.0523 0.0418 Neptune 25123-10-13 21:21 G 10897332.17 10897332.39 10897332.61 0.0090 0.0047 Jupiter 25124-02-06 00:14 G 10897447.29 10897447.51 10897447.74 0.0508 0.0120 Neptune 25124-10-15 10:04 G 10897699.71 10897699.92 10897700.17 0.0090 0.0041 Neptune 25125-10-17 23:16 G 10898067.24 10898067.47 10898067.72 0.0090 0.0034

Neptune 25126-10-20 12:28 G 10898434.77 10898435.02 10898435.27 0.0090 0.0027 Neptune 25127-10-23 01:26 G 10898802.31 10898802.56 10898802.82 0.0090 0.0021 25127-10-29 19:12 G 10898809.12 10898809.30 10898809.47 0.1956 0.1050 Mars Neptune 25128-10-24 14:09 G 10899169.84 10899170.09 10899170.35 0.0090 0.0014 Jupiter 25129-07-09 22:33 G 10899428.26 10899428.44 10899428.63 0.0507 0.0306 Neptune 25129-10-27 03:21 G 10899537.38 10899537.64 10899537.90 0.0090 0.0007 Jupiter 25130-08-13 06:28 G 10899827.57 10899827.77 10899827.99 0.0522 0.0231 Neptune 25130-10-29 16:19 G 10899904.93 10899905.18 10899905.44 0.0090 0.0002 Saturn 25130-12-27 04:33 G 10899963.54 10899963.69 10899963.86 0.0269 0.0204 Neptune 25131-11-01 05:16 G 10900272.47 10900272.72 10900272.99 0.0089 0.0007 Saturn 25132-01-08 04:33 G 10900340.50 10900340.69 10900340.89 0.0268 0.0161 Neptune 25132-11-02 18:14 G 10900640.02 10900640.26 10900640.53 0.0089 0.0014 Neptune 25133-11-05 07:26 G 10901007.56 10901007.81 10901008.06 0.0089 0.0020 Neptune 25134-11-07 20:24 G 10901375.11 10901375.35 10901375.60 0.0089 0.0027 Jupiter 25135-01-07 18:00 G 10901436.08 10901436.25 10901436.43 0.0521 0.0342 Neptune 25135-11-10 09:21 G 10901742.65 10901742.89 10901743.13 0.0089 0.0033 Jupiter 25136-02-10 14:24 G 10901834.88 10901835.10 10901835.31 0.0506 0.0192 Neptune 25136-11-11 21:50 G 10902110.19 10902110.41 10902110.65 0.0089 0.0040 Neptune 25137-11-14 10:04 G 10902477.72 10902477.92 10902478.17 0.0089 0.0047 Neptune 25138-11-16 23:02 G 10902845.27 10902845.46 10902845.69 0.0089 0.0053 Neptune 25139-11-19 11:45 G 10903212.80 10903212.99 10903213.19 0.0089 0.0059 Neptune 25140-11-20 23:45 G 10903580.34 10903580.49 10903580.70 0.0089 0.0066 Jupiter 25141-07-14 11:45 G 10903815.79 10903815.99 10903816.20 0.0509 0.0240 Neptune 25141-11-23 12:14 G 10903947.89 10903948.01 10903948.20 0.0089 0.0072 Jupiter 25142-08-18 02:52 G 10904215.43 10904215.62 10904215.81 0.0524 0.0308 Neptune 25142-11-26 00:43 G 10904315.43 10904315.53 10904315.69 0.0089 0.0078 Neptune 25143-11-28 13:55 G 10904682.99 10904683.08 10904683.18 0.0089 0.0083 Neptune 25144-11-30 01:55 G 10905050.57 10905050.58 10905050.62 0.0089 0.0089 Uranus 25145-12-08 23:16 G 10905424.31 10905424.47 10905424.64 0.0141 0.0107 Saturn 25146-07-01 10:19 G 10905628.69 10905628.93 10905629.17 0.0292 0.0066

Uranus 25146-12-13 17:45 G 10905794.01 10905794.24 10905794.50 0.0141 0.0038 Jupiter 25147-01-12 16:19 G 10905823.98 10905824.18 10905824.38 0.0520 0.0266 Uranus 25147-12-18 12:57 G 10906163.81 10906164.04 10906164.30 0.0141 0.0034 Jupiter 25148-02-15 05:31 G 10906222.53 10906222.73 10906222.93 0.0504 0.0261 Uranus 25148-12-22 08:52 G 10906533.71 10906533.87 10906534.05 0.0142 0.0104 Jupiter 25153-07-19 04:04 G 10908203.46 10908203.67 10908203.90 0.0511 0.0168 Jupiter 25154-08-23 03:21 G 10908603.49 10908603.64 10908603.80 0.0527 0.0388 Jupiter 25159-01-17 14:24 G 10910211.89 10910212.10 10910212.32 0.0517 0.0186 Jupiter 25160-02-19 19:12 G 10910610.13 10910610.30 10910610.49 0.0502 0.0327 Saturn 25161-01-02 03:50 G 10910927.41 10910927.66 10910927.91 0.0268 0.0002 Jupiter 25165-07-23 22:33 G 10912591.21 10912591.44 10912591.67 0.0513 0.0093 Jupiter 25166-08-28 06:43 G 10912991.68 10912991.78 10912991.89 0.0529 0.0466 Jupiter 25171-01-22 10:19 G 10914599.70 10914599.93 10914600.16 0.0515 0.0106 Jupiter 25172-02-24 07:12 G 10914997.66 10914997.80 10914997.95 0.0500 0.0390 Saturn 25175-06-25 01:55 G 10916214.56 10916214.58 10916214.61 0.0291 0.0289 Jupiter 25176-06-25 11:45 G 10916580.97 10916580.99 10916581.03 0.0501 0.0496 Saturn 25176-07-08 09:07 G 10916593.70 10916593.88 10916594.07 0.0292 0.0187 Jupiter 25177-07-28 20:09 G 10916979.11 10916979.34 10916979.58 0.0516 0.0013 Pluto 25177-11-24 11:16 G 10917097.78 10917097.97 10917098.19 0.0064 0.0039 Pluto 25178-11-26 00:00 G 10917464.31 10917464.50 10917464.69 0.0064 0.0043 Jupiter 25183-01-26 22:48 G 10918987.22 10918987.45 10918987.68 0.0513 0.0033 25183-04-29 21:36 G 10919080.22 10919080.40 10919080.59 0.1583 0.0349 Mars Jupiter 25184-02-28 13:55 G 10919384.99 10919385.08 10919385.19 0.0499 0.0449 Uranus 25185-06-07 21:50 G 10919850.29 10919850.41 10919850.56 0.0138 0.0116 Uranus 25186-06-12 11:45 G 10920219.76 10920219.99 10920220.23 0.0137 0.0051 Uranus 25187-06-17 01:12 G 10920589.30 10920589.55 10920589.80 0.0137 0.0014 Uranus 25188-06-20 13:40 G 10920958.87 10920959.07 10920959.29 0.0137 0.0078 Jupiter 25188-06-30 01:26 G 10920968.45 10920968.56 10920968.68 0.0503 0.0438 Jupiter 25189-08-02 16:48 G 10921366.97 10921367.20 10921367.43 0.0518 0.0066 Saturn 25189-12-28 07:26 G 10921514.61 10921514.81 10921515.01 0.0269 0.0160

Saturn 25191-01-09 07:12 G 10921891.65 10921891.80 10921891.97 0.0268 0.0205 Jupiter 25193-12-28 01:12 G 10922975.48 10922975.55 10922975.62 0.0526 0.0497 Jupiter 25195-01-31 14:38 G 10923374.88 10923375.11 10923375.34 0.0511 0.0042 Neptune 25199-03-30 02:24 G 10924893.58 10924893.60 10924893.68 0.0088 0.0086 Neptune 25200-03-31 13:26 G 10925260.96 10925261.06 10925261.16 0.0088 0.0080 Jupiter 25200-07-04 12:43 G 10925355.88 10925356.03 10925356.19 0.0504 0.0377 Neptune 25201-04-02 23:02 G 10925628.36 10925628.46 10925628.62 0.0088 0.0075 Jupiter 25201-08-07 10:19 G 10925754.71 10925754.93 10925755.16 0.0519 0.0142 Neptune 25202-04-05 09:36 G 10925995.76 10925995.90 10925996.07 0.0088 0.0069 Neptune 25203-04-07 19:55 G 10926363.16 10926363.33 10926363.52 0.0088 0.0063 Neptune 25204-04-09 06:14 G 10926730.57 10926730.76 10926730.96 0.0088 0.0057 Neptune 25205-04-11 16:33 G 10927097.99 10927098.19 10927098.40 0.0088 0.0051 Saturn 25205-07-02 15:07 G 10927179.88 10927180.13 10927180.37 0.0292 0.0015 Jupiter 25206-01-02 01:12 G 10927363.41 10927363.55 10927363.68 0.0524 0.0425 Neptune 25206-04-14 02:38 G 10927465.40 10927465.61 10927465.84 0.0088 0.0045 Jupiter 25207-02-05 07:26 G 10927762.59 10927762.81 10927763.04 0.0509 0.0116 Neptune 25207-04-16 12:57 G 10927832.82 10927833.04 10927833.28 0.0088 0.0039 Neptune 25208-04-17 23:02 G 10928200.24 10928200.46 10928200.72 0.0088 0.0033 Neptune 25209-04-20 10:04 G 10928567.67 10928567.92 10928568.16 0.0088 0.0026 Neptune 25210-04-22 20:09 G 10928935.10 10928935.34 10928935.60 0.0088 0.0020 Neptune 25211-04-25 06:43 G 10929302.53 10929302.78 10929303.04 0.0088 0.0014 Neptune 25212-04-26 17:16 G 10929669.96 10929670.22 10929670.48 0.0088 0.0007 Jupiter 25212-07-09 02:24 G 10929743.42 10929743.60 10929743.79 0.0506 0.0312 Neptune 25213-04-29 03:36 G 10930037.39 10930037.65 10930037.91 0.0088 0.0001 Jupiter 25213-08-12 07:55 G 10930142.62 10930142.83 10930143.04 0.0522 0.0222 Neptune 25214-05-01 13:55 G 10930404.83 10930405.08 10930405.34 0.0088 0.0006 Neptune 25215-05-04 00:14 G 10930772.26 10930772.51 10930772.77 0.0088 0.0012 Neptune 25216-05-05 10:48 G 10931139.70 10931139.95 10931140.20 0.0088 0.0018 Neptune 25217-05-07 20:52 G 10931507.14 10931507.37 10931507.63 0.0088 0.0025 Jupiter 25218-01-07 01:26 G 10931751.39 10931751.56 10931751.74 0.0522 0.0347

Neptune 25218-05-10 07:26 G 10931874.58 10931874.81 10931875.06 0.0088 0.0031 Jupiter 25219-02-09 23:45 G 10932150.28 10932150.49 10932150.71 0.0506 0.0188 Neptune 25219-05-12 18:00 G 10932242.03 10932242.25 10932242.49 0.0088 0.0037 Saturn 25220-01-04 08:24 G 10932478.61 10932478.85 10932479.09 0.0268 0.0045 Neptune 25220-05-14 04:19 G 10932609.48 10932609.68 10932609.93 0.0088 0.0044 Neptune 25221-05-16 15:07 G 10932976.94 10932977.13 10932977.36 0.0088 0.0050 Neptune 25222-05-19 01:40 G 10933344.40 10933344.57 10933344.79 0.0088 0.0056 Neptune 25223-05-21 12:43 G 10933711.86 10933712.03 10933712.23 0.0088 0.0062 Neptune 25224-05-22 23:31 G 10934079.33 10934079.48 10934079.66 0.0088 0.0068 Jupiter 25224-07-13 17:45 G 10934131.03 10934131.24 10934131.44 0.0509 0.0243 Neptune 25225-05-25 10:19 G 10934446.82 10934446.93 10934447.09 0.0088 0.0074 Jupiter 25225-08-17 08:09 G 10934530.65 10934530.84 10934531.03 0.0524 0.0303 Neptune 25226-05-27 20:52 G 10934814.29 10934814.37 10934814.50 0.0088 0.0080 Neptune 25227-05-30 08:09 G 10935181.80 10935181.84 10935181.91 0.0088 0.0086 Uranus 25229-12-09 11:31 G 10936105.81 10936105.98 10936106.15 0.0141 0.0103 Jupiter 25230-01-12 00:00 G 10936139.30 10936139.50 10936139.70 0.0520 0.0268 Uranus 25230-12-14 06:00 G 10936475.50 10936475.75 10936476.00 0.0141 0.0033 Jupiter 25231-02-14 13:40 G 10936537.87 10936538.07 10936538.27 0.0504 0.0258 Uranus 25231-12-19 00:57 G 10936845.30 10936845.54 10936845.79 0.0141 0.0037 Uranus 25232-12-22 20:09 G 10937215.20 10937215.34 10937215.53 0.0142 0.0109 Saturn 25234-06-26 08:09 G 10937765.71 10937765.84 10937765.99 0.0291 0.0236 Saturn 25235-07-10 15:21 G 10938145.02 10938145.14 10938145.29 0.0292 0.0241 Jupiter 25236-07-18 12:57 G 10938518.82 10938519.04 10938519.26 0.0511 0.0169 Jupiter 25237-08-22 11:02 G 10938918.80 10938918.96 10938919.12 0.0526 0.0384 Jupiter 25242-01-16 15:21 G 10940526.92 10940527.14 10940527.35 0.0517 0.0192 Jupiter 25243-02-18 21:50 G 10940925.23 10940925.41 10940925.59 0.0503 0.0321 Jupiter 25248-07-23 06:57 G 10942906.56 10942906.79 10942907.02 0.0513 0.0094 Saturn 25248-12-29 11:31 G 10943065.76 10943065.98 10943066.21 0.0269 0.0114 Jupiter 25249-08-27 12:14 G 10943306.91 10943307.01 10943307.13 0.0528 0.0461 Saturn 25250-01-10 11:31 G 10943442.91 10943442.98 10943443.08 0.0268 0.0251

Jupiter 25254-01-21 08:52 G 10944914.64 10944914.87 10944915.10 0.0515 0.0115 Jupiter 25255-02-23 08:52 G 10945312.73 10945312.87 10945313.02 0.0501 0.0385 Jupiter 25260-07-27 22:19 G 10947294.20 10947294.43 10947294.67 0.0515 0.0022 25262-05-01 21:07 G 10947937.23 10947937.38 10947937.52 0.1584 0.0975 Mars Saturn 25264-07-03 23:31 G 10948731.24 10948731.48 10948731.73 0.0292 0.0043 Jupiter 25266-01-26 03:36 G 10949302.41 10949302.65 10949302.88 0.0514 0.0041 Jupiter 25267-02-27 21:07 G 10949700.28 10949700.38 10949700.49 0.0499 0.0445 Pluto 25267-05-27 03:36 G 10949788.43 10949788.65 10949788.91 0.0079 0.0031 Uranus 25269-06-08 08:09 G 10950531.70 10950531.84 10950531.98 0.0138 0.0113 Uranus 25270-06-12 21:50 G 10950901.18 10950901.41 10950901.66 0.0137 0.0049 Uranus 25271-06-17 11:16 G 10951270.72 10951270.97 10951271.23 0.0137 0.0017 Jupiter 25271-06-30 04:33 G 10951283.59 10951283.69 10951283.80 0.0502 0.0443 Uranus 25272-06-20 23:45 G 10951640.30 10951640.49 10951640.71 0.0137 0.0081 Jupiter 25272-08-01 16:48 G 10951681.97 10951682.20 10951682.43 0.0517 0.0056 Jupiter 25276-12-27 05:31 G 10953290.68 10953290.73 10953290.80 0.0527 0.0505 Jupiter 25278-01-30 21:50 G 10953690.18 10953690.41 10953690.64 0.0511 0.0036 Saturn 25279-01-05 14:38 G 10954029.88 10954030.11 10954030.34 0.0268 0.0094 Neptune 25281-09-28 20:52 G 10955027.35 10955027.37 10955027.41 0.0090 0.0089 Neptune 25282-10-01 09:50 G 10955394.83 10955394.91 10955395.02 0.0090 0.0083 Jupiter 25283-07-04 17:02 G 10955671.06 10955671.21 10955671.36 0.0504 0.0380 Neptune 25283-10-03 22:48 G 10955762.34 10955762.45 10955762.60 0.0090 0.0077 Jupiter 25284-08-06 13:40 G 10956069.85 10956070.07 10956070.30 0.0519 0.0135 Neptune 25284-10-05 11:45 G 10956129.86 10956129.99 10956130.18 0.0090 0.0071 Neptune 25285-10-08 01:26 G 10956497.39 10956497.56 10956497.75 0.0090 0.0064 Neptune 25286-10-10 14:24 G 10956864.92 10956865.10 10956865.32 0.0090 0.0058 Neptune 25287-10-13 03:50 G 10957232.46 10957232.66 10957232.88 0.0090 0.0051 Neptune 25288-10-14 16:33 G 10957599.99 10957600.19 10957600.44 0.0090 0.0045 Jupiter 25289-01-01 06:43 G 10957678.65 10957678.78 10957678.92 0.0525 0.0427 Neptune 25289-10-17 06:00 G 10957967.52 10957967.75 10957967.99 0.0090 0.0038 Jupiter 25290-02-04 14:09 G 10958077.87 10958078.09 10958078.32 0.0509 0.0112

Neptune 25290-10-19 19:12 G 10958335.07 10958335.30 10958335.55 0.0090 0.0031 Neptune 25291-10-22 08:09 G 10958702.59 10958702.84 10958703.09 0.0090 0.0024 Neptune 25292-10-23 20:52 G 10959070.13 10959070.37 10959070.64 0.0090 0.0018 Saturn 25293-06-27 18:28 G 10959317.07 10959317.27 10959317.46 0.0291 0.0177 Neptune 25293-10-26 10:04 G 10959437.67 10959437.92 10959438.18 0.0090 0.0010 Neptune 25294-10-28 23:02 G 10959805.20 10959805.46 10959805.72 0.0090 0.0003 Jupiter 25295-07-09 09:21 G 10960058.70 10960058.89 10960059.07 0.0506 0.0313 Neptune 25295-10-31 12:00 G 10960172.75 10960173.00 10960173.26 0.0090 0.0004 Jupiter 25296-08-11 14:09 G 10960457.88 10960458.09 10960458.30 0.0521 0.0218 Neptune 25296-11-02 00:43 G 10960540.28 10960540.53 10960540.79 0.0089 0.0011 Neptune 25297-11-04 13:40 G 10960907.83 10960908.07 10960908.34 0.0089 0.0018 Neptune 25298-11-07 02:38 G 10961275.37 10961275.61 10961275.87 0.0089 0.0025 Neptune 25299-11-09 15:21 G 10961642.92 10961643.14 10961643.40 0.0089 0.0032 Neptune 25300-11-12 04:33 G 10962010.47 10962010.69 10962010.93 0.0089 0.0038 Jupiter 25301-01-07 01:26 G 10962066.39 10962066.56 10962066.73 0.0522 0.0354 Neptune 25301-11-14 17:16 G 10962378.01 10962378.22 10962378.46 0.0089 0.0045 Jupiter 25302-02-10 00:28 G 10962465.31 10962465.52 10962465.74 0.0507 0.0181 Neptune 25302-11-17 05:45 G 10962745.56 10962745.74 10962745.98 0.0089 0.0052 Neptune 25303-11-19 18:43 G 10963113.10 10963113.28 10963113.49 0.0089 0.0058 Neptune 25304-11-21 06:57 G 10963480.64 10963480.79 10963481.00 0.0089 0.0065 Neptune 25305-11-23 19:55 G 10963848.18 10963848.33 10963848.50 0.0089 0.0071 Neptune 25306-11-26 08:38 G 10964215.74 10964215.86 10964216.00 0.0089 0.0077 Jupiter 25307-07-15 00:57 G 10964446.34 10964446.54 10964446.75 0.0508 0.0245 Neptune 25307-11-28 21:07 G 10964583.29 10964583.38 10964583.47 0.0089 0.0083 Saturn 25308-01-01 17:31 G 10964616.99 10964617.23 10964617.47 0.0269 0.0064 Jupiter 25308-08-17 13:26 G 10964845.87 10964846.06 10964846.25 0.0523 0.0298 Neptune 25308-11-30 09:36 G 10964950.88 10964950.90 10964950.93 0.0089 0.0089 Jupiter 25313-01-11 20:52 G 10966454.18 10966454.37 10966454.57 0.0520 0.0278 Uranus 25313-12-11 00:00 G 10966787.33 10966787.50 10966787.69 0.0141 0.0099 Jupiter 25314-02-14 12:57 G 10966852.84 10966853.04 10966853.25 0.0505 0.0250

Uranus 25314-12-15 18:43 G 10967157.03 10967157.28 10967157.53 0.0141 0.0029 Uranus 25315-12-20 13:40 G 10967526.83 10967527.07 10967527.32 0.0141 0.0042 Uranus 25316-12-24 09:21 G 10967896.74 10967896.89 10967897.05 0.0142 0.0113 Jupiter 25319-07-19 14:09 G 10968833.88 10968834.09 10968834.31 0.0510 0.0179 Jupiter 25320-08-22 08:52 G 10969233.71 10969233.87 10969234.03 0.0525 0.0371 Saturn 25323-07-07 11:02 G 10970282.74 10970282.96 10970283.20 0.0292 0.0105 Jupiter 25325-01-16 16:48 G 10970841.99 10970842.20 10970842.42 0.0518 0.0202 Jupiter 25326-02-19 02:52 G 10971240.44 10971240.62 10971240.80 0.0503 0.0315 Jupiter 25331-07-24 06:14 G 10973221.53 10973221.76 10973221.99 0.0512 0.0105 Jupiter 25332-08-27 08:24 G 10973621.74 10973621.85 10973621.98 0.0527 0.0448 Saturn 25336-12-26 21:21 G 10975204.26 10975204.39 10975204.54 0.0269 0.0220 Jupiter 25337-01-21 13:40 G 10975229.84 10975230.07 10975230.29 0.0516 0.0123 Saturn 25338-01-07 22:33 G 10975581.24 10975581.44 10975581.65 0.0268 0.0146 Jupiter 25338-02-23 15:36 G 10975628.00 10975628.15 10975628.31 0.0501 0.0379 Jupiter 25343-07-28 23:45 G 10977609.26 10977609.49 10977609.73 0.0514 0.0029 Jupiter 25344-09-01 10:48 G 10978009.92 10978009.95 10978009.99 0.0530 0.0523 Jupiter 25349-01-26 08:38 G 10979617.62 10979617.86 10979618.09 0.0514 0.0045 Jupiter 25350-02-28 03:07 G 10980015.53 10980015.63 10980015.74 0.0499 0.0439 Saturn 25352-06-30 07:40 G 10980868.60 10980868.82 10980869.05 0.0291 0.0113 Uranus 25353-06-09 17:31 G 10981213.09 10981213.23 10981213.38 0.0138 0.0111 Uranus 25354-06-14 07:26 G 10981582.57 10981582.81 10981583.05 0.0137 0.0046 Jupiter 25354-06-30 09:21 G 10981598.79 10981598.89 10981599.00 0.0502 0.0445 Uranus 25355-06-18 20:38 G 10981952.11 10981952.36 10981952.62 0.0137 0.0019 Jupiter 25355-08-02 21:21 G 10981997.16 10981997.39 10981997.63 0.0517 0.0052 Uranus 25356-06-22 09:07 G 10982321.70 10982321.88 10982322.10 0.0137 0.0084 Jupiter 25359-12-28 05:16 G 10983605.67 10983605.72 10983605.78 0.0527 0.0512 Jupiter 25361-01-30 21:36 G 10984005.17 10984005.40 10984005.64 0.0511 0.0029 Jupiter 25362-03-04 08:52 G 10984402.86 10984402.87 10984402.91 0.0498 0.0495 Neptune 25364-03-31 23:02 G 10985161.41 10985161.46 10985161.54 0.0088 0.0085 Neptune 25365-04-03 09:21 G 10985528.80 10985528.89 10985529.01 0.0088 0.0079

Neptune 25366-04-05 19:12 G 10985896.20 10985896.30 10985896.47 0.0088 0.0074 Jupiter 25366-07-04 22:33 G 10985986.30 10985986.44 10985986.60 0.0504 0.0385 Saturn 25367-01-03 00:57 G 10986168.29 10986168.54 10986168.78 0.0269 0.0013 Neptune 25367-04-08 06:00 G 10986263.59 10986263.75 10986263.92 0.0088 0.0067 Jupiter 25367-08-07 18:14 G 10986385.04 10986385.26 10986385.49 0.0519 0.0129 Neptune 25368-04-09 16:33 G 10986631.01 10986631.19 10986631.37 0.0088 0.0061 Neptune 25369-04-12 02:24 G 10986998.42 10986998.60 10986998.81 0.0088 0.0055 Neptune 25370-04-14 12:43 G 10987365.83 10987366.03 10987366.26 0.0088 0.0049 Neptune 25371-04-16 22:48 G 10987733.24 10987733.45 10987733.69 0.0088 0.0043 Jupiter 25372-01-02 02:52 G 10987993.50 10987993.62 10987993.75 0.0525 0.0437 Neptune 25372-04-18 09:36 G 10988100.67 10988100.90 10988101.14 0.0088 0.0036 Jupiter 25373-02-04 12:00 G 10988392.77 10988393.00 10988393.23 0.0509 0.0102 Neptune 25373-04-20 19:40 G 10988468.09 10988468.32 10988468.57 0.0088 0.0030 Neptune 25374-04-23 06:00 G 10988835.52 10988835.75 10988836.01 0.0088 0.0024 Neptune 25375-04-25 16:33 G 10989202.95 10989203.19 10989203.45 0.0088 0.0017 Neptune 25376-04-27 03:21 G 10989570.38 10989570.64 10989570.89 0.0088 0.0010 Neptune 25377-04-29 13:55 G 10989937.82 10989938.08 10989938.34 0.0088 0.0004 Neptune 25378-05-02 00:14 G 10990305.25 10990305.51 10990305.77 0.0088 0.0003 Jupiter 25378-07-09 10:19 G 10990373.76 10990373.93 10990374.11 0.0505 0.0323 Neptune 25379-05-04 10:48 G 10990672.70 10990672.95 10990673.21 0.0088 0.0010 Jupiter 25379-08-12 11:45 G 10990772.77 10990772.99 10990773.20 0.0520 0.0204 Neptune 25380-05-05 21:07 G 10991040.13 10991040.38 10991040.64 0.0088 0.0016 Neptune 25381-05-08 07:26 G 10991407.57 10991407.81 10991408.07 0.0088 0.0023 Neptune 25382-05-10 18:14 G 10991775.02 10991775.26 10991775.50 0.0088 0.0029 Saturn 25382-07-09 01:26 G 10991834.37 10991834.56 10991834.77 0.0292 0.0171 Neptune 25383-05-13 04:19 G 10992142.46 10992142.68 10992142.93 0.0088 0.0036 Jupiter 25384-01-07 00:00 G 10992381.34 10992381.50 10992381.67 0.0523 0.0366 Neptune 25384-05-14 15:07 G 10992509.91 10992510.13 10992510.36 0.0088 0.0042 Jupiter 25385-02-09 03:07 G 10992780.41 10992780.63 10992780.85 0.0508 0.0172 Neptune 25385-05-17 01:26 G 10992877.37 10992877.56 10992877.79 0.0088 0.0049

Neptune 25386-05-19 12:14 G 10993244.82 10993245.01 10993245.22 0.0088 0.0055 Neptune 25387-05-21 23:16 G 10993612.29 10993612.47 10993612.65 0.0088 0.0061 25388-04-29 08:38 G 10993955.71 10993955.86 10993956.01 0.1582 0.0921 Mars Neptune 25388-05-23 09:36 G 10993979.76 10993979.90 10993980.09 0.0088 0.0068 Neptune 25389-05-25 20:24 G 10994347.23 10994347.35 10994347.51 0.0088 0.0074 Neptune 25390-05-28 07:12 G 10994714.72 10994714.80 10994714.94 0.0088 0.0080 Jupiter 25390-07-14 00:00 G 10994761.31 10994761.50 10994761.71 0.0507 0.0256 Neptune 25391-05-30 18:00 G 10995082.23 10995082.25 10995082.34 0.0088 0.0086 Jupiter 25391-08-17 08:52 G 10995160.68 10995160.87 10995161.07 0.0523 0.0283 Saturn 25395-12-29 06:28 G 10996755.59 10996755.77 10996755.97 0.0269 0.0166 Jupiter 25396-01-11 22:48 G 10996769.26 10996769.45 10996769.64 0.0521 0.0287 Saturn 25397-01-09 07:26 G 10997132.66 10997132.81 10997132.99 0.0268 0.0199 Jupiter 25397-02-13 18:00 G 10997168.06 10997168.25 10997168.46 0.0506 0.0243 Uranus 25397-12-11 11:31 G 10997468.81 10997468.98 10997469.18 0.0141 0.0095 Uranus 25398-12-16 06:00 G 10997838.50 10997838.75 10997839.01 0.0141 0.0025 Uranus 25399-12-21 01:12 G 10998208.31 10998208.55 10998208.79 0.0141 0.0046 Uranus 25400-12-25 20:24 G 10998578.23 10998578.35 10998578.51 0.0142 0.0118 Jupiter 25402-07-19 14:38 G 10999148.90 10999149.11 10999149.33 0.0509 0.0186 Jupiter 25403-08-23 07:40 G 10999548.66 10999548.82 10999549.00 0.0525 0.0362 Jupiter 25408-01-17 20:38 G 11001157.15 11001157.36 11001157.57 0.0519 0.0208 Jupiter 25409-02-19 07:40 G 11001555.64 11001555.82 11001556.00 0.0504 0.0309 Saturn 25411-07-03 23:16 G 11002420.23 11002420.47 11002420.71 0.0291 0.0045 Jupiter 25414-07-24 09:07 G 11003536.65 11003536.88 11003537.11 0.0512 0.0110 Jupiter 25415-08-28 11:02 G 11003936.84 11003936.96 11003937.09 0.0527 0.0441 Jupiter 25420-01-22 12:57 G 11005544.82 11005545.04 11005545.27 0.0516 0.0132 Jupiter 25421-02-23 15:50 G 11005943.01 11005943.16 11005943.32 0.0502 0.0371 Saturn 25426-01-05 09:36 G 11007719.66 11007719.90 11007720.15 0.0269 0.0041 Jupiter 25426-07-29 03:36 G 11007924.42 11007924.65 11007924.88 0.0514 0.0035 Pluto 25426-11-28 22:33 G 11008047.18 11008047.44 11008047.70 0.0064 0.0002 Jupiter 25427-09-02 12:43 G 11008324.99 11008325.03 11008325.09 0.0529 0.0516

Jupiter 25432-01-27 05:31 G 11009932.50 11009932.73 11009932.96 0.0514 0.0056 Jupiter 25433-02-28 01:55 G 11010330.47 11010330.58 11010330.70 0.0500 0.0431 Uranus 25437-06-11 04:19 G 11011894.53 11011894.68 11011894.84 0.0138 0.0108 Jupiter 25437-06-30 10:48 G 11011913.86 11011913.95 11011914.05 0.0501 0.0454 Uranus 25438-06-15 18:28 G 11012264.03 11012264.27 11012264.51 0.0137 0.0043 Jupiter 25438-08-02 19:26 G 11012312.07 11012312.31 11012312.54 0.0516 0.0037 Uranus 25439-06-20 07:26 G 11012633.56 11012633.81 11012634.07 0.0137 0.0023 Uranus 25440-06-23 19:40 G 11013003.14 11013003.32 11013003.53 0.0137 0.0087 Saturn 25440-06-27 11:16 G 11013006.83 11013006.97 11013007.12 0.0291 0.0235 Saturn 25441-07-11 17:45 G 11013386.11 11013386.24 11013386.38 0.0292 0.0239 Jupiter 25442-12-28 01:12 G 11013920.53 11013920.55 11013920.58 0.0528 0.0524 Jupiter 25444-01-31 21:50 G 11014320.18 11014320.41 11014320.64 0.0513 0.0017 Jupiter 25445-03-04 12:57 G 11014718.00 11014718.04 11014718.09 0.0499 0.0487 Neptune 25446-10-02 17:45 G 11015295.20 11015295.24 11015295.30 0.0090 0.0088 Neptune 25447-10-05 06:28 G 11015662.69 11015662.77 11015662.90 0.0090 0.0082 Neptune 25448-10-06 19:26 G 11016030.20 11016030.31 11016030.47 0.0090 0.0076 Jupiter 25449-07-04 22:48 G 11016301.30 11016301.45 11016301.59 0.0503 0.0393 Neptune 25449-10-09 08:52 G 11016397.72 11016397.87 11016398.05 0.0090 0.0069 Jupiter 25450-08-07 13:55 G 11016699.85 11016700.08 11016700.31 0.0518 0.0114 Neptune 25450-10-11 22:19 G 11016765.25 11016765.43 11016765.62 0.0090 0.0062 Neptune 25451-10-14 11:02 G 11017132.78 11017132.96 11017133.19 0.0090 0.0056 Neptune 25452-10-16 00:28 G 11017500.32 11017500.52 11017500.75 0.0090 0.0049 Neptune 25453-10-18 13:40 G 11017867.86 11017868.07 11017868.32 0.0090 0.0042 Neptune 25454-10-21 02:52 G 11018235.40 11018235.62 11018235.87 0.0090 0.0035 Saturn 25454-12-31 16:33 G 11018306.96 11018307.19 11018307.41 0.0269 0.0111 Jupiter 25455-01-02 01:55 G 11018308.46 11018308.58 11018308.70 0.0526 0.0449 Neptune 25455-10-23 16:04 G 11018602.94 11018603.17 11018603.43 0.0090 0.0028 Saturn 25456-01-12 17:02 G 11018684.14 11018684.21 11018684.30 0.0268 0.0253 Jupiter 25456-02-05 15:07 G 11018707.90 11018708.13 11018708.36 0.0510 0.0092 Neptune 25456-10-25 05:02 G 11018970.47 11018970.71 11018970.97 0.0090 0.0021

Neptune 25457-10-27 18:14 G 11019338.01 11019338.26 11019338.52 0.0090 0.0013 Neptune 25458-10-30 07:12 G 11019705.55 11019705.80 11019706.06 0.0090 0.0007 Neptune 25459-11-01 19:55 G 11020073.07 11020073.33 11020073.59 0.0090 0.0001 Neptune 25460-11-03 08:52 G 11020440.62 11020440.87 11020441.13 0.0090 0.0008 Jupiter 25461-07-09 10:33 G 11020688.76 11020688.94 11020689.11 0.0505 0.0329 Neptune 25461-11-05 21:36 G 11020808.16 11020808.40 11020808.66 0.0089 0.0015 Jupiter 25462-08-12 10:04 G 11021087.70 11021087.92 11021088.13 0.0520 0.0194 Neptune 25462-11-08 10:19 G 11021175.70 11021175.93 11021176.20 0.0089 0.0023 Neptune 25463-11-10 23:16 G 11021543.24 11021543.47 11021543.73 0.0089 0.0029 Neptune 25464-11-12 12:00 G 11021910.79 11021911.00 11021911.26 0.0089 0.0037 Neptune 25465-11-15 00:57 G 11022278.34 11022278.54 11022278.79 0.0089 0.0044 Neptune 25466-11-17 14:09 G 11022645.88 11022646.09 11022646.31 0.0089 0.0050 Jupiter 25467-01-07 02:24 G 11022696.44 11022696.60 11022696.77 0.0524 0.0372 25467-05-03 07:26 G 11022812.63 11022812.81 11022813.00 0.1583 0.0403 Mars Neptune 25467-11-20 02:52 G 11023013.43 11023013.62 11023013.82 0.0089 0.0057 Jupiter 25468-02-10 07:12 G 11023095.58 11023095.80 11023096.02 0.0508 0.0166 Neptune 25468-11-21 15:07 G 11023380.97 11023381.13 11023381.33 0.0089 0.0064 Neptune 25469-11-24 03:50 G 11023748.53 11023748.66 11023748.84 0.0089 0.0070 Saturn 25470-07-05 16:33 G 11023971.94 11023972.19 11023972.43 0.0291 0.0025 Neptune 25470-11-26 16:19 G 11024116.07 11024116.18 11024116.33 0.0089 0.0076 Neptune 25471-11-29 05:02 G 11024483.63 11024483.71 11024483.82 0.0089 0.0083 Neptune 25472-11-30 17:45 G 11024851.22 11024851.24 11024851.26 0.0089 0.0089 Jupiter 25473-07-14 02:09 G 11025076.39 11025076.59 11025076.79 0.0507 0.0261 Jupiter 25474-08-17 10:04 G 11025475.73 11025475.92 11025476.12 0.0522 0.0275 Jupiter 25479-01-11 22:48 G 11027084.26 11027084.45 11027084.64 0.0521 0.0297 Jupiter 25480-02-14 18:14 G 11027483.06 11027483.26 11027483.47 0.0506 0.0233 Uranus 25481-12-12 21:50 G 11028150.23 11028150.41 11028150.61 0.0141 0.0092 Uranus 25482-12-17 16:19 G 11028519.94 11028520.18 11028520.44 0.0141 0.0022 Uranus 25483-12-22 11:31 G 11028889.75 11028889.98 11028890.22 0.0141 0.0050 Uranus 25484-12-26 06:57 G 11029259.67 11029259.79 11029259.93 0.0142 0.0121

Saturn 25485-01-06 18:14 G 11029271.04 11029271.26 11029271.50 0.0269 0.0095 Jupiter 25485-07-18 17:45 G 11029464.03 11029464.24 11029464.46 0.0509 0.0193 Jupiter 25486-08-22 10:04 G 11029863.75 11029863.92 11029864.10 0.0525 0.0353 Jupiter 25491-01-16 17:45 G 11031472.03 11031472.24 11031472.45 0.0519 0.0219 Jupiter 25492-02-19 06:14 G 11031870.58 11031870.76 11031870.95 0.0504 0.0299 Jupiter 25497-07-23 08:24 G 11033851.62 11033851.85 11033852.08 0.0511 0.0124 Jupiter 25498-08-27 06:14 G 11034251.62 11034251.76 11034251.90 0.0526 0.0423 Saturn 25499-06-30 02:38 G 11034558.42 11034558.61 11034558.82 0.0291 0.0168 Jupiter 25503-01-22 11:16 G 11035859.75 11035859.97 11035860.19 0.0517 0.0145 Jupiter 25504-02-24 18:14 G 11036258.10 11036258.26 11036258.43 0.0503 0.0361 Jupiter 25509-07-29 00:43 G 11038239.30 11038239.53 11038239.76 0.0513 0.0049 Jupiter 25510-09-02 05:45 G 11038639.67 11038639.74 11038639.82 0.0528 0.0498 Saturn 25514-01-03 02:24 G 11039858.36 11039858.60 11039858.84 0.0269 0.0056 Jupiter 25515-01-27 06:43 G 11040247.55 11040247.78 11040248.01 0.0515 0.0068 Pluto 25515-05-30 19:12 G 11040371.12 11040371.30 11040371.51 0.0080 0.0052 Jupiter 25516-02-29 06:28 G 11040645.66 11040645.77 11040645.91 0.0501 0.0424 Jupiter 25520-06-30 11:45 G 11042228.89 11042228.99 11042229.08 0.0500 0.0459 Uranus 25521-06-12 13:40 G 11042575.93 11042576.07 11042576.25 0.0138 0.0106 Jupiter 25521-08-02 17:45 G 11042627.00 11042627.24 11042627.47 0.0515 0.0027 Uranus 25522-06-17 03:36 G 11042945.42 11042945.65 11042945.91 0.0137 0.0041 Uranus 25523-06-21 16:48 G 11043314.95 11043315.20 11043315.45 0.0137 0.0025 Uranus 25524-06-25 04:48 G 11043684.53 11043684.70 11043684.92 0.0137 0.0090 Jupiter 25527-02-01 01:26 G 11044635.33 11044635.56 11044635.80 0.0513 0.0012 Jupiter 25528-03-04 17:45 G 11045033.19 11045033.24 11045033.30 0.0499 0.0481 Neptune 25529-04-04 19:55 G 11045429.28 11045429.33 11045429.43 0.0088 0.0084 Saturn 25529-07-08 09:07 G 11045523.64 11045523.88 11045524.11 0.0291 0.0095 Neptune 25530-04-07 06:14 G 11045796.67 11045796.76 11045796.90 0.0088 0.0078 Neptune 25531-04-09 16:48 G 11046164.07 11046164.20 11046164.37 0.0088 0.0072 Neptune 25532-04-11 02:52 G 11046531.48 11046531.62 11046531.82 0.0088 0.0066 Jupiter 25532-07-05 00:28 G 11046616.38 11046616.52 11046616.67 0.0502 0.0398

Neptune 25533-04-13 13:40 G 11046898.89 11046899.07 11046899.27 0.0088 0.0059 Jupiter 25533-08-07 14:52 G 11047014.90 11047015.12 11047015.35 0.0517 0.0107 Neptune 25534-04-15 23:31 G 11047266.30 11047266.48 11047266.71 0.0088 0.0053 Neptune 25535-04-18 10:19 G 11047633.72 11047633.93 11047634.15 0.0088 0.0046 Neptune 25536-04-19 20:09 G 11048001.13 11048001.34 11048001.59 0.0088 0.0040 Neptune 25537-04-22 06:43 G 11048368.55 11048368.78 11048369.03 0.0088 0.0033 Jupiter 25538-01-02 02:52 G 11048623.52 11048623.62 11048623.74 0.0526 0.0458 Neptune 25538-04-24 16:48 G 11048735.97 11048736.20 11048736.46 0.0088 0.0027 Jupiter 25539-02-05 16:19 G 11049022.95 11049023.18 11049023.41 0.0510 0.0082 Neptune 25539-04-27 03:21 G 11049103.40 11049103.64 11049103.90 0.0088 0.0020 Neptune 25540-04-28 13:55 G 11049470.83 11049471.08 11049471.34 0.0088 0.0013 Neptune 25541-05-01 00:14 G 11049838.26 11049838.51 11049838.77 0.0088 0.0006 Neptune 25542-05-03 10:48 G 11050205.70 11050205.95 11050206.21 0.0088 0.0002 Saturn 25542-12-29 00:43 G 11050445.39 11050445.53 11050445.67 0.0270 0.0220 Neptune 25543-05-05 21:21 G 11050573.14 11050573.39 11050573.65 0.0088 0.0007 Saturn 25544-01-10 02:38 G 11050822.42 11050822.61 11050822.83 0.0269 0.0148 Neptune 25544-05-07 07:55 G 11050940.58 11050940.83 11050941.09 0.0088 0.0014 Jupiter 25544-07-09 13:55 G 11051003.91 11051004.08 11051004.25 0.0505 0.0336 Neptune 25545-05-09 18:14 G 11051308.02 11051308.26 11051308.52 0.0088 0.0021 Jupiter 25545-08-12 12:28 G 11051402.80 11051403.02 11051403.24 0.0520 0.0184 Neptune 25546-05-12 04:33 G 11051675.46 11051675.69 11051675.95 0.0088 0.0028 Neptune 25547-05-14 15:21 G 11052042.91 11052043.14 11052043.38 0.0088 0.0034 Neptune 25548-05-16 01:40 G 11052410.36 11052410.57 11052410.81 0.0088 0.0041 Neptune 25549-05-18 12:00 G 11052777.81 11052778.00 11052778.24 0.0088 0.0048 Jupiter 25550-01-07 00:43 G 11053011.38 11053011.53 11053011.70 0.0524 0.0383 Neptune 25550-05-20 22:48 G 11053145.26 11053145.45 11053145.67 0.0088 0.0054 Jupiter 25551-02-10 06:14 G 11053410.54 11053410.76 11053410.99 0.0508 0.0156 Neptune 25551-05-23 09:21 G 11053512.73 11053512.89 11053513.10 0.0088 0.0061 Neptune 25552-05-24 19:55 G 11053880.19 11053880.33 11053880.52 0.0088 0.0067 Neptune 25553-05-27 06:57 G 11054247.67 11054247.79 11054247.95 0.0088 0.0073

Neptune 25554-05-29 18:14 G 11054615.15 11054615.26 11054615.37 0.0088 0.0079 Neptune 25555-06-01 04:33 G 11054982.66 11054982.69 11054982.77 0.0088 0.0086 Jupiter 25556-07-14 02:52 G 11055391.43 11055391.62 11055391.83 0.0506 0.0273 Jupiter 25557-08-17 07:26 G 11055790.61 11055790.81 11055791.01 0.0521 0.0258 Saturn 25558-07-02 17:31 G 11056110.01 11056110.23 11056110.47 0.0291 0.0101 Jupiter 25562-01-11 19:26 G 11057399.12 11057399.31 11057399.50 0.0522 0.0310 Jupiter 25563-02-14 19:40 G 11057798.11 11057798.32 11057798.53 0.0507 0.0222 Uranus 25565-12-14 06:14 G 11058831.58 11058831.76 11058831.97 0.0141 0.0090 Uranus 25566-12-19 00:57 G 11059201.29 11059201.54 11059201.79 0.0141 0.0019 Uranus 25567-12-23 19:55 G 11059571.10 11059571.33 11059571.57 0.0141 0.0052 Jupiter 25568-07-18 17:45 G 11059779.02 11059779.24 11059779.45 0.0508 0.0203 Uranus 25568-12-27 15:50 G 11059941.03 11059941.16 11059941.28 0.0142 0.0123 Jupiter 25569-08-22 05:02 G 11060178.53 11060178.71 11060178.89 0.0523 0.0335 Saturn 25573-01-04 11:16 G 11061409.72 11061409.97 11061410.22 0.0268 0.0002 Jupiter 25574-01-16 17:16 G 11061787.01 11061787.22 11061787.43 0.0520 0.0231 Jupiter 25575-02-19 10:04 G 11062185.73 11062185.92 11062186.11 0.0505 0.0290 Jupiter 25580-07-23 07:55 G 11064166.61 11064166.83 11064167.06 0.0510 0.0132 Jupiter 25581-08-27 03:36 G 11064566.51 11064566.65 11064566.80 0.0526 0.0412 Jupiter 25586-01-21 14:52 G 11066174.90 11066175.12 11066175.34 0.0518 0.0152 Jupiter 25587-02-23 23:45 G 11066573.33 11066573.49 11066573.65 0.0503 0.0355 Saturn 25588-07-09 23:45 G 11067075.29 11067075.49 11067075.70 0.0292 0.0162 Jupiter 25592-07-28 02:09 G 11068554.36 11068554.59 11068554.82 0.0512 0.0056 25593-04-30 19:12 G 11068831.24 11068831.30 11068831.36 0.1582 0.1496 Mars Jupiter 25593-09-01 06:43 G 11068954.70 11068954.78 11068954.87 0.0528 0.0490 Jupiter 25598-01-26 09:36 G 11070562.67 11070562.90 11070563.13 0.0515 0.0077 Jupiter 25599-02-28 09:36 G 11070960.77 11070960.90 11070961.03 0.0501 0.0415 Saturn 25601-12-30 08:38 G 11071996.68 11071996.86 11071997.07 0.0270 0.0168 Saturn 25603-01-11 10:19 G 11072373.77 11072373.93 11072374.10 0.0268 0.0199 Jupiter 25603-06-30 15:36 G 11072544.07 11072544.15 11072544.24 0.0500 0.0464 Jupiter 25604-08-01 21:21 G 11072942.15 11072942.39 11072942.62 0.0515 0.0019

Uranus 25605-06-12 23:45 G 11073257.33 11073257.49 11073257.67 0.0138 0.0103 Uranus 25606-06-17 13:40 G 11073626.83 11073627.07 11073627.32 0.0137 0.0037 Uranus 25607-06-22 02:38 G 11073996.36 11073996.61 11073996.86 0.0137 0.0028 Uranus 25608-06-25 14:52 G 11074365.94 11074366.12 11074366.31 0.0137 0.0092 Jupiter 25610-01-31 02:24 G 11074950.36 11074950.60 11074950.83 0.0513 0.0008 Jupiter 25611-03-04 19:40 G 11075348.25 11075348.32 11075348.40 0.0499 0.0472 Neptune 25611-10-05 14:52 G 11075563.09 11075563.12 11075563.22 0.0090 0.0087 Neptune 25612-10-07 04:33 G 11075930.59 11075930.69 11075930.81 0.0090 0.0080 Neptune 25613-10-09 17:02 G 11076298.09 11076298.21 11076298.39 0.0090 0.0074 Neptune 25614-10-12 06:14 G 11076665.61 11076665.76 11076665.95 0.0090 0.0067 Jupiter 25615-07-05 03:50 G 11076931.53 11076931.66 11076931.80 0.0502 0.0406 Neptune 25615-10-14 19:26 G 11077033.13 11077033.31 11077033.52 0.0090 0.0060 Jupiter 25616-08-06 15:07 G 11077329.90 11077330.13 11077330.36 0.0516 0.0092 Neptune 25616-10-16 08:38 G 11077400.67 11077400.86 11077401.08 0.0090 0.0053 Saturn 25617-07-04 05:16 G 11077661.47 11077661.72 11077661.96 0.0291 0.0040 Neptune 25617-10-18 21:50 G 11077768.20 11077768.41 11077768.64 0.0090 0.0046 Neptune 25618-10-21 11:02 G 11078135.74 11078135.96 11078136.20 0.0090 0.0039 Neptune 25619-10-24 00:00 G 11078503.28 11078503.50 11078503.76 0.0090 0.0032 Neptune 25620-10-25 13:12 G 11078870.82 11078871.05 11078871.31 0.0090 0.0025 Jupiter 25620-12-31 22:33 G 11078938.35 11078938.44 11078938.56 0.0527 0.0470 Neptune 25621-10-28 02:38 G 11079238.36 11079238.61 11079238.87 0.0090 0.0017 Jupiter 25622-02-04 16:33 G 11079337.96 11079338.19 11079338.42 0.0512 0.0071 Neptune 25622-10-30 15:21 G 11079605.89 11079606.14 11079606.41 0.0090 0.0010 Neptune 25623-11-02 04:33 G 11079973.43 11079973.69 11079973.95 0.0090 0.0002 Neptune 25624-11-03 17:31 G 11080340.97 11080341.23 11080341.49 0.0090 0.0005 Neptune 25625-11-06 06:14 G 11080708.51 11080708.76 11080709.03 0.0090 0.0013 Neptune 25626-11-08 19:12 G 11081076.05 11081076.30 11081076.56 0.0089 0.0020 Jupiter 25627-07-09 16:48 G 11081319.03 11081319.20 11081319.38 0.0503 0.0342 Neptune 25627-11-11 07:40 G 11081443.59 11081443.82 11081444.08 0.0089 0.0028 Jupiter 25628-08-11 10:48 G 11081717.73 11081717.95 11081718.17 0.0518 0.0170

Neptune 25628-11-12 20:38 G 11081811.14 11081811.36 11081811.62 0.0089 0.0035 Neptune 25629-11-15 09:36 G 11082178.69 11082178.90 11082179.14 0.0089 0.0042 Neptune 25630-11-17 22:19 G 11082546.23 11082546.43 11082546.67 0.0089 0.0049 Neptune 25631-11-20 11:16 G 11082913.78 11082913.97 11082914.19 0.0089 0.0056 Saturn 25632-01-06 18:43 G 11082961.04 11082961.28 11082961.52 0.0268 0.0049 Neptune 25632-11-22 00:00 G 11083281.34 11083281.50 11083281.71 0.0089 0.0063 Jupiter 25633-01-05 22:33 G 11083326.30 11083326.44 11083326.60 0.0525 0.0395 Neptune 25633-11-24 12:43 G 11083648.89 11083649.03 11083649.21 0.0089 0.0069 Jupiter 25634-02-09 09:21 G 11083725.67 11083725.89 11083726.11 0.0510 0.0145 Neptune 25634-11-27 01:55 G 11084016.45 11084016.58 11084016.72 0.0089 0.0076 Neptune 25635-11-29 13:55 G 11084384.01 11084384.08 11084384.20 0.0089 0.0083 Neptune 25636-12-01 02:24 G 11084751.60 11084751.60 11084751.65 0.0089 0.0089 Jupiter 25639-07-14 05:02 G 11085706.52 11085706.71 11085706.91 0.0505 0.0278 Jupiter 25640-08-16 06:28 G 11086105.57 11086105.77 11086105.98 0.0521 0.0248 Jupiter 25645-01-10 23:16 G 11087714.29 11087714.47 11087714.66 0.0523 0.0316 Jupiter 25646-02-14 01:40 G 11088113.36 11088113.57 11088113.78 0.0507 0.0216 Saturn 25646-06-28 06:28 G 11088247.65 11088247.77 11088247.90 0.0290 0.0247 Saturn 25647-07-12 12:14 G 11088626.87 11088627.01 11088627.17 0.0292 0.0226 Uranus 25649-12-14 14:24 G 11089512.91 11089513.10 11089513.31 0.0141 0.0088 Uranus 25650-12-19 08:38 G 11089882.62 11089882.86 11089883.12 0.0141 0.0018 Jupiter 25651-07-18 20:24 G 11090094.14 11090094.35 11090094.56 0.0508 0.0209 Uranus 25651-12-24 03:50 G 11090252.43 11090252.66 11090252.90 0.0141 0.0054 Jupiter 25652-08-21 06:43 G 11090493.60 11090493.78 11090493.96 0.0523 0.0327 Uranus 25652-12-27 23:16 G 11090622.37 11090622.47 11090622.60 0.0142 0.0125 Jupiter 25657-01-15 21:50 G 11092102.20 11092102.41 11092102.62 0.0520 0.0238 Jupiter 25658-02-18 14:52 G 11092500.93 11092501.12 11092501.31 0.0505 0.0282 Saturn 25660-12-31 15:21 G 11093547.92 11093548.14 11093548.36 0.0269 0.0117 Saturn 25662-01-12 16:04 G 11093925.08 11093925.17 11093925.27 0.0268 0.0247 Jupiter 25663-07-23 12:57 G 11094481.82 11094482.04 11094482.27 0.0510 0.0138 Jupiter 25664-08-26 07:55 G 11094881.68 11094881.83 11094881.98 0.0525 0.0404

Jupiter 25669-01-20 17:31 G 11096490.01 11096490.23 11096490.46 0.0518 0.0160 Jupiter 25670-02-23 03:07 G 11096888.47 11096888.63 11096888.80 0.0503 0.0347 25672-05-02 18:14 G 11097688.08 11097688.26 11097688.45 0.1582 0.0179 Mars 25674-11-30 18:28 G 11098630.14 11098630.27 11098630.46 0.0064 0.0051 Pluto Jupiter 25675-07-28 05:45 G 11098869.51 11098869.74 11098869.97 0.0512 0.0066 Pluto 25675-12-02 06:57 G 11098996.58 11098996.79 11098997.04 0.0064 0.0031 Saturn 25676-07-05 13:40 G 11099212.83 11099213.07 11099213.31 0.0291 0.0018 Jupiter 25676-08-31 06:14 G 11099269.67 11099269.76 11099269.87 0.0527 0.0475 Jupiter 25681-01-25 09:21 G 11100877.66 11100877.89 11100878.12 0.0517 0.0087 Jupiter 25682-02-27 13:55 G 11101275.94 11101276.08 11101276.21 0.0502 0.0407 Jupiter 25686-06-29 22:04 G 11102859.35 11102859.42 11102859.51 0.0499 0.0467 Jupiter 25687-08-01 23:31 G 11103257.25 11103257.48 11103257.71 0.0514 0.0009 Uranus 25689-06-13 07:26 G 11103938.66 11103938.81 11103939.00 0.0138 0.0102 Uranus 25690-06-17 21:36 G 11104308.16 11104308.40 11104308.65 0.0138 0.0036 Saturn 25691-01-08 00:00 G 11104512.27 11104512.50 11104512.73 0.0268 0.0097 Uranus 25691-06-22 10:33 G 11104677.69 11104677.94 11104678.19 0.0137 0.0029 Uranus 25692-06-25 22:48 G 11105047.27 11105047.45 11105047.64 0.0137 0.0094 Jupiter 25693-01-30 04:19 G 11105265.44 11105265.68 11105265.91 0.0515 0.0014 Jupiter 25694-03-04 01:55 G 11105663.51 11105663.58 11105663.67 0.0500 0.0467 Neptune 25694-04-06 17:02 G 11105697.16 11105697.21 11105697.33 0.0088 0.0083 Neptune 25695-04-09 03:21 G 11106064.55 11106064.64 11106064.80 0.0088 0.0077 Neptune 25696-04-10 14:09 G 11106431.96 11106432.09 11106432.26 0.0088 0.0070 Neptune 25697-04-13 00:28 G 11106799.37 11106799.52 11106799.72 0.0088 0.0064 Neptune 25698-04-15 11:02 G 11107166.78 11107166.96 11107167.17 0.0088 0.0057 Jupiter 25698-07-04 08:24 G 11107246.72 11107246.85 11107246.98 0.0501 0.0408 Neptune 25699-04-17 21:07 G 11107534.20 11107534.38 11107534.62 0.0088 0.0051 Jupiter 25699-08-06 16:33 G 11107644.96 11107645.19 11107645.42 0.0516 0.0084 Neptune 25700-04-20 07:40 G 11107901.61 11107901.82 11107902.06 0.0088 0.0044 Neptune 25701-04-22 18:00 G 11108269.03 11108269.25 11108269.50 0.0088 0.0037 Neptune 25702-04-25 04:33 G 11108636.45 11108636.69 11108636.94 0.0088 0.0030

Neptune 25703-04-27 15:07 G 11109003.88 11109004.13 11109004.38 0.0088 0.0023 Jupiter 25704-01-02 02:52 G 11109253.52 11109253.62 11109253.72 0.0528 0.0474 Neptune 25704-04-29 01:12 G 11109371.30 11109371.55 11109371.81 0.0088 0.0016 Jupiter 25705-02-04 23:31 G 11109653.25 11109653.48 11109653.71 0.0512 0.0067 Neptune 25705-05-01 11:45 G 11109738.74 11109738.99 11109739.25 0.0088 0.0009 Saturn 25705-06-30 14:24 G 11109798.92 11109799.10 11109799.28 0.0291 0.0192 Neptune 25706-05-03 22:19 G 11110106.17 11110106.43 11110106.69 0.0088 0.0002 Saturn 25706-07-14 20:24 G 11110178.31 11110178.35 11110178.43 0.0292 0.0284 Neptune 25707-05-06 08:38 G 11110473.61 11110473.86 11110474.12 0.0088 0.0005 Neptune 25708-05-07 19:12 G 11110841.05 11110841.30 11110841.56 0.0088 0.0012 Neptune 25709-05-10 05:31 G 11111208.49 11111208.73 11111209.00 0.0088 0.0019 Neptune 25710-05-12 16:19 G 11111575.94 11111576.18 11111576.44 0.0088 0.0026 Jupiter 25710-07-09 21:21 G 11111634.23 11111634.39 11111634.56 0.0503 0.0345 Neptune 25711-05-15 02:38 G 11111943.39 11111943.61 11111943.87 0.0088 0.0033 Jupiter 25711-08-12 13:40 G 11112032.85 11112033.07 11112033.30 0.0518 0.0164 Neptune 25712-05-16 12:57 G 11112310.84 11112311.04 11112311.30 0.0088 0.0040 Neptune 25713-05-18 23:45 G 11112678.29 11112678.49 11112678.72 0.0088 0.0046 Neptune 25714-05-21 10:19 G 11113045.75 11113045.93 11113046.15 0.0088 0.0053 Neptune 25715-05-23 20:38 G 11113413.20 11113413.36 11113413.58 0.0088 0.0060 Jupiter 25716-01-07 05:16 G 11113641.57 11113641.72 11113641.87 0.0525 0.0400 Neptune 25716-05-25 07:40 G 11113780.66 11113780.82 11113781.00 0.0088 0.0066 Jupiter 25717-02-09 16:04 G 11114040.95 11114041.17 11114041.40 0.0510 0.0139 Neptune 25717-05-27 18:00 G 11114148.13 11114148.25 11114148.42 0.0088 0.0073 Neptune 25718-05-30 05:02 G 11114515.61 11114515.71 11114515.83 0.0088 0.0079 Neptune 25719-06-01 16:19 G 11114883.12 11114883.18 11114883.24 0.0088 0.0086 Saturn 25720-01-03 19:55 G 11115099.09 11115099.33 11115099.57 0.0269 0.0070 Jupiter 25722-07-14 11:31 G 11116021.79 11116021.98 11116022.17 0.0505 0.0282 Jupiter 25723-08-17 12:28 G 11116420.82 11116421.02 11116421.23 0.0521 0.0241 Jupiter 25728-01-12 04:04 G 11118029.49 11118029.67 11118029.85 0.0523 0.0321 Jupiter 25729-02-14 07:12 G 11118428.59 11118428.80 11118429.01 0.0508 0.0209

Uranus 25733-12-15 23:02 G 11120194.28 11120194.46 11120194.68 0.0140 0.0086 Jupiter 25734-07-19 03:07 G 11120409.42 11120409.63 11120409.84 0.0507 0.0215 Uranus 25734-12-20 17:31 G 11120563.98 11120564.23 11120564.49 0.0141 0.0015 Saturn 25735-07-08 18:57 G 11120764.05 11120764.29 11120764.53 0.0292 0.0070 Jupiter 25735-08-22 10:19 G 11120808.75 11120808.93 11120809.12 0.0522 0.0316 Uranus 25735-12-25 12:28 G 11120933.80 11120934.02 11120934.26 0.0141 0.0056 Uranus 25736-12-29 07:55 G 11121303.74 11121303.83 11121303.95 0.0142 0.0128 Jupiter 25740-01-16 21:21 G 11122417.19 11122417.39 11122417.60 0.0521 0.0248 Jupiter 25741-02-18 18:43 G 11122816.09 11122816.28 11122816.48 0.0506 0.0274 Jupiter 25746-07-23 19:12 G 11124797.08 11124797.30 11124797.53 0.0509 0.0143 Jupiter 25747-08-27 09:07 G 11125196.73 11125196.88 11125197.04 0.0524 0.0392 Saturn 25748-12-29 01:26 G 11125686.44 11125686.56 11125686.70 0.0269 0.0224 Saturn 25750-01-10 02:52 G 11126063.42 11126063.62 11126063.84 0.0268 0.0142 25751-05-06 17:31 G 11126545.11 11126545.23 11126545.36 0.1582 0.1159 Mars Jupiter 25752-01-21 18:28 G 11126805.05 11126805.27 11126805.49 0.0520 0.0169 Jupiter 25753-02-23 08:52 G 11127203.71 11127203.87 11127204.05 0.0504 0.0342 Jupiter 25758-07-28 09:50 G 11129184.68 11129184.91 11129185.14 0.0511 0.0071 Jupiter 25759-09-01 07:40 G 11129584.72 11129584.82 11129584.93 0.0526 0.0467 Jupiter 25764-01-26 16:33 G 11131192.96 11131193.19 11131193.42 0.0517 0.0091 Pluto 25764-06-02 12:28 G 11131320.78 11131321.02 11131321.29 0.0079 0.0015 Saturn 25764-07-01 18:57 G 11131350.08 11131350.29 11131350.50 0.0291 0.0141 Jupiter 25765-02-27 23:02 G 11131591.33 11131591.46 11131591.60 0.0502 0.0404 Jupiter 25769-06-30 04:33 G 11133174.62 11133174.69 11133174.77 0.0499 0.0467 Jupiter 25770-08-02 04:19 G 11133572.45 11133572.68 11133572.91 0.0513 0.0004 Uranus 25773-06-14 15:36 G 11134619.99 11134620.15 11134620.34 0.0138 0.0100 Uranus 25774-06-19 05:16 G 11134989.49 11134989.72 11134989.98 0.0138 0.0035 25774-11-04 04:48 G 11135127.50 11135127.70 11135127.90 0.1957 0.0575 Mars Uranus 25775-06-23 18:28 G 11135359.03 11135359.27 11135359.52 0.0137 0.0031 Jupiter 25776-01-31 12:57 G 11135580.81 11135581.04 11135581.27 0.0515 0.0015 Uranus 25776-06-27 06:43 G 11135728.61 11135728.78 11135728.97 0.0137 0.0096

Neptune 25776-10-07 13:55 G 11135831.01 11135831.08 11135831.17 0.0090 0.0085 Jupiter 25777-03-04 10:48 G 11135978.87 11135978.95 11135979.04 0.0500 0.0461 Neptune 25777-10-10 02:24 G 11136198.51 11136198.60 11136198.76 0.0090 0.0079 Neptune 25778-10-12 15:36 G 11136566.02 11136566.15 11136566.33 0.0090 0.0072 Saturn 25779-01-04 22:19 G 11136650.19 11136650.43 11136650.68 0.0269 0.0026 Neptune 25779-10-15 04:33 G 11136933.54 11136933.69 11136933.90 0.0090 0.0065 Neptune 25780-10-16 18:14 G 11137301.07 11137301.26 11137301.46 0.0090 0.0057 Jupiter 25781-07-04 16:33 G 11137562.06 11137562.19 11137562.32 0.0501 0.0410 Neptune 25781-10-19 07:12 G 11137668.59 11137668.80 11137669.02 0.0090 0.0050 Jupiter 25782-08-07 00:14 G 11137960.28 11137960.51 11137960.74 0.0516 0.0079 Neptune 25782-10-21 19:55 G 11138036.12 11138036.33 11138036.58 0.0090 0.0043 Neptune 25783-10-24 09:07 G 11138403.66 11138403.88 11138404.13 0.0090 0.0036 Neptune 25784-10-25 22:33 G 11138771.20 11138771.44 11138771.70 0.0090 0.0028 Neptune 25785-10-28 11:31 G 11139138.74 11139138.98 11139139.24 0.0090 0.0021 Neptune 25786-10-31 00:57 G 11139506.28 11139506.54 11139506.80 0.0090 0.0013 Jupiter 25787-01-01 09:50 G 11139568.81 11139568.91 11139569.00 0.0528 0.0477 Neptune 25787-11-02 13:55 G 11139873.82 11139874.08 11139874.34 0.0090 0.0005 Jupiter 25788-02-05 06:43 G 11139968.55 11139968.78 11139969.01 0.0512 0.0062 Neptune 25788-11-04 02:53 G 11140241.36 11140241.62 11140241.88 0.0090 0.0003 Neptune 25789-11-06 15:50 G 11140608.90 11140609.16 11140609.42 0.0090 0.0010 Neptune 25790-11-09 04:19 G 11140976.43 11140976.68 11140976.94 0.0090 0.0018 Neptune 25791-11-11 17:17 G 11141343.98 11141344.22 11141344.47 0.0089 0.0025 Neptune 25792-11-13 05:45 G 11141711.52 11141711.74 11141712.00 0.0089 0.0033 Jupiter 25793-07-09 06:43 G 11141949.62 11141949.78 11141949.95 0.0503 0.0348 Neptune 25793-11-15 18:29 G 11142079.06 11142079.27 11142079.52 0.0089 0.0040 Saturn 25794-07-09 20:24 G 11142315.13 11142315.35 11142315.58 0.0292 0.0117 Jupiter 25794-08-11 21:07 G 11142348.16 11142348.38 11142348.60 0.0517 0.0156 Neptune 25794-11-18 07:26 G 11142446.60 11142446.81 11142447.04 0.0089 0.0047 Neptune 25795-11-20 20:38 G 11142814.15 11142814.36 11142814.56 0.0089 0.0054 Neptune 25796-11-22 08:53 G 11143181.70 11143181.87 11143182.08 0.0089 0.0061

Neptune 25797-11-24 21:36 G 11143549.26 11143549.40 11143549.59 0.0089 0.0069 Neptune 25798-11-27 10:19 G 11143916.82 11143916.93 11143917.09 0.0089 0.0076 Jupiter 25799-01-06 04:48 G 11143956.55 11143956.70 11143956.85 0.0526 0.0407 Neptune 25799-11-29 23:31 G 11144284.39 11144284.48 11144284.59 0.0089 0.0082 Jupiter 25800-02-09 19:41 G 11144356.09 11144356.32 11144356.54 0.0511 0.0132 Neptune 25800-12-02 12:00 G 11144651.99 11144652.00 11144652.05 0.0089 0.0089 Jupiter 25805-07-14 21:07 G 11146337.20 11146337.38 11146337.58 0.0504 0.0284 Jupiter 25806-08-17 18:00 G 11146736.04 11146736.25 11146736.46 0.0519 0.0234 Saturn 25808-01-01 03:07 G 11147237.46 11147237.63 11147237.82 0.0269 0.0182 Saturn 25809-01-12 04:05 G 11147614.50 11147614.67 11147614.85 0.0268 0.0184 Jupiter 25811-01-12 04:05 G 11148344.49 11148344.67 11148344.85 0.0524 0.0330 Jupiter 25812-02-15 12:00 G 11148743.79 11148744.00 11148744.21 0.0509 0.0203 Jupiter 25817-07-19 09:50 G 11150724.70 11150724.91 11150725.12 0.0506 0.0217 Uranus 25817-12-17 09:21 G 11150875.70 11150875.89 11150876.11 0.0140 0.0083 Jupiter 25818-08-22 13:55 G 11151123.90 11151124.08 11151124.27 0.0521 0.0309 Uranus 25818-12-22 04:05 G 11151245.42 11151245.67 11151245.92 0.0141 0.0012 Uranus 25819-12-26 23:02 G 11151615.24 11151615.46 11151615.70 0.0141 0.0060 Uranus 25820-12-30 18:29 G 11151985.19 11151985.27 11151985.37 0.0142 0.0131 Jupiter 25823-01-17 04:48 G 11152732.50 11152732.70 11152732.91 0.0522 0.0251 Saturn 25823-07-04 20:09 G 11152901.11 11152901.34 11152901.57 0.0291 0.0095 Jupiter 25824-02-20 04:33 G 11153131.50 11153131.69 11153131.89 0.0507 0.0273 Jupiter 25829-07-24 01:26 G 11155112.34 11155112.56 11155112.79 0.0508 0.0146 Jupiter 25830-08-27 14:09 G 11155511.94 11155512.09 11155512.25 0.0524 0.0386 Jupiter 25835-01-22 04:33 G 11157120.47 11157120.69 11157120.91 0.0520 0.0172 Jupiter 25836-02-24 19:26 G 11157519.14 11157519.31 11157519.49 0.0504 0.0338 Saturn 25838-01-06 23:31 G 11158201.24 11158201.48 11158201.73 0.0268 0.0016 Jupiter 25841-07-28 18:57 G 11159500.06 11159500.29 11159500.52 0.0511 0.0074 Jupiter 25842-09-01 16:33 G 11159900.08 11159900.19 11159900.30 0.0526 0.0462 Jupiter 25847-01-27 01:26 G 11161508.33 11161508.56 11161508.79 0.0517 0.0094 Jupiter 25848-02-29 08:38 G 11161906.72 11161906.86 11161907.00 0.0502 0.0400

Jupiter 25852-06-30 16:05 G 11163490.09 11163490.17 11163490.25 0.0499 0.0467 Saturn 25853-07-11 19:41 G 11163866.12 11163866.32 11163866.53 0.0292 0.0160 Jupiter 25853-08-02 14:09 G 11163887.86 11163888.09 11163888.33 0.0513 0.0007 Uranus 25857-06-15 23:17 G 11165301.31 11165301.47 11165301.67 0.0138 0.0099 Neptune 25858-04-08 05:31 G 11165597.71 11165597.73 11165597.75 0.0088 0.0087 Uranus 25858-06-20 13:26 G 11165670.82 11165671.06 11165671.31 0.0138 0.0033 Jupiter 25859-01-31 15:50 G 11165895.93 11165896.16 11165896.39 0.0516 0.0021 Neptune 25859-04-10 15:21 G 11165965.06 11165965.14 11165965.26 0.0088 0.0081 Uranus 25859-06-25 02:09 G 11166040.35 11166040.59 11166040.84 0.0137 0.0033 Jupiter 25860-03-04 18:00 G 11166294.15 11166294.25 11166294.34 0.0501 0.0457 Neptune 25860-04-12 01:26 G 11166332.46 11166332.56 11166332.73 0.0088 0.0075 Uranus 25860-06-28 14:38 G 11166409.95 11166410.11 11166410.30 0.0137 0.0098 Neptune 25861-04-14 12:14 G 11166699.86 11166700.01 11166700.19 0.0088 0.0068 Neptune 25862-04-16 22:48 G 11167067.28 11167067.45 11167067.64 0.0088 0.0061 Neptune 25863-04-19 08:53 G 11167434.69 11167434.87 11167435.09 0.0088 0.0055 Neptune 25864-04-20 19:12 G 11167802.11 11167802.30 11167802.54 0.0088 0.0048 Jupiter 25864-07-05 04:48 G 11167877.57 11167877.70 11167877.84 0.0500 0.0408 Neptune 25865-04-23 05:45 G 11168169.53 11168169.74 11168169.98 0.0088 0.0041 Jupiter 25865-08-07 09:21 G 11168275.66 11168275.89 11168276.12 0.0514 0.0077 Neptune 25866-04-25 16:05 G 11168536.95 11168537.17 11168537.43 0.0088 0.0034 Saturn 25867-01-02 03:07 G 11168788.43 11168788.63 11168788.85 0.0269 0.0141 Neptune 25867-04-28 02:24 G 11168904.37 11168904.60 11168904.86 0.0088 0.0027 Saturn 25868-01-14 04:05 G 11169165.54 11169165.67 11169165.80 0.0268 0.0223 Neptune 25868-04-29 12:43 G 11169271.80 11169272.03 11169272.30 0.0088 0.0020 Neptune 25869-05-01 23:17 G 11169639.22 11169639.47 11169639.73 0.0088 0.0013 Jupiter 25870-01-01 09:07 G 11169883.79 11169883.88 11169883.97 0.0529 0.0484 Neptune 25870-05-04 09:50 G 11170006.65 11170006.91 11170007.17 0.0088 0.0005 Jupiter 25871-02-05 10:19 G 11170283.70 11170283.93 11170284.16 0.0514 0.0056 Neptune 25871-05-06 20:09 G 11170374.09 11170374.34 11170374.60 0.0088 0.0002 Neptune 25872-05-08 06:29 G 11170741.52 11170741.77 11170742.03 0.0088 0.0009

Neptune 25873-05-10 17:17 G 11171108.97 11171109.22 11171109.47 0.0088 0.0016 Neptune 25874-05-13 03:50 G 11171476.41 11171476.66 11171476.91 0.0088 0.0023 Neptune 25875-05-15 14:09 G 11171843.86 11171844.09 11171844.35 0.0088 0.0031 Neptune 25876-05-17 00:43 G 11172211.31 11172211.53 11172211.78 0.0088 0.0038 Jupiter 25876-07-09 15:36 G 11172264.98 11172265.15 11172265.32 0.0502 0.0349 Mars 25877-05-04 05:02 G 11172563.55 11172563.71 11172563.88 0.1582 0.0751 Neptune 25877-05-19 11:17 G 11172578.77 11172578.97 11172579.22 0.0088 0.0045 Jupiter 25877-08-12 02:38 G 11172663.39 11172663.61 11172663.84 0.0517 0.0152 Neptune 25878-05-21 21:50 G 11172946.23 11172946.41 11172946.64 0.0088 0.0052 Neptune 25879-05-24 09:07 G 11173313.69 11173313.88 11173314.07 0.0088 0.0058 Neptune 25880-05-25 19:26 G 11173681.15 11173681.31 11173681.49 0.0088 0.0065 Neptune 25881-05-28 06:00 G 11174048.62 11174048.75 11174048.91 0.0088 0.0072 Jupiter 25882-01-06 12:00 G 11174271.86 11174272.00 11174272.15 0.0527 0.0409 Neptune 25882-05-30 16:33 G 11174416.11 11174416.19 11174416.33 0.0088 0.0079 Saturn 25882-07-05 19:26 G 11174452.08 11174452.31 11174452.56 0.0291 0.0052 Jupiter 25883-02-10 05:31 G 11174671.51 11174671.73 11174671.96 0.0512 0.0131 Neptune 25883-06-02 03:21 G 11174783.60 11174783.64 11174783.72 0.0088 0.0086 Jupiter 25888-07-14 04:48 G 11176652.51 11176652.70 11176652.90 0.0504 0.0285 Jupiter 25889-08-17 00:00 G 11177051.29 11177051.50 11177051.71 0.0519 0.0229 Jupiter 25894-01-11 14:38 G 11178659.94 11178660.11 11178660.30 0.0525 0.0332 Jupiter 25895-02-14 23:31 G 11179059.27 11179059.48 11179059.69 0.0509 0.0201 Saturn 25897-01-07 23:31 G 11179752.24 11179752.48 11179752.72 0.0268 0.0056 Jupiter 25900-07-19 19:41 G 11181040.11 11181040.32 11181040.53 0.0506 0.0218 Jupiter 25901-08-22 23:31 G 11181439.30 11181439.48 11181439.67 0.0521 0.0306 Uranus 25901-12-18 20:24 G 11181557.14 11181557.35 11181557.56 0.0140 0.0079 Uranus 25902-12-23 14:38 G 11181926.86 11181927.11 11181927.37 0.0141 0.0009 Uranus 25903-12-28 09:36 G 11182296.69 11182296.90 11182297.14 0.0141 0.0063 Uranus 25905-01-01 05:31 G 11182666.66 11182666.73 11182666.81 0.0142 0.0135 Jupiter 25906-01-17 14:38 G 11183047.90 11183048.11 11183048.31 0.0522 0.0252 Jupiter 25907-02-20 15:07 G 11183446.93 11183447.13 11183447.33 0.0507 0.0270

Saturn 25911-06-30 11:17 G 11185037.89 11185037.97 11185038.05 0.0290 0.0274 Saturn 25912-07-13 17:02 G 11185417.05 11185417.21 11185417.40 0.0292 0.0201 Jupiter 25912-07-24 13:26 G 11185427.83 11185428.06 11185428.28 0.0508 0.0146 Jupiter 25913-08-27 23:45 G 11185827.34 11185827.49 11185827.66 0.0523 0.0382 Jupiter 25918-01-22 07:12 G 11187435.58 11187435.80 11187436.02 0.0520 0.0177 Jupiter 25919-02-25 01:12 G 11187834.38 11187834.55 11187834.73 0.0505 0.0334 Pluto 25923-12-06 06:43 G 11189579.53 11189579.78 11189580.05 0.0064 0.0011 Jupiter 25924-07-29 06:29 G 11189815.54 11189815.77 11189816.00 0.0510 0.0073 Jupiter 25925-09-02 00:00 G 11190215.39 11190215.50 11190215.62 0.0525 0.0456 Saturn 25926-01-04 02:38 G 11190339.39 11190339.61 11190339.84 0.0269 0.0102 Saturn 25927-01-16 02:53 G 11190716.59 11190716.62 11190716.69 0.0267 0.0262 Jupiter 25930-01-27 03:36 G 11191823.42 11191823.65 11191823.88 0.0518 0.0100 Jupiter 25931-03-01 14:53 G 11192221.99 11192222.12 11192222.27 0.0504 0.0398 Jupiter 25935-07-02 01:55 G 11193805.51 11193805.58 11193805.67 0.0498 0.0467 Jupiter 25936-08-02 21:36 G 11194203.16 11194203.40 11194203.63 0.0512 0.0007 Jupiter 25937-09-06 22:05 G 11194603.42 11194603.42 11194603.43 0.0527 0.0527 Uranus 25941-06-17 08:24 G 11195982.69 11195982.85 11195983.05 0.0138 0.0097 Saturn 25941-07-07 18:14 G 11196003.01 11196003.26 11196003.50 0.0292 0.0010 Neptune 25941-10-11 12:00 G 11196098.94 11196099.00 11196099.12 0.0090 0.0084 Jupiter 25942-02-01 01:12 G 11196211.32 11196211.55 11196211.79 0.0516 0.0024 Uranus 25942-06-21 22:19 G 11196352.19 11196352.43 11196352.68 0.0137 0.0031 Neptune 25942-10-14 01:26 G 11196466.44 11196466.56 11196466.71 0.0090 0.0076 Jupiter 25943-03-06 05:17 G 11196609.63 11196609.72 11196609.82 0.0502 0.0455 Uranus 25943-06-26 11:17 G 11196721.73 11196721.97 11196722.22 0.0137 0.0035 Neptune 25943-10-16 14:38 G 11196833.95 11196834.11 11196834.28 0.0090 0.0069 Uranus 25944-06-29 23:45 G 11197091.33 11197091.49 11197091.68 0.0137 0.0100 Neptune 25944-10-18 03:21 G 11197201.47 11197201.64 11197201.85 0.0090 0.0062 Neptune 25945-10-20 16:19 G 11197569.00 11197569.18 11197569.40 0.0090 0.0055 Neptune 25946-10-23 05:31 G 11197936.52 11197936.73 11197936.96 0.0090 0.0047 Jupiter 25947-07-06 13:26 G 11198192.93 11198193.06 11198193.19 0.0500 0.0408

Neptune 25947-10-25 18:29 G 11198304.06 11198304.27 11198304.52 0.0090 0.0040 Jupiter 25948-08-07 15:50 G 11198590.93 11198591.16 11198591.39 0.0514 0.0073 Neptune 25948-10-27 07:41 G 11198671.59 11198671.82 11198672.07 0.0090 0.0032 Neptune 25949-10-29 20:38 G 11199039.13 11199039.36 11199039.63 0.0090 0.0025 Neptune 25950-11-01 09:50 G 11199406.67 11199406.91 11199407.18 0.0090 0.0017 Neptune 25951-11-03 23:17 G 11199774.22 11199774.47 11199774.73 0.0090 0.0009 Neptune 25952-11-05 12:29 G 11200141.76 11200142.02 11200142.28 0.0090 0.0001 Jupiter 25953-01-01 19:26 G 11200199.23 11200199.31 11200199.41 0.0529 0.0486 Neptune 25953-11-08 01:26 G 11200509.30 11200509.56 11200509.82 0.0089 0.0007 Jupiter 25954-02-05 22:05 G 11200599.19 11200599.42 11200599.65 0.0514 0.0054 Neptune 25954-11-10 14:24 G 11200876.85 11200877.10 11200877.36 0.0089 0.0015 Neptune 25955-11-13 03:07 G 11201244.39 11201244.63 11201244.89 0.0089 0.0022 Saturn 25956-01-10 23:17 G 11201303.24 11201303.47 11201303.70 0.0268 0.0096 25956-05-07 03:36 G 11201420.48 11201420.65 11201420.83 0.1582 0.0570 Mars Neptune 25956-11-14 15:50 G 11201611.93 11201612.16 11201612.42 0.0089 0.0030 Neptune 25957-11-17 04:33 G 11201979.47 11201979.69 11201979.94 0.0089 0.0038 Neptune 25958-11-19 17:17 G 11202347.02 11202347.22 11202347.46 0.0089 0.0046 Jupiter 25959-07-11 01:41 G 11202580.41 11202580.57 11202580.74 0.0502 0.0349 Neptune 25959-11-22 06:14 G 11202714.56 11202714.76 11202714.98 0.0089 0.0053 Jupiter 25960-08-12 12:29 G 11202978.80 11202979.02 11202979.24 0.0517 0.0149 Neptune 25960-11-23 19:12 G 11203082.11 11203082.30 11203082.50 0.0089 0.0060 Neptune 25961-11-26 07:26 G 11203449.66 11203449.81 11203450.00 0.0089 0.0067 Neptune 25962-11-28 20:09 G 11203817.22 11203817.34 11203817.51 0.0089 0.0075 Neptune 25963-12-01 09:07 G 11204184.80 11204184.88 11204185.01 0.0089 0.0082 Neptune 25964-12-02 21:36 G 11204552.39 11204552.40 11204552.46 0.0089 0.0089 Jupiter 25965-01-06 22:05 G 11204587.28 11204587.42 11204587.57 0.0527 0.0409 Jupiter 25966-02-10 16:19 G 11204986.95 11204987.18 11204987.40 0.0512 0.0129 Saturn 25970-07-01 08:53 G 11206588.73 11206588.87 11206589.02 0.0290 0.0234 Saturn 25971-07-15 14:53 G 11206967.99 11206968.12 11206968.27 0.0292 0.0241 Jupiter 25971-07-15 17:17 G 11206968.03 11206968.22 11206968.41 0.0504 0.0283 \* Jupiter 25972-08-17 11:17 G 11207366.77 11207366.97 11207367.19 0.0518 0.0228

Jupiter 25977-01-11 17:02 G 11208975.04 11208975.21 11208975.39 0.0525 0.0336

Jupiter 25978-02-15 04:05 G 11209374.46 11209374.67 11209374.89 0.0510 0.0197

Jupiter 25983-07-20 08:38 G 11211355.65 11211355.86 11211356.07 0.0505 0.0216

Jupiter 25984-08-22 09:21 G 11211754.70 11211754.89 11211755.08 0.0520 0.0303

Saturn 25985-01-05 02:09 G 11211890.35 11211890.59 11211890.83 0.0269 0.0062

Uranus 25985-12-19 05:45 G 11212238.54 11212238.74 11212238.96 0.0140 0.0077

Uranus 25986-12-24 00:43 G 11212608.27 11212608.53 11212608.78 0.0141 0.0006

Uranus 25987-12-28 19:41 G 11212978.11 11212978.32 11212978.56 0.0141 0.0067

Uranus 25989-01-01 15:36 G 11213348.11 11213348.15 11213348.22 0.0142 0.0138

Jupiter 25990-02-19 19:26 G 11213762.11 11213762.31 11213762.51 0.0508 0.0266

Jupiter 25995-07-24 21:21 G 11215743.17 11215743.39 11215743.61 0.0507 0.0148

Jupiter 25996-08-27 05:02 G 11216142.55 11216142.71 11216142.87 0.0522 0.0376

Saturn 26000-07-08 16:33 G 11217553.95 11217554.19 11217554.44 0.0292 0.0032

## 27TH MILLENNIUM CE

## This is a list of transits of Earth in the 27th millennium CE.

FROM MAX- C START MAX END SUNRAD DEPTH S

TRANSIT

TIME

Jupiter 26001-01-21 15:07 G 11217750.91 11217751.13 11217751.35 0.0521 0.0181

Jupiter 26002-02-24 11:45 G 11218149.82 11218149.99 11218150.17 0.0506 0.0333

Jupiter 26007-07-29 13:12 G 11220130.82 11220131.05 11220131.28 0.0509 0.0077

Jupiter 26008-09-01 04:48 G 11220530.59 11220530.70 11220530.82 0.0525 0.0451

Pluto 26012-06-05 05:31 G 11221903.60 11221903.73 11221903.93 0.0080 0.0062 Jupiter 26013-01-26 14:38 G 11222138.88 11222139.11 11222139.34 0.0519 0.0102 Saturn 26013-12-30 21:50 G 11222477.30 11222477.41 11222477.55 0.0269 0.0230 Jupiter 26014-03-01 02:53 G 11222537.48 11222537.62 11222537.76 0.0504 0.0395 Saturn 26015-01-11 23:45 G 11222854.29 11222854.49 11222854.71 0.0268 0.0137 Jupiter 26018-07-01 12:00 G 11224120.92 11224121.00 11224121.08 0.0498 0.0465 Jupiter 26019-08-03 06:43 G 11224518.55 11224518.78 11224519.01 0.0512 0.0004 Jupiter 26020-09-06 07:26 G 11224918.78 11224918.81 11224918.83 0.0527 0.0523 Neptune 26023-04-11 03:21 G 11225865.61 11225865.64 11225865.71 0.0088 0.0086 Neptune 26024-04-12 13:55 G 11226232.98 11226233.08 11226233.20 0.0088 0.0079 Jupiter 26025-01-31 11:31 G 11226526.75 11226526.98 11226527.22 0.0517 0.0025 Neptune 26025-04-15 00:00 G 11226600.38 11226600.50 11226600.67 0.0088 0.0073 Uranus 26025-06-17 17:31 G 11226664.07 11226664.23 11226664.43 0.0138 0.0095 Jupiter 26026-03-05 16:19 G 11226925.08 11226925.18 11226925.27 0.0502 0.0453 Neptune 26026-04-17 10:33 G 11226967.79 11226967.94 11226968.13 0.0088 0.0066 Uranus 26026-06-22 07:26 G 11227033.57 11227033.81 11227034.07 0.0137 0.0028 Neptune 26027-04-19 20:53 G 11227335.20 11227335.37 11227335.58 0.0088 0.0059 Uranus 26027-06-26 20:24 G 11227403.11 11227403.35 11227403.60 0.0137 0.0037 Neptune 26028-04-21 07:26 G 11227702.62 11227702.81 11227703.03 0.0088 0.0052 Uranus 26028-06-30 09:07 G 11227772.71 11227772.88 11227773.05 0.0137 0.0102 Neptune 26029-04-23 18:00 G 11228070.05 11228070.25 11228070.49 0.0088 0.0045 Saturn 26029-07-02 07:41 G 11228139.64 11228139.82 11228140.01 0.0290 0.0192 Neptune 26030-04-26 04:19 G 11228437.46 11228437.68 11228437.93 0.0088 0.0038 Jupiter 26030-07-06 01:26 G 11228508.43 11228508.56 11228508.70 0.0500 0.0406 Saturn 26030-07-16 13:55 G 11228519.03 11228519.08 11228519.15 0.0292 0.0283 Neptune 26031-04-28 15:07 G 11228804.89 11228805.13 11228805.37 0.0088 0.0030 Jupiter 26031-08-08 03:36 G 11228906.42 11228906.65 11228906.88 0.0514 0.0073 Neptune 26032-04-30 01:12 G 11229172.31 11229172.55 11229172.81 0.0088 0.0023 Neptune 26033-05-02 11:31 G 11229539.74 11229539.98 11229540.25 0.0088 0.0016 Neptune 26034-05-04 22:19 G 11229907.17 11229907.43 11229907.68 0.0088 0.0008

Neptune 26035-05-07 08:24 G 11230274.59 11230274.85 11230275.11 0.0088 0.0001 Jupiter 26036-01-01 21:36 G 11230514.32 11230514.40 11230514.50 0.0529 0.0489 Neptune 26036-05-08 18:57 G 11230642.03 11230642.29 11230642.55 0.0088 0.0006 Jupiter 26037-02-05 01:12 G 11230914.32 11230914.55 11230914.79 0.0514 0.0051 Neptune 26037-05-11 05:17 G 11231009.47 11231009.72 11231009.98 0.0088 0.0014 Neptune 26038-05-13 15:36 G 11231376.91 11231377.15 11231377.41 0.0088 0.0021 Neptune 26039-05-16 02:24 G 11231744.36 11231744.60 11231744.84 0.0088 0.0028 Neptune 26040-05-17 12:29 G 11232111.81 11232112.02 11232112.28 0.0088 0.0036 Neptune 26041-05-19 23:17 G 11232479.26 11232479.47 11232479.71 0.0088 0.0043 Neptune 26042-05-22 10:05 G 11232846.72 11232846.92 11232847.14 0.0088 0.0050 Jupiter 26042-07-10 14:38 G 11232895.95 11232896.11 11232896.29 0.0501 0.0346 Neptune 26043-05-24 20:38 G 11233214.18 11233214.36 11233214.57 0.0088 0.0057 Jupiter 26043-08-12 23:17 G 11233294.25 11233294.47 11233294.70 0.0516 0.0150 Saturn 26044-01-07 02:24 G 11233441.36 11233441.60 11233441.85 0.0269 0.0021 Neptune 26044-05-26 07:12 G 11233581.64 11233581.80 11233581.99 0.0088 0.0064 Neptune 26045-05-28 18:00 G 11233949.12 11233949.25 11233949.41 0.0088 0.0071 Neptune 26046-05-31 04:19 G 11234316.59 11234316.68 11234316.82 0.0088 0.0078 Neptune 26047-06-02 15:07 G 11234684.09 11234684.13 11234684.22 0.0088 0.0085 Jupiter 26048-01-06 21:36 G 11234902.27 11234902.40 11234902.55 0.0527 0.0416 Jupiter 26049-02-09 18:29 G 11235302.04 11235302.27 11235302.50 0.0513 0.0123 Jupiter 26054-07-15 01:41 G 11237283.38 11237283.57 11237283.77 0.0503 0.0286 Jupiter 26055-08-17 16:33 G 11237681.98 11237682.19 11237682.40 0.0518 0.0222 26058-11-04 19:26 G 11238857.15 11238857.31 11238857.47 0.1956 0.1211 Mars Saturn 26059-07-10 17:17 G 11239104.99 11239105.22 11239105.46 0.0292 0.0078 Jupiter 26060-01-11 23:02 G 11239290.29 11239290.46 11239290.64 0.0526 0.0340 Jupiter 26061-02-14 12:43 G 11239689.82 11239690.03 11239690.25 0.0511 0.0195 Jupiter 26066-07-19 15:07 G 11241670.92 11241671.13 11241671.34 0.0505 0.0219 Jupiter 26067-08-22 13:26 G 11242069.87 11242070.06 11242070.25 0.0520 0.0297 Uranus 26069-12-19 14:09 G 11242919.89 11242920.09 11242920.32 0.0140 0.0075 Uranus 26070-12-24 09:21 G 11243289.63 11243289.89 11243290.14 0.0141 0.0004

Uranus 26071-12-29 04:19 G 11243659.47 11243659.68 11243659.92 0.0141 0.0069 Jupiter 26072-01-17 00:57 G 11243678.34 11243678.54 11243678.74 0.0524 0.0261 Saturn 26072-12-31 23:45 G 11244028.32 11244028.49 11244028.68 0.0269 0.0187 Uranus 26073-01-02 00:00 G 11244029.49 11244029.50 11244029.55 0.0142 0.0141 Jupiter 26073-02-19 06:29 G 11244077.57 11244077.77 11244077.97 0.0508 0.0263 Saturn 26074-01-13 01:41 G 11244405.39 11244405.57 11244405.75 0.0268 0.0179 Jupiter 26078-07-24 05:45 G 11246058.51 11246058.74 11246058.96 0.0507 0.0150 Jupiter 26079-08-27 12:43 G 11246457.87 11246458.03 11246458.19 0.0522 0.0373 26082-05-04 15:21 G 11247439.05 11247439.14 11247439.24 0.1583 0.1355 Mars Jupiter 26084-01-22 00:29 G 11248066.31 11248066.52 11248066.74 0.0521 0.0182 Jupiter 26085-02-23 21:36 G 11248465.23 11248465.40 11248465.58 0.0506 0.0331 Saturn 26088-07-03 08:38 G 11249690.66 11249690.86 11249691.08 0.0290 0.0147 Jupiter 26090-07-29 00:00 G 11250446.27 11250446.50 11250446.73 0.0509 0.0077 Jupiter 26091-09-01 14:38 G 11250846.00 11250846.11 11250846.23 0.0524 0.0449 Jupiter 26096-01-26 16:48 G 11252453.97 11252454.20 11252454.43 0.0519 0.0107 Jupiter 26097-02-28 06:43 G 11252852.64 11252852.78 11252852.93 0.0504 0.0392 Jupiter 26101-07-02 00:00 G 11254436.43 11254436.50 11254436.59 0.0498 0.0464 Jupiter 26102-08-03 17:45 G 11254834.00 11254834.24 11254834.47 0.0511 0.0008 Saturn 26103-01-09 04:19 G 11254992.43 11254992.68 11254992.92 0.0269 0.0022 Jupiter 26103-09-07 15:21 G 11255234.11 11255234.14 11255234.17 0.0526 0.0520 Neptune 26105-10-11 21:50 G 11255999.40 11255999.41 11255999.48 0.0090 0.0089 Neptune 26106-10-14 11:31 G 11256366.88 11256366.98 11256367.10 0.0090 0.0081 Neptune 26107-10-17 00:29 G 11256734.39 11256734.52 11256734.68 0.0090 0.0074 Jupiter 26108-02-01 11:45 G 11256841.76 11256841.99 11256842.22 0.0517 0.0030 Neptune 26108-10-18 13:12 G 11257101.91 11257102.05 11257102.25 0.0090 0.0067 Jupiter 26109-03-05 19:12 G 11257240.20 11257240.30 11257240.41 0.0503 0.0451 Uranus 26109-06-19 03:07 G 11257345.46 11257345.63 11257345.83 0.0138 0.0092 Neptune 26109-10-21 02:24 G 11257469.42 11257469.60 11257469.81 0.0090 0.0059 Uranus 26110-06-23 17:02 G 11257714.96 11257715.21 11257715.46 0.0137 0.0026 Neptune 26110-10-23 15:21 G 11257836.95 11257837.14 11257837.37 0.0090 0.0052

Uranus 26111-06-28 05:45 G 11258084.51 11258084.74 11258084.99 0.0137 0.0040 Neptune 26111-10-26 04:19 G 11258204.47 11258204.68 11258204.93 0.0090 0.0044 Uranus 26112-07-01 18:14 G 11258454.11 11258454.26 11258454.44 0.0137 0.0105 Neptune 26112-10-27 17:31 G 11258572.01 11258572.23 11258572.48 0.0090 0.0036 Jupiter 26113-07-06 09:36 G 11258823.76 11258823.90 11258824.03 0.0499 0.0409 Neptune 26113-10-30 06:29 G 11258939.53 11258939.77 11258940.03 0.0090 0.0028 Jupiter 26114-08-08 08:38 G 11259221.62 11259221.86 11259222.09 0.0513 0.0067 Neptune 26114-11-01 19:41 G 11259307.07 11259307.32 11259307.58 0.0090 0.0020 Neptune 26115-11-04 08:53 G 11259674.62 11259674.87 11259675.13 0.0090 0.0012 Neptune 26116-11-05 21:50 G 11260042.15 11260042.41 11260042.67 0.0090 0.0004 Neptune 26117-11-08 11:02 G 11260409.70 11260409.96 11260410.22 0.0090 0.0004 Saturn 26118-07-12 20:24 G 11260656.14 11260656.35 11260656.58 0.0292 0.0128 Neptune 26118-11-11 00:00 G 11260777.25 11260777.50 11260777.76 0.0089 0.0012 Jupiter 26119-01-02 00:57 G 11260829.47 11260829.54 11260829.62 0.0530 0.0496 Neptune 26119-11-13 12:57 G 11261144.79 11261145.04 11261145.30 0.0089 0.0020 Jupiter 26120-02-06 07:55 G 11261229.59 11261229.83 11261230.06 0.0515 0.0046 Neptune 26120-11-15 01:41 G 11261512.33 11261512.57 11261512.83 0.0089 0.0028 Neptune 26121-11-17 14:24 G 11261879.88 11261880.10 11261880.35 0.0089 0.0036 Neptune 26122-11-20 03:07 G 11262247.42 11262247.63 11262247.87 0.0089 0.0043 Neptune 26123-11-22 16:05 G 11262614.97 11262615.17 11262615.39 0.0089 0.0051 Neptune 26124-11-24 04:33 G 11262982.51 11262982.69 11262982.90 0.0089 0.0058 Jupiter 26125-07-10 20:38 G 11263211.20 11263211.36 11263211.53 0.0501 0.0350 Neptune 26125-11-26 17:31 G 11263350.06 11263350.23 11263350.41 0.0089 0.0066 Jupiter 26126-08-13 02:24 G 11263609.38 11263609.60 11263609.83 0.0515 0.0142 Neptune 26126-11-29 06:00 G 11263717.63 11263717.75 11263717.92 0.0089 0.0073 Neptune 26127-12-01 18:43 G 11264085.19 11264085.28 11264085.41 0.0089 0.0081 Neptune 26128-12-03 07:26 G 11264452.78 11264452.81 11264452.88 0.0089 0.0088 Jupiter 26131-01-07 04:33 G 11265217.56 11265217.69 11265217.84 0.0528 0.0421 Saturn 26132-01-04 03:36 G 11265579.45 11265579.65 11265579.87 0.0269 0.0141 Jupiter 26132-02-11 03:36 G 11265617.43 11265617.65 11265617.88 0.0513 0.0120

Saturn 26133-01-15 05:02 G 11265956.59 11265956.71 11265956.86 0.0268 0.0225 Jupiter 26137-07-15 08:38 G 11267598.67 11267598.86 11267599.05 0.0503 0.0287 Jupiter 26138-08-17 22:33 G 11267997.23 11267997.44 11267997.66 0.0517 0.0218 Jupiter 26143-01-12 06:43 G 11269605.61 11269605.78 11269605.97 0.0526 0.0342 Jupiter 26144-02-15 21:36 G 11270005.18 11270005.40 11270005.61 0.0511 0.0192 Saturn 26147-07-06 13:55 G 11271241.85 11271242.08 11271242.32 0.0290 0.0095 Jupiter 26149-07-20 00:29 G 11271986.31 11271986.52 11271986.73 0.0505 0.0219 Jupiter 26150-08-22 22:19 G 11272385.24 11272385.43 11272385.62 0.0520 0.0296 Uranus 26153-12-20 21:21 G 11273601.18 11273601.39 11273601.62 0.0140 0.0074 Uranus 26154-12-25 16:19 G 11273970.93 11273971.18 11273971.43 0.0141 0.0002 Jupiter 26155-01-17 02:09 G 11273993.39 11273993.59 11273993.79 0.0524 0.0267 Uranus 26155-12-30 11:31 G 11274340.77 11274340.98 11274341.21 0.0141 0.0070 Jupiter 26156-02-20 08:24 G 11274392.66 11274392.85 11274393.06 0.0509 0.0259 Uranus 26157-01-03 07:26 G 11274710.81 11274710.81 11274710.82 0.0142 0.0142 26161-05-07 14:38 G 11276295.92 11276296.11 11276296.29 0.1582 0.0041 Mars Jupiter 26161-07-24 15:36 G 11276373.93 11276374.15 11276374.37 0.0507 0.0150 Saturn 26162-01-10 07:41 G 11276543.59 11276543.82 11276544.06 0.0269 0.0068 Jupiter 26162-08-27 20:38 G 11276773.20 11276773.36 11276773.53 0.0521 0.0370 Jupiter 26167-01-21 23:02 G 11278381.24 11278381.46 11278381.68 0.0522 0.0189 Jupiter 26168-02-24 22:33 G 11278780.26 11278780.44 11278780.61 0.0507 0.0325 Pluto 26171-12-08 04:33 G 11280162.59 11280162.69 11280162.84 0.0064 0.0056 Pluto 26172-12-08 16:48 G 11280528.97 11280529.20 11280529.45 0.0064 0.0026 Jupiter 26173-07-29 04:33 G 11280761.46 11280761.69 11280761.92 0.0508 0.0084 Jupiter 26174-09-01 15:36 G 11281161.03 11281161.15 11281161.28 0.0523 0.0440 Saturn 26176-06-29 23:02 G 11281828.44 11281828.46 11281828.50 0.0290 0.0288 Saturn 26177-07-14 03:21 G 11282207.45 11282207.64 11282207.83 0.0292 0.0182 Jupiter 26179-01-26 20:24 G 11282769.12 11282769.35 11282769.58 0.0520 0.0114 Jupiter 26180-02-29 13:26 G 11283167.92 11283168.06 11283168.21 0.0505 0.0387 Jupiter 26184-07-01 05:02 G 11284751.65 11284751.71 11284751.80 0.0497 0.0468 Jupiter 26185-08-02 19:41 G 11285149.09 11285149.32 11285149.56 0.0510 0.0016

Jupiter 26186-09-06 14:24 G 11285549.06 11285549.10 11285549.16 0.0525 0.0511 Neptune 26188-04-13 01:55 G 11286133.53 11286133.58 11286133.67 0.0088 0.0084 Neptune 26189-04-15 12:14 G 11286500.91 11286501.01 11286501.15 0.0088 0.0077 Neptune 26190-04-17 22:48 G 11286868.31 11286868.45 11286868.61 0.0088 0.0070 Saturn 26191-01-05 09:36 G 11287130.67 11287130.90 11287131.14 0.0269 0.0091 Jupiter 26191-01-31 18:43 G 11287157.04 11287157.28 11287157.51 0.0518 0.0037 Neptune 26191-04-20 08:53 G 11287235.71 11287235.87 11287236.06 0.0088 0.0063 Jupiter 26192-03-05 03:50 G 11287555.56 11287555.66 11287555.77 0.0503 0.0446 Neptune 26192-04-21 19:26 G 11287603.13 11287603.31 11287603.52 0.0088 0.0056 Neptune 26193-04-24 05:45 G 11287970.54 11287970.74 11287970.97 0.0088 0.0049 Uranus 26193-06-19 11:45 G 11288026.81 11288026.99 11288027.19 0.0138 0.0090 Neptune 26194-04-26 16:05 G 11288337.97 11288338.17 11288338.42 0.0088 0.0042 Uranus 26194-06-24 01:41 G 11288396.32 11288396.57 11288396.82 0.0137 0.0024 Neptune 26195-04-29 02:53 G 11288705.39 11288705.62 11288705.86 0.0088 0.0034 Uranus 26195-06-28 14:24 G 11288765.87 11288766.10 11288766.35 0.0137 0.0042 Neptune 26196-04-30 13:12 G 11289072.82 11289073.05 11289073.31 0.0088 0.0027 Uranus 26196-07-02 03:07 G 11289135.48 11289135.63 11289135.79 0.0137 0.0107 Jupiter 26196-07-05 14:53 G 11289138.99 11289139.12 11289139.26 0.0499 0.0411 Neptune 26197-05-03 00:00 G 11289440.25 11289440.50 11289440.75 0.0088 0.0019 Jupiter 26197-08-07 12:43 G 11289536.80 11289537.03 11289537.26 0.0513 0.0062 Neptune 26198-05-05 10:05 G 11289807.67 11289807.92 11289808.18 0.0088 0.0012 Neptune 26199-05-07 20:38 G 11290175.11 11290175.36 11290175.62 0.0088 0.0004 Neptune 26200-05-10 06:57 G 11290542.54 11290542.79 11290543.05 0.0088 0.0004 Neptune 26201-05-12 17:31 G 11290909.98 11290910.23 11290910.49 0.0088 0.0011 Jupiter 26202-01-02 06:43 G 11291144.71 11291144.78 11291144.87 0.0530 0.0498 Neptune 26202-05-15 03:36 G 11291277.41 11291277.65 11291277.92 0.0088 0.0019 Jupiter 26203-02-06 14:38 G 11291544.88 11291545.11 11291545.35 0.0515 0.0043 Neptune 26203-05-17 14:09 G 11291644.86 11291645.09 11291645.35 0.0088 0.0026 Neptune 26204-05-19 00:43 G 11292012.31 11292012.53 11292012.78 0.0088 0.0034 Neptune 26205-05-21 11:17 G 11292379.76 11292379.97 11292380.22 0.0088 0.0041

Neptune 26206-05-23 22:05 G 11292747.22 11292747.42 11292747.65 0.0088 0.0048 Saturn 26206-07-08 22:19 G 11292793.19 11292793.43 11292793.68 0.0291 0.0037 Neptune 26207-05-26 08:24 G 11293114.68 11293114.85 11293115.07 0.0088 0.0056 Neptune 26208-05-27 19:26 G 11293482.15 11293482.31 11293482.51 0.0088 0.0063 Jupiter 26208-07-11 04:05 G 11293526.51 11293526.67 11293526.84 0.0501 0.0351 Neptune 26209-05-30 06:14 G 11293849.62 11293849.76 11293849.92 0.0088 0.0070 Jupiter 26209-08-13 09:36 G 11293924.68 11293924.90 11293925.13 0.0515 0.0140 Neptune 26210-06-01 17:02 G 11294217.10 11294217.21 11294217.34 0.0088 0.0077 Neptune 26211-06-04 03:36 G 11294584.59 11294584.65 11294584.73 0.0088 0.0084 Jupiter 26214-01-07 05:17 G 11295532.59 11295532.72 11295532.86 0.0528 0.0427 Jupiter 26215-02-11 04:33 G 11295932.46 11295932.69 11295932.92 0.0513 0.0113 Saturn 26220-01-01 09:07 G 11297717.80 11297717.88 11297717.96 0.0271 0.0255 Jupiter 26220-07-15 16:48 G 11297914.01 11297914.20 11297914.40 0.0503 0.0289 Saturn 26221-01-12 13:12 G 11298094.84 11298095.05 11298095.28 0.0269 0.0117 Jupiter 26221-08-18 05:31 G 11298312.52 11298312.73 11298312.95 0.0517 0.0215 Jupiter 26226-01-12 04:05 G 11299920.50 11299920.67 11299920.85 0.0526 0.0351 Jupiter 26227-02-15 19:55 G 11300320.11 11300320.33 11300320.55 0.0511 0.0184 Jupiter 26232-07-20 04:05 G 11302301.46 11302301.67 11302301.88 0.0504 0.0227 Jupiter 26233-08-22 22:19 G 11302700.24 11302700.43 11302700.63 0.0519 0.0285 Saturn 26235-07-03 09:50 G 11303379.77 11303379.91 11303380.07 0.0290 0.0228 Saturn 26236-07-16 14:24 G 11303758.97 11303759.10 11303759.24 0.0292 0.0243 Uranus 26237-12-22 04:05 G 11304282.47 11304282.67 11304282.90 0.0140 0.0073 Jupiter 26238-01-17 02:24 G 11304308.41 11304308.60 11304308.81 0.0525 0.0277 Uranus 26238-12-26 23:02 G 11304652.21 11304652.46 11304652.72 0.0141 0.0003 Jupiter 26239-02-20 12:43 G 11304707.82 11304708.03 11304708.23 0.0510 0.0252 Uranus 26239-12-31 18:14 G 11305022.04 11305022.26 11305022.48 0.0141 0.0071 26240-05-10 12:43 G 11305152.93 11305153.03 11305153.14 0.1582 0.1309 Mars Jupiter 26244-07-24 17:02 G 11306688.99 11306689.21 11306689.43 0.0506 0.0159 Jupiter 26245-08-27 18:29 G 11307088.11 11307088.27 11307088.45 0.0521 0.0359 Saturn 26250-01-07 17:17 G 11308681.98 11308682.22 11308682.46 0.0269 0.0040

Jupiter 26250-01-22 02:38 G 11308696.40 11308696.61 11308696.83 0.0523 0.0198 Jupiter 26251-02-25 04:48 G 11309095.52 11309095.70 11309095.88 0.0507 0.0319 Jupiter 26256-07-29 06:57 G 11311076.56 11311076.79 11311077.02 0.0508 0.0090 Jupiter 26257-09-01 16:48 G 11311476.08 11311476.20 11311476.34 0.0523 0.0433 Pluto 26261-06-10 01:55 G 11312853.33 11312853.58 11312853.84 0.0079 0.0013 Jupiter 26262-01-27 01:26 G 11313084.34 11313084.56 11313084.79 0.0520 0.0119 Jupiter 26263-03-01 19:26 G 11313483.17 11313483.31 11313483.47 0.0505 0.0383 Saturn 26265-07-10 10:48 G 11314344.71 11314344.95 11314345.20 0.0291 0.0026 Jupiter 26267-07-02 10:48 G 11315066.88 11315066.95 11315067.02 0.0497 0.0469 Jupiter 26268-08-03 00:43 G 11315464.30 11315464.53 11315464.77 0.0510 0.0018 Jupiter 26269-09-06 19:12 G 11315864.25 11315864.30 11315864.36 0.0525 0.0506 Neptune 26270-10-14 20:38 G 11316267.32 11316267.36 11316267.46 0.0090 0.0087 Neptune 26271-10-17 10:05 G 11316634.82 11316634.92 11316635.06 0.0090 0.0079 Neptune 26272-10-18 23:02 G 11317002.33 11317002.46 11317002.64 0.0090 0.0072 Neptune 26273-10-21 12:29 G 11317369.86 11317370.02 11317370.22 0.0090 0.0064 Jupiter 26274-01-31 18:29 G 11317472.04 11317472.27 11317472.50 0.0518 0.0044 Neptune 26274-10-24 01:41 G 11317737.38 11317737.57 11317737.78 0.0090 0.0056 Jupiter 26275-03-06 04:19 G 11317870.57 11317870.68 11317870.79 0.0503 0.0440 Neptune 26275-10-26 14:38 G 11318104.91 11318105.11 11318105.34 0.0090 0.0048 Neptune 26276-10-28 03:50 G 11318472.43 11318472.66 11318472.89 0.0090 0.0040 Uranus 26277-06-20 19:26 G 11318708.14 11318708.31 11318708.52 0.0138 0.0089 Neptune 26277-10-30 16:48 G 11318839.96 11318840.20 11318840.45 0.0090 0.0032 Uranus 26278-06-25 09:21 G 11319077.65 11319077.89 11319078.15 0.0137 0.0023 Neptune 26278-11-02 06:00 G 11319207.50 11319207.75 11319208.00 0.0090 0.0024 Saturn 26279-01-02 16:19 G 11319269.03 11319269.18 11319269.36 0.0271 0.0203 Uranus 26279-06-29 22:33 G 11319447.21 11319447.44 11319447.69 0.0137 0.0044 Jupiter 26279-07-06 21:07 G 11319454.25 11319454.38 11319454.50 0.0499 0.0415 Neptune 26279-11-04 18:43 G 11319575.03 11319575.28 11319575.54 0.0090 0.0016 Saturn 26280-01-14 20:38 G 11319646.18 11319646.36 11319646.56 0.0269 0.0169 Uranus 26280-07-03 11:02 G 11319816.82 11319816.96 11319817.13 0.0137 0.0109

Jupiter 26280-08-07 18:29 G 11319852.04 11319852.27 11319852.50 0.0512 0.0058 Neptune 26280-11-06 07:55 G 11319942.57 11319942.83 11319943.09 0.0090 0.0008 Neptune 26281-11-08 20:53 G 11320310.11 11320310.37 11320310.63 0.0090 0.0001 Neptune 26282-11-11 09:50 G 11320677.66 11320677.91 11320678.17 0.0089 0.0009 Neptune 26283-11-13 23:02 G 11321045.20 11321045.46 11321045.71 0.0089 0.0017 Neptune 26284-11-15 12:00 G 11321412.75 11321413.00 11321413.25 0.0089 0.0025 Jupiter 26285-01-01 03:21 G 11321459.58 11321459.64 11321459.71 0.0530 0.0507 Neptune 26285-11-18 00:57 G 11321780.30 11321780.54 11321780.78 0.0089 0.0033 Jupiter 26286-02-05 12:00 G 11321859.77 11321860.00 11321860.23 0.0516 0.0032 Neptune 26286-11-20 13:41 G 11322147.85 11322148.07 11322148.31 0.0089 0.0041 Jupiter 26287-03-10 15:21 G 11322258.11 11322258.14 11322258.17 0.0502 0.0496 Neptune 26287-11-23 02:24 G 11322515.39 11322515.60 11322515.82 0.0089 0.0049 Neptune 26288-11-24 14:53 G 11322882.94 11322883.12 11322883.34 0.0089 0.0057 Neptune 26289-11-27 03:36 G 11323250.50 11323250.65 11323250.85 0.0089 0.0065 Neptune 26290-11-29 16:05 G 11323618.04 11323618.17 11323618.35 0.0089 0.0072 Jupiter 26291-07-11 06:43 G 11323841.63 11323841.78 11323841.95 0.0500 0.0360 Neptune 26291-12-02 05:02 G 11323985.61 11323985.71 11323985.84 0.0089 0.0080 Jupiter 26292-08-12 09:21 G 11324239.66 11324239.89 11324240.12 0.0514 0.0127 Neptune 26292-12-03 17:45 G 11324353.19 11324353.24 11324353.30 0.0089 0.0087 Saturn 26294-07-04 23:02 G 11324931.27 11324931.46 11324931.67 0.0290 0.0164 Jupiter 26297-01-06 02:24 G 11325847.48 11325847.60 11325847.74 0.0529 0.0439 Jupiter 26298-02-10 05:31 G 11326247.51 11326247.73 11326247.96 0.0514 0.0104 Jupiter 26303-07-16 18:00 G 11328229.06 11328229.25 11328229.44 0.0502 0.0297 Jupiter 26304-08-18 03:07 G 11328627.42 11328627.63 11328627.85 0.0516 0.0202 Saturn 26309-01-10 02:24 G 11330233.36 11330233.60 11330233.85 0.0269 0.0015 Jupiter 26309-01-12 04:19 G 11330235.51 11330235.68 11330235.85 0.0527 0.0361 Jupiter 26310-02-16 00:14 G 11330635.29 11330635.51 11330635.73 0.0512 0.0176 Jupiter 26315-07-21 05:17 G 11332616.52 11332616.72 11332616.93 0.0503 0.0233 Jupiter 26316-08-22 22:05 G 11333015.23 11333015.42 11333015.62 0.0518 0.0276 Jupiter 26321-01-17 05:45 G 11334623.54 11334623.74 11334623.94 0.0525 0.0282

Uranus 26321-12-23 12:29 G 11334963.81 11334964.02 11334964.25 0.0140 0.0071 Jupiter 26322-02-20 17:02 G 11335023.01 11335023.21 11335023.42 0.0510 0.0247 Uranus 26322-12-28 07:12 G 11335333.54 11335333.80 11335334.05 0.0141 0.0001 Uranus 26324-01-02 01:55 G 11335703.38 11335703.58 11335703.81 0.0141 0.0073 Saturn 26324-07-13 02:38 G 11335896.38 11335896.61 11335896.84 0.0291 0.0094 Jupiter 26327-07-25 20:09 G 11337004.13 11337004.34 11337004.57 0.0506 0.0164 Jupiter 26328-08-27 21:36 G 11337403.23 11337403.40 11337403.57 0.0521 0.0353 Jupiter 26333-01-22 02:09 G 11339011.38 11339011.59 11339011.81 0.0522 0.0208 Jupiter 26334-02-25 04:33 G 11339410.51 11339410.69 11339410.88 0.0508 0.0311 Saturn 26338-01-05 01:41 G 11340820.37 11340820.57 11340820.78 0.0271 0.0148 Saturn 26339-01-17 05:31 G 11341197.60 11341197.73 11341197.87 0.0269 0.0221 Jupiter 26339-07-30 11:17 G 11341391.74 11341391.97 11341392.20 0.0508 0.0096 Jupiter 26340-09-01 20:09 G 11341791.21 11341791.34 11341791.48 0.0523 0.0426 Jupiter 26345-01-26 22:05 G 11343399.19 11343399.42 11343399.64 0.0520 0.0130 Jupiter 26346-03-01 17:31 G 11343798.07 11343798.23 11343798.39 0.0506 0.0374 Jupiter 26350-07-02 12:57 G 11345381.98 11345382.04 11345382.10 0.0497 0.0478 Jupiter 26351-08-04 00:43 G 11345779.30 11345779.53 11345779.77 0.0509 0.0029 Jupiter 26352-09-06 15:21 G 11346179.06 11346179.14 11346179.22 0.0524 0.0492 Neptune 26353-04-17 00:57 G 11346401.46 11346401.54 11346401.64 0.0088 0.0082 Saturn 26353-07-07 14:53 G 11346482.89 11346483.12 11346483.35 0.0290 0.0096 Neptune 26354-04-19 11:02 G 11346768.85 11346768.96 11346769.11 0.0088 0.0075 Neptune 26355-04-21 21:21 G 11347136.25 11347136.39 11347136.57 0.0088 0.0068 Neptune 26356-04-23 08:09 G 11347503.65 11347503.84 11347504.03 0.0088 0.0060 Jupiter 26357-01-31 16:48 G 11347786.97 11347787.20 11347787.44 0.0519 0.0057 Neptune 26357-04-25 18:14 G 11347871.07 11347871.26 11347871.48 0.0088 0.0053 Jupiter 26358-03-06 06:29 G 11348185.66 11348185.77 11348185.90 0.0504 0.0432 Neptune 26358-04-28 04:19 G 11348238.48 11348238.68 11348238.92 0.0088 0.0046 Neptune 26359-04-30 14:53 G 11348605.90 11348606.12 11348606.37 0.0088 0.0038 Neptune 26360-05-02 01:26 G 11348973.34 11348973.56 11348973.82 0.0088 0.0031 Neptune 26361-05-04 12:00 G 11349340.76 11349341.00 11349341.25 0.0088 0.0023 Uranus 26361-06-22 03:21 G 11349389.45 11349389.64 11349389.84 0.0138 0.0087 Neptune 26362-05-06 22:33 G 11349708.19 11349708.44 11349708.70 0.0088 0.0015 Uranus 26362-06-26 17:17 G 11349758.97 11349759.22 11349759.47 0.0137 0.0021 Jupiter 26362-07-06 22:48 G 11349769.33 11349769.45 11349769.57 0.0498 0.0422 Neptune 26363-05-09 08:53 G 11350075.62 11350075.87 11350076.13 0.0088 0.0008 Uranus 26363-07-01 06:29 G 11350128.53 11350128.77 11350129.01 0.0137 0.0045 Jupiter 26363-08-08 16:05 G 11350166.94 11350167.17 11350167.41 0.0511 0.0045 Neptune 26364-05-10 19:26 G 11350443.05 11350443.31 11350443.57 0.0088 0.0001 Uranus 26364-07-04 18:29 G 11350498.14 11350498.27 11350498.44 0.0137 0.0111 Neptune 26365-05-13 05:45 G 11350810.49 11350810.74 11350811.00 0.0088 0.0008 26366-05-08 23:45 G 11351171.32 11351171.49 11351171.67 0.1583 0.0635 Mars Neptune 26366-05-15 16:05 G 11351177.92 11351178.17 11351178.43 0.0088 0.0016 Neptune 26367-05-18 02:24 G 11351545.36 11351545.60 11351545.86 0.0088 0.0024 Jupiter 26368-01-02 00:00 G 11351774.46 11351774.50 11351774.56 0.0531 0.0519 Saturn 26368-01-12 12:14 G 11351784.78 11351785.01 11351785.25 0.0269 0.0070 Neptune 26368-05-19 12:57 G 11351912.81 11351913.04 11351913.29 0.0088 0.0031 Jupiter 26369-02-05 13:12 G 11352174.82 11352175.05 11352175.29 0.0517 0.0023 Neptune 26369-05-21 23:17 G 11352280.25 11352280.47 11352280.71 0.0088 0.0039 Jupiter 26370-03-10 19:55 G 11352573.29 11352573.33 11352573.39 0.0502 0.0490 Neptune 26370-05-24 10:05 G 11352647.70 11352647.92 11352648.14 0.0088 0.0046 Neptune 26371-05-26 20:24 G 11353015.16 11353015.35 11353015.57 0.0088 0.0054 Neptune 26372-05-28 07:26 G 11353382.63 11353382.81 11353382.99 0.0088 0.0061 Neptune 26373-05-30 17:45 G 11353750.10 11353750.24 11353750.42 0.0088 0.0069 Neptune 26374-06-02 04:33 G 11354117.58 11354117.69 11354117.83 0.0088 0.0076 Jupiter 26374-07-11 07:41 G 11354156.67 11354156.82 11354156.98 0.0499 0.0365 Neptune 26375-06-04 15:21 G 11354485.08 11354485.14 11354485.24 0.0088 0.0084 Jupiter 26375-08-13 08:09 G 11354554.62 11354554.84 11354555.07 0.0513 0.0119 Jupiter 26380-01-07 03:50 G 11356162.54 11356162.66 11356162.79 0.0529 0.0445 Jupiter 26381-02-10 09:07 G 11356562.65 11356562.88 11356563.11 0.0515 0.0097 Saturn 26383-07-15 19:55 G 11357448.13 11357448.33 11357448.53 0.0291 0.0164

Jupiter 26386-07-15 20:09 G 11358544.16 11358544.34 11358544.53 0.0501 0.0302 Jupiter 26387-08-18 04:33 G 11358942.47 11358942.69 11358942.91 0.0516 0.0195 Jupiter 26392-01-12 04:19 G 11360550.51 11360550.68 11360550.84 0.0527 0.0370 Jupiter 26393-02-15 00:00 G 11360950.28 11360950.50 11360950.72 0.0512 0.0167 Saturn 26397-01-06 11:02 G 11362371.74 11362371.96 11362372.20 0.0271 0.0094 Jupiter 26398-07-20 08:38 G 11362931.66 11362931.86 11362932.07 0.0503 0.0240 Jupiter 26399-08-23 00:43 G 11363330.34 11363330.53 11363330.74 0.0518 0.0268 Jupiter 26404-01-17 02:24 G 11364938.41 11364938.60 11364938.80 0.0525 0.0294 Uranus 26404-12-19 03:50 G 11365275.64 11365275.66 11365275.72 0.0140 0.0138 Jupiter 26405-02-19 14:38 G 11365337.91 11365338.11 11365338.32 0.0510 0.0237 Uranus 26405-12-23 22:05 G 11365645.20 11365645.42 11365645.65 0.0140 0.0068 Uranus 26406-12-28 16:48 G 11366014.94 11366015.20 11366015.45 0.0141 0.0004 Uranus 26408-01-02 11:31 G 11366384.77 11366384.98 11366385.20 0.0141 0.0076 Jupiter 26410-07-24 20:38 G 11367319.15 11367319.36 11367319.58 0.0505 0.0176 Jupiter 26411-08-27 18:29 G 11367718.10 11367718.27 11367718.45 0.0520 0.0338 Saturn 26412-07-09 06:57 G 11368034.55 11368034.79 11368035.04 0.0290 0.0028 Jupiter 26416-01-21 22:19 G 11369326.22 11369326.43 11369326.64 0.0524 0.0221 Jupiter 26417-02-24 05:02 G 11369725.53 11369725.71 11369725.90 0.0509 0.0302 Pluto 26420-12-11 17:31 G 11371111.99 11371112.23 11371112.50 0.0064 0.0014 Jupiter 26422-07-29 10:19 G 11371706.70 11371706.93 11371707.16 0.0507 0.0107 Jupiter 26423-09-01 14:38 G 11372105.97 11372106.11 11372106.26 0.0522 0.0410 Saturn 26426-01-01 17:17 G 11372959.13 11372959.22 11372959.33 0.0271 0.0246 Saturn 26427-01-13 22:33 G 11373336.22 11373336.44 11373336.66 0.0269 0.0125 Jupiter 26428-01-26 20:38 G 11373714.14 11373714.36 11373714.59 0.0522 0.0143 Jupiter 26429-02-28 20:24 G 11374113.20 11374113.35 11374113.51 0.0507 0.0366 Jupiter 26433-07-01 14:24 G 11375697.05 11375697.10 11375697.16 0.0496 0.0482 Jupiter 26434-08-02 23:45 G 11376094.25 11376094.49 11376094.72 0.0509 0.0037 Jupiter 26435-09-06 12:14 G 11376493.93 11376494.01 11376494.11 0.0524 0.0482 Neptune 26435-10-17 19:41 G 11376535.25 11376535.32 11376535.43 0.0090 0.0084 Neptune 26436-10-19 08:38 G 11376902.76 11376902.86 11376903.02 0.0090 0.0077

Neptune 26437-10-21 21:50 G 11377270.27 11377270.41 11377270.60 0.0090 0.0069 Neptune 26438-10-24 11:02 G 11377637.80 11377637.96 11377638.18 0.0090 0.0061 Neptune 26439-10-27 00:00 G 11378005.32 11378005.50 11378005.74 0.0090 0.0053 Jupiter 26440-01-31 19:12 G 11378102.07 11378102.30 11378102.53 0.0519 0.0063 Neptune 26440-10-28 13:12 G 11378372.84 11378373.05 11378373.29 0.0090 0.0045 Jupiter 26441-03-05 10:48 G 11378500.83 11378500.95 11378501.07 0.0505 0.0427 Saturn 26441-07-03 10:33 G 11378620.79 11378620.94 11378621.08 0.0289 0.0231 Neptune 26441-10-31 02:24 G 11378740.38 11378740.60 11378740.85 0.0090 0.0036 Saturn 26442-07-17 13:26 G 11378999.92 11379000.06 11379000.21 0.0291 0.0235 Neptune 26442-11-02 15:36 G 11379107.90 11379108.15 11379108.40 0.0090 0.0028 Neptune 26443-11-05 04:33 G 11379475.44 11379475.69 11379475.95 0.0090 0.0020 Neptune 26444-11-06 17:17 G 11379842.97 11379843.22 11379843.48 0.0090 0.0012 Mars 26445-05-10 23:02 G 11380028.29 11380028.46 11380028.63 0.1583 0.0713 Uranus 26445-06-22 11:45 G 11380070.81 11380070.99 11380071.20 0.0138 0.0086 Jupiter 26445-07-06 00:29 G 11380084.41 11380084.52 11380084.65 0.0498 0.0427 Neptune 26445-11-09 06:29 G 11380210.51 11380210.77 11380211.03 0.0090 0.0003 Uranus 26446-06-27 01:41 G 11380440.32 11380440.57 11380440.83 0.0137 0.0019 Jupiter 26446-08-07 17:02 G 11380481.98 11380482.21 11380482.45 0.0511 0.0038 Neptune 26446-11-11 19:26 G 11380578.05 11380578.31 11380578.57 0.0090 0.0005 Uranus 26447-07-01 14:53 G 11380809.89 11380810.12 11380810.36 0.0137 0.0047 Neptune 26447-11-14 08:24 G 11380945.59 11380945.85 11380946.11 0.0089 0.0014 Uranus 26448-07-05 03:21 G 11381179.50 11381179.64 11381179.79 0.0137 0.0112 Neptune 26448-11-15 21:36 G 11381313.15 11381313.40 11381313.65 0.0089 0.0022 Neptune 26449-11-18 10:19 G 11381680.70 11381680.93 11381681.19 0.0089 0.0030 Neptune 26450-11-20 23:17 G 11382048.25 11382048.47 11382048.72 0.0089 0.0039 Jupiter 26451-01-01 00:43 G 11382089.51 11382089.53 11382089.56 0.0531 0.0528 Neptune 26451-11-23 12:00 G 11382415.80 11382416.00 11382416.24 0.0089 0.0047 Jupiter 26452-02-05 13:55 G 11382489.85 11382490.08 11382490.32 0.0517 0.0014 Neptune 26452-11-25 01:12 G 11382783.36 11382783.55 11382783.76 0.0089 0.0055 Jupiter 26453-03-09 20:53 G 11382888.31 11382888.37 11382888.44 0.0502 0.0481

Neptune 26453-11-27 13:41 G 11383150.91 11383151.07 11383151.27 0.0089 0.0063 Neptune 26454-11-30 02:24 G 11383518.47 11383518.60 11383518.78 0.0089 0.0071 Neptune 26455-12-02 14:53 G 11383886.02 11383886.12 11383886.27 0.0089 0.0079 Saturn 26456-01-08 20:24 G 11383923.11 11383923.35 11383923.60 0.0270 0.0039 Neptune 26456-12-04 04:05 G 11384253.61 11384253.67 11384253.74 0.0089 0.0086 Jupiter 26457-07-10 10:33 G 11384471.79 11384471.94 11384472.10 0.0499 0.0371 Jupiter 26458-08-12 10:48 G 11384869.72 11384869.95 11384870.18 0.0513 0.0110 Jupiter 26463-01-06 01:55 G 11386477.46 11386477.58 11386477.70 0.0529 0.0455 Jupiter 26464-02-10 07:12 G 11386877.57 11386877.80 11386878.03 0.0515 0.0086 Jupiter 26469-07-14 21:50 G 11388859.23 11388859.41 11388859.59 0.0501 0.0312 Jupiter 26470-08-17 03:21 G 11389257.42 11389257.64 11389257.85 0.0515 0.0180 Saturn 26471-07-11 22:19 G 11389586.19 11389586.43 11389586.67 0.0291 0.0039 Jupiter 26475-01-10 22:33 G 11390865.28 11390865.44 11390865.60 0.0528 0.0383 Jupiter 26476-02-14 22:48 G 11391265.23 11391265.45 11391265.67 0.0513 0.0155 Jupiter 26481-07-19 09:50 G 11393246.71 11393246.91 11393247.11 0.0502 0.0247 Jupiter 26482-08-21 21:36 G 11393645.20 11393645.40 11393645.60 0.0517 0.0254 Saturn 26485-01-03 03:07 G 11394510.47 11394510.63 11394510.82 0.0271 0.0192 Saturn 26486-01-15 07:41 G 11394887.65 11394887.82 11394888.01 0.0269 0.0179 Jupiter 26487-01-15 23:02 G 11395253.27 11395253.46 11395253.65 0.0526 0.0306 Jupiter 26488-02-19 16:19 G 11395652.97 11395653.18 11395653.39 0.0511 0.0227 Uranus 26488-12-19 13:26 G 11395957.02 11395957.06 11395957.15 0.0140 0.0136 Uranus 26489-12-24 07:26 G 11396326.60 11396326.81 11396327.05 0.0140 0.0066 Uranus 26490-12-29 02:24 G 11396696.34 11396696.60 11396696.85 0.0141 0.0007 Uranus 26492-01-02 21:07 G 11397066.18 11397066.38 11397066.60 0.0141 0.0079 Jupiter 26493-07-23 21:07 G 11397634.16 11397634.38 11397634.60 0.0504 0.0182 Jupiter 26494-08-26 16:05 G 11398033.00 11398033.17 11398033.36 0.0519 0.0327 Jupiter 26499-01-21 00:14 G 11399641.30 11399641.51 11399641.72 0.0524 0.0227 Jupiter 26500-02-24 09:07 G 11400040.70 11400040.88 11400041.07 0.0509 0.0296 Saturn 26500-07-06 01:26 G 11400172.36 11400172.56 11400172.76 0.0290 0.0166 Jupiter 26505-07-29 11:31 G 11402021.75 11402021.98 11402022.21 0.0506 0.0113

Jupiter 26506-09-01 15:07 G 11402420.99 11402421.13 11402421.28 0.0521 0.0403 Pluto 26509-06-12 21:07 G 11403436.21 11403436.38 11403436.57 0.0080 0.0056 Jupiter 26511-01-26 22:48 G 11404029.23 11404029.45 11404029.67 0.0522 0.0151 Jupiter 26512-02-29 22:48 G 11404428.28 11404428.45 11404428.61 0.0507 0.0357 Saturn 26515-01-11 05:17 G 11405474.48 11405474.72 11405474.97 0.0270 0.0016 Jupiter 26516-07-01 17:31 G 11406012.20 11406012.23 11406012.28 0.0496 0.0487 Neptune 26517-04-17 12:57 G 11406302.02 11406302.04 11406302.08 0.0087 Jupiter 26517-08-03 02:53 G 11406409.39 11406409.62 11406409.85 0.0509 0.0045 Neptune 26518-04-19 23:02 G 11406669.38 11406669.46 11406669.59 0.0088 0.0080 Jupiter 26518-09-06 14:38 G 11406809.02 11406809.11 11406809.22 0.0524 0.0473 Neptune 26519-04-22 09:07 G 11407036.77 11407036.88 11407037.06 0.0088 0.0073 Neptune 26520-04-23 19:55 G 11407404.17 11407404.33 11407404.52 0.0088 0.0065 Neptune 26521-04-26 06:00 G 11407771.58 11407771.75 11407771.97 0.0088 0.0058 Neptune 26522-04-28 16:33 G 11408138.99 11408139.19 11408139.41 0.0088 0.0050 Jupiter 26523-01-31 18:57 G 11408417.06 11408417.29 11408417.52 0.0520 0.0073 Neptune 26523-05-01 03:21 G 11408506.41 11408506.64 11408506.86 0.0088 0.0042 Jupiter 26524-03-05 11:17 G 11408815.85 11408815.97 11408816.11 0.0505 0.0418 Neptune 26524-05-02 13:12 G 11408873.83 11408874.05 11408874.30 0.0088 0.0035 Neptune 26525-05-05 00:00 G 11409241.26 11409241.50 11409241.75 0.0088 0.0027 Neptune 26526-05-07 10:19 G 11409608.69 11409608.93 11409609.19 0.0088 0.0019 Neptune 26527-05-09 21:07 G 11409976.13 11409976.38 11409976.64 0.0088 0.0011 Neptune 26528-05-11 07:41 G 11410343.56 11410343.82 11410344.08 0.0088 0.0003 Jupiter 26528-07-06 04:05 G 11410399.56 11410399.67 11410399.78 0.0497 0.0433 Neptune 26529-05-13 18:00 G 11410711.00 11410711.25 11410711.51 0.0088 0.0005 Uranus 26529-06-23 21:21 G 11410752.20 11410752.39 11410752.60 0.0138 0.0083 Jupiter 26529-08-07 18:14 G 11410797.02 11410797.26 11410797.49 0.0510 0.0027 Neptune 26530-05-16 04:33 G 11411078.44 11411078.69 11411078.95 0.0088 0.0013 Uranus 26530-06-28 11:02 G 11411121.71 11411121.96 11411122.22 0.0137 0.0017 Saturn 26530-07-14 11:17 G 11411137.75 11411137.97 11411138.20 0.0291 0.0103 Neptune 26531-05-18 14:53 G 11411445.88 11411446.12 11411446.38 0.0088 0.0021

Uranus 26531-07-03 00:00 G 11411491.27 11411491.50 11411491.75 0.0137 0.0050 Neptune 26532-05-20 01:12 G 11411813.32 11411813.55 11411813.81 0.0088 0.0029 Uranus 26532-07-06 12:00 G 11411860.88 11411861.00 11411861.15 0.0137 0.0115 Neptune 26533-05-22 11:31 G 11412180.76 11412180.98 11412181.23 0.0088 0.0037 Neptune 26534-05-24 22:33 G 11412548.22 11412548.44 11412548.66 0.0088 0.0044 Jupiter 26535-02-05 11:31 G 11412804.75 11412804.98 11412805.22 0.0518 0.0008 Neptune 26535-05-27 08:38 G 11412915.67 11412915.86 11412916.08 0.0088 0.0052 Jupiter 26536-03-09 23:02 G 11413203.39 11413203.46 11413203.54 0.0504 0.0473 Neptune 26536-05-28 19:12 G 11413283.13 11413283.30 11413283.50 0.0088 0.0060 Neptune 26537-05-31 06:00 G 11413650.59 11413650.75 11413650.92 0.0088 0.0067 Neptune 26538-06-02 16:19 G 11414018.07 11414018.18 11414018.34 0.0088 0.0075 Neptune 26539-06-05 03:21 G 11414385.57 11414385.64 11414385.74 0.0088 0.0082 Jupiter 26540-07-10 14:38 G 11414786.97 11414787.11 11414787.27 0.0498 0.0376 Jupiter 26541-08-12 10:48 G 11415184.72 11415184.95 11415185.18 0.0512 0.0099 Saturn 26544-01-06 11:45 G 11416061.79 11416061.99 11416062.21 0.0270 0.0139 Saturn 26545-01-17 15:50 G 11416439.03 11416439.16 11416439.28 0.0268 0.0230 Jupiter 26546-01-05 20:53 G 11416792.26 11416792.37 11416792.48 0.0531 0.0466 Jupiter 26547-02-10 07:26 G 11417192.58 11417192.81 11417193.04 0.0516 0.0076 Jupiter 26552-07-15 00:14 G 11419174.33 11419174.51 11419174.69 0.0500 0.0316 Jupiter 26553-08-17 02:38 G 11419572.39 11419572.61 11419572.83 0.0514 0.0172 Jupiter 26558-01-11 00:14 G 11421180.36 11421180.51 11421180.67 0.0529 0.0390 Jupiter 26559-02-15 03:07 G 11421580.41 11421580.63 11421580.86 0.0514 0.0150 Saturn 26559-07-08 14:09 G 11421723.86 11421724.09 11421724.32 0.0290 0.0103 Jupiter 26564-07-19 12:14 G 11423561.81 11423562.01 11423562.22 0.0502 0.0252 Jupiter 26565-08-21 22:33 G 11423960.24 11423960.44 11423960.65 0.0516 0.0247 Jupiter 26570-01-16 02:38 G 11425568.43 11425568.61 11425568.81 0.0526 0.0314 Jupiter 26571-02-19 20:09 G 11425968.13 11425968.34 11425968.55 0.0511 0.0219 Mars 26571-05-09 09:36 G 11426046.79 11426046.90 11426047.01 0.1584 0.1258 Uranus 26572-12-20 22:19 G 11426638.37 11426638.43 11426638.53 0.0140 0.0133 Uranus 26573-12-25 16:19 G 11427007.97 11427008.18 11427008.42 0.0141 0.0063

Saturn 26574-01-12 12:43 G 11427025.79 11427026.03 11427026.26 0.0269 0.0066 Uranus 26574-12-30 11:17 G 11427377.72 11427377.97 11427378.22 0.0141 0.0009 Uranus 26576-01-04 06:14 G 11427747.56 11427747.76 11427747.97 0.0141 0.0081 Jupiter 26576-07-24 01:12 G 11427949.34 11427949.55 11427949.77 0.0504 0.0188 Jupiter 26577-08-26 19:55 G 11428348.15 11428348.33 11428348.52 0.0519 0.0320 Jupiter 26582-01-21 01:55 G 11429956.37 11429956.58 11429956.79 0.0524 0.0236 Jupiter 26583-02-24 11:31 G 11430355.80 11430355.98 11430356.18 0.0509 0.0288 Jupiter 26588-07-28 15:36 G 11432336.92 11432337.15 11432337.38 0.0506 0.0121 Saturn 26589-07-15 20:38 G 11432689.16 11432689.36 11432689.57 0.0291 0.0161 Jupiter 26589-08-31 16:05 G 11432736.02 11432736.17 11432736.32 0.0520 0.0390 Jupiter 26594-01-25 20:09 G 11434344.12 11434344.34 11434344.56 0.0523 0.0162 Jupiter 26595-03-01 00:14 G 11434743.34 11434743.51 11434743.68 0.0508 0.0350 Jupiter 26599-07-02 00:57 G 11436327.51 11436327.54 11436327.58 0.0495 0.0487 Neptune 26599-10-18 05:31 G 11436435.73 11436435.73 11436435.77 0.0090 0.0089 Jupiter 26600-08-03 06:29 G 11436724.54 11436724.77 11436725.00 0.0507 0.0051 Neptune 26600-10-20 18:14 G 11436803.19 11436803.26 11436803.40 0.0090 0.0082 Jupiter 26601-09-06 13:26 G 11437123.96 11437124.06 11437124.18 0.0522 0.0460 Neptune 26601-10-23 07:41 G 11437170.70 11437170.82 11437170.99 0.0090 0.0074 Neptune 26602-10-25 20:38 G 11437538.21 11437538.36 11437538.56 0.0090 0.0066 Saturn 26603-01-08 18:43 G 11437613.05 11437613.28 11437613.52 0.0270 0.0088 Neptune 26603-10-28 09:50 G 11437905.74 11437905.91 11437906.13 0.0090 0.0058 Neptune 26604-10-29 23:31 G 11438273.27 11438273.48 11438273.70 0.0090 0.0049 Neptune 26605-11-01 12:29 G 11438640.80 11438641.02 11438641.26 0.0090 0.0041 Jupiter 26606-01-31 17:45 G 11438732.01 11438732.24 11438732.47 0.0521 0.0083 Neptune 26606-11-04 01:26 G 11439008.33 11439008.56 11439008.82 0.0090 0.0032 Jupiter 26607-03-06 15:21 G 11439131.01 11439131.14 11439131.28 0.0506 0.0411 Neptune 26607-11-06 14:24 G 11439375.86 11439376.10 11439376.36 0.0090 0.0024 Neptune 26608-11-08 03:21 G 11439743.40 11439743.64 11439743.91 0.0090 0.0016 Neptune 26609-11-10 16:33 G 11440110.93 11440111.19 11440111.45 0.0090 0.0007 Neptune 26610-11-13 05:17 G 11440478.46 11440478.72 11440478.98 0.0090 0.0002 Jupiter 26611-07-07 08:53 G 11440714.77 11440714.87 11440714.99 0.0496 0.0435 Neptune 26611-11-15 18:14 G 11440846.00 11440846.26 11440846.52 0.0090 0.0010 Jupiter 26612-08-07 20:09 G 11441112.10 11441112.34 11441112.57 0.0509 0.0020 Neptune 26612-11-17 07:12 G 11441213.55 11441213.80 11441214.05 0.0089 0.0019 Uranus 26613-06-25 07:26 G 11441433.61 11441433.81 11441434.03 0.0138 0.0081 Neptune 26613-11-19 19:55 G 11441581.09 11441581.33 11441581.58 0.0089 0.0027 Uranus 26614-06-29 21:07 G 11441803.13 11441803.38 11441803.63 0.0137 0.0014 Neptune 26614-11-22 08:53 G 11441948.64 11441948.87 11441949.11 0.0089 0.0036 Uranus 26615-07-04 10:05 G 11442172.68 11442172.92 11442173.15 0.0137 0.0052 Neptune 26615-11-24 21:36 G 11442316.19 11442316.40 11442316.64 0.0089 0.0044 Uranus 26616-07-07 21:50 G 11442542.30 11442542.41 11442542.55 0.0137 0.0118 Neptune 26616-11-26 10:33 G 11442683.75 11442683.94 11442684.17 0.0089 0.0053 Neptune 26617-11-28 23:31 G 11443051.31 11443051.48 11443051.69 0.0089 0.0061 Jupiter 26618-02-05 16:33 G 11443119.96 11443120.19 11443120.43 0.0519 0.0009 Saturn 26618-07-10 23:02 G 11443275.22 11443275.46 11443275.70 0.0290 0.0046 Neptune 26618-12-01 12:14 G 11443418.86 11443419.01 11443419.19 0.0089 0.0069 Jupiter 26619-03-11 06:00 G 11443518.67 11443518.75 11443518.84 0.0504 0.0470 Neptune 26619-12-04 00:57 G 11443786.43 11443786.54 11443786.69 0.0089 0.0077 Neptune 26620-12-05 13:41 G 11444154.01 11444154.07 11444154.17 0.0089 0.0085 Jupiter 26623-07-11 19:12 G 11445102.15 11445102.30 11445102.46 0.0498 0.0378 Jupiter 26624-08-12 13:26 G 11445499.83 11445500.06 11445500.29 0.0512 0.0093 Jupiter 26629-01-06 02:09 G 11447107.49 11447107.59 11447107.70 0.0531 0.0471 Jupiter 26630-02-10 13:12 G 11447507.82 11447508.05 11447508.29 0.0516 0.0070 Saturn 26632-01-03 13:12 G 11448199.98 11448200.05 11448200.12 0.0271 0.0258 Saturn 26633-01-14 18:00 G 11448577.03 11448577.25 11448577.48 0.0269 0.0114 Jupiter 26635-07-16 06:00 G 11449489.58 11449489.75 11449489.93 0.0500 0.0320 Jupiter 26636-08-17 07:55 G 11449887.62 11449887.83 11449888.06 0.0514 0.0166 Jupiter 26641-01-11 04:19 G 11451495.53 11451495.68 11451495.84 0.0529 0.0395 Jupiter 26642-02-15 07:41 G 11451895.60 11451895.82 11451896.04 0.0514 0.0143 Saturn 26647-07-04 23:17 G 11453861.37 11453861.47 11453861.60 0.0289 0.0254

Jupiter 26647-07-20 18:57 G 11453877.10 11453877.29 11453877.50 0.0501 0.0257 Saturn 26648-07-18 02:53 G 11454240.46 11454240.62 11454240.79 0.0291 0.0214 Jupiter 26648-08-22 03:07 G 11454275.43 11454275.63 11454275.84 0.0516 0.0238 26650-05-12 08:24 G 11454903.67 11454903.85 11454904.04 0.1584 0.0098 Mars Jupiter 26653-01-16 00:14 G 11455883.33 11455883.51 11455883.69 0.0527 0.0322 Jupiter 26654-02-19 21:36 G 11456283.19 11456283.40 11456283.61 0.0513 0.0212 Uranus 26656-12-22 06:14 G 11457319.69 11457319.76 11457319.86 0.0140 0.0132 Uranus 26657-12-27 00:00 G 11457689.29 11457689.50 11457689.74 0.0141 0.0062 Uranus 26658-12-31 18:57 G 11458059.03 11458059.29 11458059.54 0.0141 0.0011 Jupiter 26659-07-25 08:38 G 11458264.65 11458264.86 11458265.08 0.0503 0.0191 Uranus 26660-01-05 13:41 G 11458428.88 11458429.07 11458429.29 0.0141 0.0084 Jupiter 26660-08-26 22:48 G 11458663.27 11458663.45 11458663.64 0.0517 0.0311 Saturn 26662-01-09 23:17 G 11459164.23 11459164.47 11459164.72 0.0270 0.0042 Jupiter 26665-01-21 00:00 G 11460271.30 11460271.50 11460271.71 0.0526 0.0245 Jupiter 26666-02-24 14:38 G 11460670.92 11460671.11 11460671.31 0.0511 0.0281 Pluto 26668-12-14 17:31 G 11461695.11 11461695.23 11461695.39 0.0064 0.0054 Pluto 26669-12-16 05:45 G 11462061.52 11462061.74 11462061.99 0.0064 0.0029 Jupiter 26671-07-29 20:24 G 11462652.12 11462652.35 11462652.58 0.0505 0.0125 Jupiter 26672-08-31 17:45 G 11463051.09 11463051.24 11463051.40 0.0520 0.0383 Jupiter 26677-01-26 01:26 G 11464659.34 11464659.56 11464659.78 0.0524 0.0166 Saturn 26677-07-12 03:50 G 11464826.42 11464826.66 11464826.91 0.0291 0.0007 Jupiter 26678-03-01 08:09 G 11465058.67 11465058.84 11465059.01 0.0509 0.0347 Neptune 26682-04-20 11:02 G 11466569.92 11466569.96 11466570.05 0.0088 0.0085 Jupiter 26682-07-02 07:41 G 11466642.79 11466642.82 11466642.86 0.0495 0.0488 Neptune 26683-04-22 22:05 G 11466937.30 11466937.42 11466937.54 0.0088 0.0077 Jupiter 26683-08-03 11:17 G 11467039.74 11467039.97 11467040.20 0.0507 0.0055 Neptune 26684-04-24 07:55 G 11467304.69 11467304.83 11467305.00 0.0088 0.0070 Jupiter 26684-09-05 16:48 G 11467439.09 11467439.20 11467439.32 0.0522 0.0454 Neptune 26685-04-26 18:14 G 11467672.10 11467672.26 11467672.46 0.0088 0.0062 Neptune 26686-04-29 05:02 G 11468039.51 11468039.71 11468039.91 0.0088 0.0054

Neptune 26687-05-01 14:38 G 11468406.92 11468407.11 11468407.35 0.0088 0.0047 Neptune 26688-05-03 01:12 G 11468774.34 11468774.55 11468774.80 0.0088 0.0039 Jupiter 26689-01-31 01:55 G 11469047.35 11469047.58 11469047.81 0.0521 0.0087 Neptune 26689-05-05 11:31 G 11469141.75 11469141.98 11469142.23 0.0088 0.0031 Jupiter 26690-03-05 23:31 G 11469446.35 11469446.48 11469446.62 0.0506 0.0406 Neptune 26690-05-07 22:05 G 11469509.18 11469509.42 11469509.68 0.0088 0.0023 Saturn 26691-01-04 17:31 G 11469751.09 11469751.23 11469751.39 0.0271 0.0212 Neptune 26691-05-10 08:38 G 11469876.61 11469876.86 11469877.12 0.0088 0.0015 Saturn 26692-01-16 21:50 G 11470128.22 11470128.41 11470128.61 0.0269 0.0159 Neptune 26692-05-11 18:57 G 11470244.04 11470244.29 11470244.56 0.0088 0.0007 Neptune 26693-05-14 05:45 G 11470611.48 11470611.74 11470612.00 0.0088 0.0002 Neptune 26694-05-16 16:05 G 11470978.92 11470979.17 11470979.43 0.0088 0.0010 Jupiter 26694-07-06 16:33 G 11471030.09 11471030.19 11471030.30 0.0496 0.0437 Neptune 26695-05-19 02:38 G 11471346.36 11471346.61 11471346.87 0.0088 0.0018 Jupiter 26695-08-08 03:21 G 11471427.40 11471427.64 11471427.87 0.0509 0.0017 Neptune 26696-05-20 12:57 G 11471713.80 11471714.04 11471714.30 0.0088 0.0026 Jupiter 26696-09-10 17:31 G 11471827.22 11471827.23 11471827.25 0.0524 0.0523 Neptune 26697-05-22 23:31 G 11472081.25 11472081.48 11472081.72 0.0088 0.0034 Uranus 26697-06-25 17:17 G 11472115.03 11472115.22 11472115.45 0.0138 0.0078 Neptune 26698-05-25 09:50 G 11472448.70 11472448.91 11472449.15 0.0088 0.0042 Uranus 26698-06-30 06:57 G 11472484.54 11472484.79 11472485.04 0.0137 0.0011 Neptune 26699-05-27 20:24 G 11472816.15 11472816.35 11472816.58 0.0088 0.0050 Uranus 26699-07-04 19:26 G 11472854.09 11472854.31 11472854.56 0.0137 0.0056 Neptune 26700-05-30 06:43 G 11473183.61 11473183.78 11473183.99 0.0088 0.0058 Uranus 26700-07-09 07:26 G 11473223.71 11473223.81 11473223.94 0.0137 0.0121 Jupiter 26701-02-05 23:17 G 11473435.23 11473435.47 11473435.70 0.0519 0.0011 Neptune 26701-06-01 17:02 G 11473551.07 11473551.21 11473551.41 0.0088 0.0066 Jupiter 26702-03-11 13:12 G 11473833.97 11473834.05 11473834.14 0.0504 0.0465 Neptune 26702-06-04 04:19 G 11473918.55 11473918.68 11473918.83 0.0088 0.0073 Neptune 26703-06-06 14:38 G 11474286.03 11474286.11 11474286.23 0.0088 0.0081

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Pluto 26758-06-17 19:26 G 11494386.09 11494386.31 11494386.57 0.0079 0.0029 Jupiter 26760-01-27 09:50 G 11494974.69 11494974.91 11494975.13 0.0524 0.0168 Jupiter 26761-03-01 17:02 G 11495374.04 11495374.21 11495374.38 0.0509 0.0343 Neptune 26764-10-21 03:50 G 11496703.62 11496703.66 11496703.75 0.0090 0.0087 Jupiter 26765-07-02 18:43 G 11496958.24 11496958.28 11496958.32 0.0495 0.0487 Saturn 26765-07-08 00:14 G 11496963.31 11496963.51 11496963.71 0.0289 0.0167 Neptune 26765-10-23 16:48 G 11497071.10 11497071.20 11497071.34 0.0090 0.0079 Jupiter 26766-08-03 21:36 G 11497355.17 11497355.40 11497355.63 0.0506 0.0056 Neptune 26766-10-26 05:45 G 11497438.61 11497438.74 11497438.92 0.0090 0.0071 Jupiter 26767-09-07 00:57 G 11497754.43 11497754.54 11497754.66 0.0521 0.0449 Neptune 26767-10-28 18:57 G 11497806.13 11497806.29 11497806.50 0.0090 0.0063 Neptune 26768-10-30 08:09 G 11498173.65 11498173.84 11498174.06 0.0090 0.0054 Neptune 26769-11-01 21:21 G 11498541.19 11498541.39 11498541.63 0.0090 0.0046 Neptune 26770-11-04 10:33 G 11498908.71 11498908.94 11498909.19 0.0090 0.0037 Neptune 26771-11-07 00:00 G 11499276.25 11499276.50 11499276.74 0.0090 0.0028 Jupiter 26772-02-01 03:07 G 11499362.40 11499362.63 11499362.86 0.0522 0.0092 Neptune 26772-11-08 12:43 G 11499643.79 11499644.03 11499644.30 0.0090 0.0020 Jupiter 26773-03-06 04:19 G 11499761.54 11499761.68 11499761.82 0.0507 0.0403 Neptune 26773-11-11 01:55 G 11500011.32 11500011.58 11500011.84 0.0090 0.0011 Neptune 26774-11-13 14:53 G 11500378.86 11500379.12 11500379.38 0.0090 0.0002 Neptune 26775-11-16 03:50 G 11500746.40 11500746.66 11500746.92 0.0090 0.0007 Neptune 26776-11-17 16:33 G 11501113.95 11501114.19 11501114.45 0.0089 0.0016 Jupiter 26777-07-07 05:31 G 11501345.63 11501345.73 11501345.85 0.0496 0.0434 Neptune 26777-11-20 05:17 G 11501481.49 11501481.72 11501481.98 0.0089 0.0025 Jupiter 26778-08-08 13:55 G 11501742.85 11501743.08 11501743.31 0.0508 0.0016 Neptune 26778-11-22 18:29 G 11501849.03 11501849.27 11501849.51 0.0089 0.0033 Jupiter 26779-09-12 00:00 G 11502142.47 11502142.50 11502142.54 0.0523 0.0517 Neptune 26779-11-25 06:57 G 11502216.58 11502216.79 11502217.04 0.0089 0.0042 Saturn 26780-01-14 03:21 G 11502266.40 11502266.64 11502266.89 0.0269 0.0045 Neptune 26780-11-26 20:24 G 11502584.14 11502584.35 11502584.57 0.0089 0.0050

Uranus 26781-06-27 02:53 G 11502796.42 11502796.62 11502796.84 0.0138 0.0075 Neptune 26781-11-29 08:53 G 11502951.69 11502951.87 11502952.08 0.0089 0.0059 Uranus 26782-07-01 16:19 G 11503165.93 11503166.18 11503166.44 0.0137 0.0008 Neptune 26782-12-01 22:05 G 11503319.26 11503319.42 11503319.60 0.0089 0.0067 Uranus 26783-07-06 04:48 G 11503535.48 11503535.70 11503535.94 0.0137 0.0058 Neptune 26783-12-04 11:17 G 11503686.83 11503686.97 11503687.11 0.0089 0.0075 Jupiter 26784-02-06 00:29 G 11503750.29 11503750.52 11503750.76 0.0520 0.0017 Uranus 26784-07-09 16:33 G 11503905.11 11503905.19 11503905.32 0.0137 0.0124 Neptune 26784-12-05 23:02 G 11504054.40 11504054.46 11504054.59 0.0089 0.0084 Jupiter 26785-03-10 18:57 G 11504149.21 11504149.29 11504149.39 0.0505 0.0463 Jupiter 26789-07-11 14:24 G 11505732.95 11505733.10 11505733.25 0.0497 0.0379 Jupiter 26790-08-13 04:19 G 11506130.45 11506130.68 11506130.91 0.0510 0.0085 Jupiter 26795-01-06 06:00 G 11507737.65 11507737.75 11507737.85 0.0532 0.0480 Saturn 26795-07-16 05:02 G 11507928.49 11507928.71 11507928.95 0.0291 0.0095 Jupiter 26796-02-10 23:17 G 11508138.24 11508138.47 11508138.70 0.0518 0.0061 Jupiter 26801-07-16 01:12 G 11510120.37 11510120.55 11510120.73 0.0499 0.0320 Jupiter 26802-08-17 21:36 G 11510518.18 11510518.40 11510518.62 0.0512 0.0158 Jupiter 26807-01-11 12:00 G 11512125.85 11512126.00 11512126.15 0.0530 0.0404 Jupiter 26808-02-15 20:53 G 11512526.15 11512526.37 11512526.60 0.0516 0.0136 Saturn 26809-01-07 21:07 G 11512853.17 11512853.38 11512853.61 0.0270 0.0126 Saturn 26810-01-20 00:14 G 11513230.42 11513230.51 11513230.63 0.0268 0.0242 Jupiter 26813-07-20 12:29 G 11514507.83 11514508.02 11514508.22 0.0501 0.0258 Jupiter 26814-08-22 17:02 G 11514906.01 11514906.21 11514906.43 0.0515 0.0231 Jupiter 26819-01-16 15:21 G 11516513.96 11516514.14 11516514.32 0.0528 0.0326 Jupiter 26820-02-20 16:05 G 11516913.96 11516914.17 11516914.39 0.0513 0.0208 Saturn 26824-07-08 22:05 G 11518514.20 11518514.42 11518514.64 0.0290 0.0127 Uranus 26824-12-23 19:12 G 11518682.23 11518682.30 11518682.41 0.0140 0.0130 Jupiter 26825-07-25 03:36 G 11518895.43 11518895.65 11518895.86 0.0502 0.0192 Uranus 26825-12-28 13:12 G 11519051.83 11519052.05 11519052.29 0.0141 0.0060 Jupiter 26826-08-27 14:38 G 11519293.92 11519294.11 11519294.30 0.0517 0.0305

Uranus 26827-01-02 07:55 G 11519421.58 11519421.83 11519422.09 0.0141 0.0013 Uranus 26828-01-07 02:53 G 11519791.43 11519791.62 11519791.84 0.0141 0.0086 Jupiter 26831-01-21 11:02 G 11520901.76 11520901.96 11520902.17 0.0526 0.0252 Jupiter 26832-02-25 05:02 G 11521301.51 11521301.71 11521301.90 0.0512 0.0275 Jupiter 26837-07-29 18:14 G 11523283.03 11523283.26 11523283.48 0.0504 0.0124 Jupiter 26838-09-01 11:45 G 11523681.84 11523681.99 11523682.15 0.0518 0.0377 Saturn 26839-01-15 03:07 G 11523817.40 11523817.63 11523817.87 0.0269 0.0085 Jupiter 26843-01-26 10:19 G 11525289.72 11525289.93 11525290.16 0.0524 0.0174 Jupiter 26844-02-29 21:21 G 11525689.22 11525689.39 11525689.57 0.0510 0.0341 Neptune 26847-04-23 08:53 G 11526837.81 11526837.87 11526837.98 0.0088 0.0083 Neptune 26848-04-24 19:26 G 11527205.20 11527205.31 11527205.46 0.0088 0.0075 Jupiter 26848-07-02 06:00 G 11527273.72 11527273.75 11527273.79 0.0494 0.0487 Neptune 26849-04-27 06:00 G 11527572.60 11527572.75 11527572.93 0.0088 0.0067 Jupiter 26849-08-03 06:29 G 11527670.54 11527670.77 11527671.00 0.0506 0.0058 Neptune 26850-04-29 16:19 G 11527940.01 11527940.18 11527940.38 0.0088 0.0059 Jupiter 26850-09-06 06:43 G 11528069.66 11528069.78 11528069.90 0.0520 0.0444 Neptune 26851-05-02 02:53 G 11528307.42 11528307.62 11528307.84 0.0088 0.0051 Neptune 26852-05-03 12:57 G 11528674.83 11528675.04 11528675.28 0.0088 0.0043 Neptune 26853-05-05 23:17 G 11529042.25 11529042.47 11529042.72 0.0088 0.0035 Neptune 26854-05-08 09:50 G 11529409.68 11529409.91 11529410.17 0.0088 0.0027 Saturn 26854-07-17 03:07 G 11529479.42 11529479.63 11529479.85 0.0291 0.0136 Jupiter 26855-01-31 11:02 G 11529677.74 11529677.96 11529678.19 0.0523 0.0096 Neptune 26855-05-10 20:09 G 11529777.10 11529777.34 11529777.60 0.0088 0.0019 26855-05-12 18:14 G 11529779.08 11529779.26 11529779.44 0.1585 0.0532 Mars Jupiter 26856-03-05 15:07 G 11530076.99 11530077.13 11530077.27 0.0508 0.0403 Neptune 26856-05-12 06:43 G 11530144.53 11530144.78 11530145.04 0.0088 0.0010 Neptune 26857-05-14 17:17 G 11530511.96 11530512.22 11530512.48 0.0088 0.0002 Neptune 26858-05-17 03:36 G 11530879.40 11530879.65 11530879.92 0.0088 0.0007 Neptune 26859-05-19 14:09 G 11531246.84 11531247.09 11531247.35 0.0088 0.0015 Neptune 26860-05-21 00:43 G 11531614.29 11531614.53 11531614.78 0.0088 0.0023 Jupiter 26860-07-06 14:53 G 11531661.02 11531661.12 11531661.24 0.0495 0.0435 Neptune 26861-05-23 11:17 G 11531981.73 11531981.97 11531982.21 0.0088 0.0031 Jupiter 26861-08-07 21:21 G 11532058.16 11532058.39 11532058.63 0.0508 0.0017 Neptune 26862-05-25 21:21 G 11532349.18 11532349.39 11532349.64 0.0088 0.0040 Jupiter 26862-09-11 05:45 G 11532457.70 11532457.74 11532457.78 0.0523 0.0513 Neptune 26863-05-28 07:41 G 11532716.63 11532716.82 11532717.06 0.0088 0.0048 Neptune 26864-05-29 18:14 G 11533084.08 11533084.26 11533084.48 0.0088 0.0056 Neptune 26865-06-01 04:48 G 11533451.55 11533451.70 11533451.90 0.0088 0.0064 Uranus 26865-06-27 11:31 G 11533477.77 11533477.98 11533478.20 0.0138 0.0073 Neptune 26866-06-03 15:07 G 11533819.01 11533819.13 11533819.31 0.0088 0.0072 Uranus 26866-07-02 00:57 G 11533847.28 11533847.54 11533847.79 0.0138 0.0006 Jupiter 26867-02-05 12:00 G 11534065.77 11534066.00 11534066.23 0.0520 0.0017 Neptune 26867-06-06 01:41 G 11534186.50 11534186.57 11534186.71 0.0088 0.0080 Uranus 26867-07-06 13:41 G 11534216.85 11534217.07 11534217.30 0.0137 0.0060 Saturn 26868-01-09 21:36 G 11534404.17 11534404.40 11534404.63 0.0270 0.0085 Jupiter 26868-03-10 06:57 G 11534464.71 11534464.79 11534464.89 0.0505 0.0462 Neptune 26868-06-07 12:29 G 11534554.01 11534554.02 11534554.07 0.0088 0.0087 Uranus 26868-07-10 01:26 G 11534586.48 11534586.56 11534586.68 0.0137 0.0126 Jupiter 26872-07-11 00:57 G 11536048.39 11536048.54 11536048.69 0.0497 0.0378 Jupiter 26873-08-12 14:09 G 11536445.86 11536446.09 11536446.32 0.0510 0.0084 Jupiter 26878-01-05 16:05 G 11538053.08 11538053.17 11538053.28 0.0532 0.0479 Jupiter 26879-02-10 09:50 G 11538453.68 11538453.91 11538454.14 0.0518 0.0061 Saturn 26883-07-10 18:57 G 11540065.06 11540065.29 11540065.53 0.0290 0.0088 Jupiter 26884-07-15 13:41 G 11540435.89 11540436.07 11540436.25 0.0499 0.0317 Jupiter 26885-08-17 09:50 G 11540833.69 11540833.91 11540834.13 0.0512 0.0159 Jupiter 26890-01-10 14:24 G 11542440.95 11542441.10 11542441.25 0.0530 0.0408 Jupiter 26891-02-15 00:43 G 11542841.30 11542841.53 11542841.75 0.0516 0.0132 Jupiter 26896-07-20 02:38 G 11544823.41 11544823.61 11544823.82 0.0500 0.0255 Saturn 26897-01-03 20:09 G 11544991.27 11544991.34 11544991.45 0.0272 0.0251 Jupiter 26897-08-22 05:02 G 11545221.50 11545221.71 11545221.92 0.0514 0.0231

Saturn 26898-01-16 02:24 G 11545368.38 11545368.60 11545368.82 0.0269 0.0124 Jupiter 26902-01-16 15:21 G 11546828.97 11546829.14 11546829.33 0.0529 0.0332 Jupiter 26903-02-20 18:57 G 11547229.08 11547229.29 11547229.51 0.0514 0.0205 Jupiter 26908-07-25 13:26 G 11549210.84 11549211.06 11549211.27 0.0502 0.0193 Uranus 26908-12-25 03:36 G 11549363.57 11549363.65 11549363.78 0.0140 0.0128 Jupiter 26909-08-27 21:36 G 11549609.21 11549609.40 11549609.59 0.0516 0.0301 Uranus 26909-12-29 21:50 G 11549733.18 11549733.41 11549733.64 0.0140 0.0057 Uranus 26911-01-03 16:33 G 11550102.94 11550103.19 11550103.44 0.0141 0.0015 Uranus 26912-01-08 11:45 G 11550472.79 11550472.99 11550473.19 0.0141 0.0088 Saturn 26912-07-04 23:45 G 11550651.47 11550651.49 11550651.52 0.0289 0.0287 Saturn 26913-07-19 01:26 G 11551030.37 11551030.56 11551030.76 0.0291 0.0178 Jupiter 26914-01-21 17:45 G 11551217.04 11551217.24 11551217.45 0.0527 0.0256 Jupiter 26915-02-25 14:38 G 11551616.92 11551617.11 11551617.31 0.0512 0.0274 Pluto 26917-12-19 09:07 G 11552644.62 11552644.88 11552645.14 0.0064 0.0004 Jupiter 26920-07-30 02:09 G 11553598.36 11553598.59 11553598.82 0.0503 0.0127 Jupiter 26921-09-01 17:45 G 11553997.08 11553997.24 11553997.41 0.0518 0.0373 Jupiter 26926-01-26 21:07 G 11555605.16 11555605.38 11555605.60 0.0525 0.0175 Saturn 26927-01-11 22:05 G 11555955.17 11555955.42 11555955.66 0.0270 0.0044 Jupiter 26927-03-02 09:21 G 11556004.73 11556004.89 11556005.07 0.0510 0.0340 Neptune 26929-10-24 02:38 G 11556971.53 11556971.61 11556971.70 0.0090 0.0084 Neptune 26930-10-26 15:21 G 11557339.02 11557339.14 11557339.29 0.0090 0.0076 Jupiter 26931-07-03 16:19 G 11557589.15 11557589.18 11557589.22 0.0494 0.0486 Neptune 26931-10-29 04:05 G 11557706.53 11557706.67 11557706.87 0.0090 0.0068 Jupiter 26932-08-03 16:05 G 11557985.94 11557986.17 11557986.41 0.0506 0.0060 Neptune 26932-10-30 17:31 G 11558074.05 11558074.23 11558074.44 0.0090 0.0059 Jupiter 26933-09-06 16:05 G 11558385.05 11558385.17 11558385.29 0.0520 0.0443 Neptune 26933-11-02 06:29 G 11558441.56 11558441.77 11558441.99 0.0090 0.0050 Mars 26934-05-15 17:17 G 11558636.07 11558636.22 11558636.38 0.1585 0.0837 Neptune 26934-11-04 19:26 G 11558809.10 11558809.31 11558809.56 0.0090 0.0042 Neptune 26935-11-07 08:38 G 11559176.64 11559176.86 11559177.12 0.0090 0.0033

Neptune 26936-11-08 21:50 G 11559544.17 11559544.41 11559544.67 0.0090 0.0024 Neptune 26937-11-11 11:02 G 11559911.71 11559911.96 11559912.22 0.0090 0.0015 Jupiter 26938-01-31 21:50 G 11559993.18 11559993.41 11559993.64 0.0523 0.0095 Neptune 26938-11-14 00:00 G 11560279.24 11560279.50 11560279.76 0.0090 0.0006 Jupiter 26939-03-07 02:09 G 11560392.45 11560392.59 11560392.73 0.0508 0.0402 Neptune 26939-11-16 12:57 G 11560646.79 11560647.04 11560647.30 0.0090 0.0004 Neptune 26940-11-18 01:55 G 11561014.32 11561014.58 11561014.84 0.0090 0.0012 Neptune 26941-11-20 14:38 G 11561381.86 11561382.11 11561382.36 0.0089 0.0021 Saturn 26942-07-12 17:02 G 11561615.98 11561616.21 11561616.46 0.0290 0.0047 Neptune 26942-11-23 03:21 G 11561749.40 11561749.64 11561749.89 0.0089 0.0030 Jupiter 26943-07-08 03:36 G 11561976.54 11561976.65 11561976.76 0.0495 0.0431 Neptune 26943-11-25 16:05 G 11562116.95 11562117.17 11562117.42 0.0089 0.0039 Jupiter 26944-08-08 09:36 G 11562373.67 11562373.90 11562374.14 0.0508 0.0017 Neptune 26944-11-27 04:33 G 11562484.49 11562484.69 11562484.93 0.0089 0.0048 Jupiter 26945-09-11 17:02 G 11562773.18 11562773.21 11562773.26 0.0522 0.0513 Neptune 26945-11-29 17:45 G 11562852.05 11562852.24 11562852.45 0.0089 0.0056 Neptune 26946-12-02 06:29 G 11563219.61 11563219.77 11563219.97 0.0089 0.0065 Neptune 26947-12-04 19:41 G 11563587.18 11563587.32 11563587.47 0.0089 0.0073 Neptune 26948-12-06 08:09 G 11563954.76 11563954.84 11563954.97 0.0089 0.0081 Uranus 26949-06-28 20:24 G 11564159.14 11564159.35 11564159.57 0.0138 0.0071 Jupiter 26950-02-05 14:53 G 11564380.89 11564381.12 11564381.35 0.0521 0.0020 Uranus 26950-07-03 09:50 G 11564528.66 11564528.91 11564529.16 0.0138 0.0004 Jupiter 26951-03-11 12:14 G 11564779.92 11564780.01 11564780.11 0.0506 0.0460 Uranus 26951-07-07 22:19 G 11564898.22 11564898.43 11564898.67 0.0137 0.0063 Uranus 26952-07-11 10:48 G 11565267.87 11565267.95 11565268.04 0.0137 0.0128 Jupiter 26955-07-12 14:24 G 11566363.96 11566364.10 11566364.26 0.0497 0.0377 Saturn 26956-01-06 19:55 G 11566542.18 11566542.33 11566542.49 0.0272 0.0210 Jupiter 26956-08-13 02:53 G 11566761.39 11566761.62 11566761.85 0.0509 0.0086 Saturn 26957-01-18 01:41 G 11566919.39 11566919.57 11566919.77 0.0269 0.0164 Jupiter 26961-01-05 15:50 G 11568368.07 11568368.16 11568368.26 0.0532 0.0485

Jupiter 26962-02-10 11:17 G 11568768.74 11568768.97 11568769.20 0.0519 0.0056 Jupiter 26967-07-17 00:00 G 11570751.32 11570751.50 11570751.68 0.0498 0.0319 Jupiter 26968-08-17 17:17 G 11571149.00 11571149.22 11571149.44 0.0511 0.0154 Saturn 26971-07-06 22:48 G 11572202.34 11572202.45 11572202.60 0.0289 0.0245 Saturn 26972-07-20 00:43 G 11572581.38 11572581.53 11572581.70 0.0291 0.0221 Jupiter 26973-01-10 19:26 G 11572756.17 11572756.31 11572756.46 0.0531 0.0413 Jupiter 26974-02-15 08:38 G 11573156.64 11573156.86 11573157.09 0.0517 0.0129 Jupiter 26979-07-21 10:48 G 11575138.75 11575138.95 11575139.15 0.0500 0.0257 Jupiter 26980-08-22 10:33 G 11575536.74 11575536.94 11575537.16 0.0513 0.0227 Jupiter 26985-01-16 00:14 G 11577144.34 11577144.51 11577144.69 0.0529 0.0335 Saturn 26986-01-12 22:48 G 11577506.20 11577506.45 11577506.69 0.0270 0.0003 Jupiter 26986-02-20 06:00 G 11577544.54 11577544.75 11577544.97 0.0515 0.0203 Mars 26989-11-11 13:26 G 11578904.97 11578905.06 11578905.16 0.1952 0.1729 Jupiter 26991-07-25 22:19 G 11579526.21 11579526.43 11579526.64 0.0501 0.0193 Jupiter 26992-08-27 06:00 G 11579924.56 11579924.75 11579924.94 0.0516 0.0299 Uranus 26992-12-25 14:24 G 11580044.99 11580045.10 11580045.22 0.0140 0.0124 Uranus 26993-12-30 08:09 G 11580414.61 11580414.84 11580415.08 0.0140 0.0054 Uranus 26995-01-04 03:07 G 11580784.38 11580784.63 11580784.89 0.0141 0.0019 Uranus 26996-01-08 22:05 G 11581154.24 11581154.42 11581154.63 0.0141 0.0091 Jupiter 26997-01-21 03:36 G 11581532.45 11581532.65 11581532.86 0.0527 0.0256 Jupiter 26998-02-25 00:57 G 11581932.35 11581932.54 11581932.74 0.0512 0.0273

## 28TH MILLENNIUM CE

This is a list of transits of Earth in the 28th millennium CE.

FROM MAX- C START MAX END SUNRAD DEPTH S

Saturn 27001-07-14 17:17 G 11583166.97 11583167.22 11583167.46 0.0290 0.0005 Jupiter 27003-07-31 13:41 G 11583913.84 11583914.07 11583914.30 0.0503 0.0126 Jupiter 27004-09-02 04:48 G 11584312.54 11584312.70 11584312.86 0.0518 0.0373 27006-06-20 18:29 G 11584969.05 11584969.27 11584969.52 0.0080 0.0030 Jupiter 27009-01-26 23:31 G 11585920.27 11585920.48 11585920.70 0.0525 0.0180 Jupiter 27010-03-02 12:57 G 11586319.87 11586320.04 11586320.22 0.0510 0.0336 Neptune 27011-04-24 19:55 G 11586738.33 11586738.33 11586738.35 0.0088 0.0088 Neptune 27012-04-26 06:14 G 11587105.68 11587105.76 11587105.88 0.0088 0.0080 Neptune 27013-04-28 16:48 G 11587473.07 11587473.20 11587473.36 0.0088 0.0072 Neptune 27014-05-01 03:21 G 11587840.48 11587840.64 11587840.83 0.0088 0.0064 Jupiter 27014-07-04 05:02 G 11587904.67 11587904.71 11587904.75 0.0494 0.0485 Saturn 27015-01-08 20:24 G 11588093.17 11588093.35 11588093.55 0.0272 0.0168 Neptune 27015-05-03 13:26 G 11588207.88 11588208.06 11588208.28 0.0088 0.0056 Jupiter 27015-08-05 04:33 G 11588301.46 11588301.69 11588301.92 0.0505 0.0057 Saturn 27016-01-21 02:24 G 11588470.45 11588470.60 11588470.77 0.0269 0.0206 Neptune 27016-05-04 23:45 G 11588575.30 11588575.49 11588575.73 0.0088 0.0048 Jupiter 27016-09-07 02:24 G 11588700.49 11588700.60 11588700.73 0.0520 0.0443 Neptune 27017-05-07 10:33 G 11588942.71 11588942.94 11588943.17 0.0088 0.0039 Neptune 27018-05-09 20:38 G 11589310.13 11589310.36 11589310.61 0.0088 0.0031 Neptune 27019-05-12 06:57 G 11589677.56 11589677.79 11589678.05 0.0088 0.0023 Neptune 27020-05-13 17:31 G 11590044.98 11590045.23 11590045.49 0.0088 0.0014 Jupiter 27021-01-31 21:36 G 11590308.17 11590308.40 11590308.63 0.0523 0.0102 Neptune 27021-05-16 04:05 G 11590412.41 11590412.67 11590412.93 0.0088 0.0006 Jupiter 27022-03-07 04:19 G 11590707.55 11590707.68 11590707.83 0.0509 0.0400 Neptune 27022-05-18 14:24 G 11590779.85 11590780.10 11590780.36 0.0088 0.0003 Neptune 27023-05-21 00:57 G 11591147.28 11591147.54 11591147.79 0.0088 0.0011 Neptune 27024-05-22 11:17 G 11591514.73 11591514.97 11591515.23 0.0088 0.0020 Neptune 27025-05-24 22:05 G 11591882.18 11591882.42 11591882.67 0.0088 0.0028

Neptune 27026-05-27 08:09 G 11592249.63 11592249.84 11592250.10 0.0088 0.0037 Jupiter 27026-07-08 12:57 G 11592291.94 11592292.04 11592292.15 0.0495 0.0435 Neptune 27027-05-29 18:57 G 11592617.08 11592617.29 11592617.52 0.0088 0.0045 Jupiter 27027-08-09 17:02 G 11592688.98 11592689.21 11592689.45 0.0507 0.0012 Neptune 27028-05-31 05:31 G 11592984.54 11592984.73 11592984.95 0.0088 0.0053 Jupiter 27028-09-11 21:07 G 11593088.33 11593088.38 11593088.44 0.0521 0.0506 Neptune 27029-06-02 15:36 G 11593352.00 11593352.15 11593352.36 0.0088 0.0062 Neptune 27030-06-05 02:24 G 11593719.47 11593719.60 11593719.78 0.0088 0.0070 Saturn 27030-07-09 01:12 G 11593753.38 11593753.55 11593753.73 0.0289 0.0197 Neptune 27031-06-07 12:43 G 11594086.94 11594087.03 11594087.18 0.0088 0.0078 Saturn 27031-07-23 02:53 G 11594132.54 11594132.62 11594132.73 0.0291 0.0269 Neptune 27032-06-08 23:31 G 11594454.45 11594454.48 11594454.56 0.0088 0.0086 Uranus 27032-06-25 15:50 G 11594471.14 11594471.16 11594471.21 0.0138 0.0137 Jupiter 27033-02-05 20:38 G 11594696.13 11594696.36 11594696.59 0.0522 0.0026 Uranus 27033-06-30 06:14 G 11594840.55 11594840.76 11594840.99 0.0138 0.0068 Jupiter 27034-03-11 20:38 G 11595095.27 11595095.36 11595095.47 0.0507 0.0459 Uranus 27034-07-04 19:41 G 11595210.07 11595210.32 11595210.57 0.0137 0.0001 Uranus 27035-07-09 08:24 G 11595579.64 11595579.85 11595580.09 0.0137 0.0066 Uranus 27036-07-12 20:53 G 11595949.31 11595949.37 11595949.45 0.0137 0.0131 Jupiter 27038-07-12 22:19 G 11596679.29 11596679.43 11596679.58 0.0496 0.0379 Jupiter 27039-08-14 07:55 G 11597076.60 11597076.83 11597077.06 0.0509 0.0080 Jupiter 27044-01-06 22:19 G 11598683.34 11598683.43 11598683.52 0.0533 0.0490 Saturn 27045-01-15 00:57 G 11599057.29 11599057.54 11599057.78 0.0270 0.0042 Jupiter 27045-02-10 20:09 G 11599084.11 11599084.34 11599084.57 0.0519 0.0052 Jupiter 27050-07-17 07:41 G 11601066.65 11601066.82 11601067.00 0.0498 0.0320 Jupiter 27051-08-19 00:14 G 11601464.29 11601464.51 11601464.74 0.0511 0.0152 Jupiter 27056-01-12 03:36 G 11603071.51 11603071.65 11603071.80 0.0531 0.0414 Jupiter 27057-02-15 17:45 G 11603472.01 11603472.24 11603472.46 0.0517 0.0128 27060-05-13 04:05 G 11604654.54 11604654.67 11604654.79 0.1587 0.1169 Mars Saturn 27060-07-15 20:38 G 11604718.12 11604718.36 11604718.60 0.0290 0.0047

Jupiter 27062-07-21 20:38 G 11605454.16 11605454.36 11605454.56 0.0500 0.0257 Jupiter 27063-08-23 20:24 G 11605852.15 11605852.35 11605852.57 0.0513 0.0227 Jupiter 27068-01-17 02:38 G 11607459.44 11607459.61 11607459.79 0.0529 0.0341 Jupiter 27069-02-20 08:09 G 11607859.63 11607859.84 11607860.06 0.0515 0.0198 Saturn 27074-01-09 22:33 G 11609644.23 11609644.44 11609644.66 0.0272 0.0123 Jupiter 27074-07-26 09:21 G 11609841.68 11609841.89 11609842.11 0.0501 0.0194 Saturn 27075-01-22 04:33 G 11610021.61 11610021.69 11610021.79 0.0270 0.0250 Jupiter 27075-08-28 15:50 G 11610239.98 11610240.16 11610240.36 0.0515 0.0299 Uranus 27076-12-27 00:00 G 11610726.40 11610726.50 11610726.65 0.0140 0.0122 Uranus 27077-12-31 18:29 G 11611096.04 11611096.27 11611096.52 0.0140 0.0051 Uranus 27079-01-05 13:26 G 11611465.82 11611466.06 11611466.32 0.0141 0.0022 Uranus 27080-01-10 08:38 G 11611835.69 11611835.86 11611836.07 0.0141 0.0096 Jupiter 27080-01-22 02:38 G 11611847.41 11611847.61 11611847.81 0.0527 0.0264 Jupiter 27081-02-25 01:12 G 11612247.35 11612247.55 11612247.75 0.0513 0.0267 Jupiter 27086-07-30 20:09 G 11614229.11 11614229.34 11614229.57 0.0503 0.0132 Jupiter 27087-09-02 08:24 G 11614627.69 11614627.85 11614628.02 0.0517 0.0365 Saturn 27089-07-10 06:14 G 11615304.55 11615304.76 11615304.98 0.0289 0.0145 Jupiter 27092-01-27 02:24 G 11616235.38 11616235.60 11616235.82 0.0526 0.0188 Jupiter 27093-03-01 19:12 G 11616635.12 11616635.30 11616635.48 0.0511 0.0332 Neptune 27094-10-26 23:45 G 11617239.41 11617239.49 11617239.62 0.0090 0.0082 Neptune 27095-10-29 12:57 G 11617606.91 11617607.04 11617607.21 0.0090 0.0073 Neptune 27096-10-31 02:09 G 11617974.41 11617974.59 11617974.77 0.0090 0.0064 Jupiter 27097-07-03 12:00 G 11618219.97 11618220.00 11618220.03 0.0493 0.0488 Neptune 27097-11-02 14:38 G 11618341.93 11618342.11 11618342.34 0.0090 0.0056 Jupiter 27098-08-04 08:53 G 11618616.64 11618616.87 11618617.10 0.0504 0.0063 Neptune 27098-11-05 03:50 G 11618709.46 11618709.66 11618709.90 0.0090 0.0047 Jupiter 27099-09-07 03:50 G 11619015.54 11619015.66 11619015.79 0.0519 0.0434 Neptune 27099-11-07 17:02 G 11619076.99 11619077.21 11619077.46 0.0090 0.0038 Neptune 27100-11-10 06:14 G 11619444.53 11619444.76 11619445.02 0.0089 0.0029 Neptune 27101-11-12 19:12 G 11619812.06 11619812.30 11619812.57 0.0089 0.0020

Neptune 27102-11-15 08:38 G 11620179.61 11620179.86 11620180.12 0.0089 0.0010 Neptune 27103-11-17 21:50 G 11620547.15 11620547.41 11620547.67 0.0089 0.0001 Saturn 27104-01-18 05:17 G 11620608.49 11620608.72 11620608.95 0.0270 0.0090 Jupiter 27104-02-02 03:50 G 11620623.44 11620623.66 11620623.89 0.0524 0.0108 Neptune 27104-11-19 10:33 G 11620914.69 11620914.94 11620915.21 0.0089 0.0008 Jupiter 27105-03-07 12:57 G 11621022.90 11621023.04 11621023.19 0.0509 0.0396 Neptune 27105-11-21 23:17 G 11621282.23 11621282.47 11621282.74 0.0089 0.0018 Neptune 27106-11-24 12:14 G 11621649.78 11621650.01 11621650.27 0.0089 0.0027 Neptune 27107-11-27 00:57 G 11622017.32 11622017.54 11622017.80 0.0089 0.0036 Neptune 27108-11-28 13:41 G 11622384.87 11622385.07 11622385.31 0.0089 0.0045 Jupiter 27109-07-08 19:41 G 11622607.22 11622607.32 11622607.43 0.0495 0.0436 Neptune 27109-12-01 02:24 G 11622752.42 11622752.60 11622752.83 0.0089 0.0054 Jupiter 27110-08-09 22:19 G 11623004.20 11623004.43 11623004.66 0.0507 0.0006 Neptune 27110-12-03 15:50 G 11623119.97 11623120.16 11623120.34 0.0089 0.0062 Jupiter 27111-09-13 01:41 G 11623403.51 11623403.57 11623403.63 0.0521 0.0502 Neptune 27111-12-06 04:19 G 11623487.54 11623487.68 11623487.85 0.0089 0.0071 Neptune 27112-12-07 16:33 G 11623855.10 11623855.19 11623855.34 0.0089 0.0080 Neptune 27113-12-10 05:45 G 11624222.71 11624222.74 11624222.81 0.0089 0.0088 Jupiter 27116-02-07 03:50 G 11625011.43 11625011.66 11625011.89 0.0522 0.0028 Uranus 27116-06-27 03:36 G 11625152.58 11625152.65 11625152.72 0.0138 0.0133 Jupiter 27117-03-12 04:48 G 11625410.61 11625410.70 11625410.81 0.0507 0.0456 Uranus 27117-07-01 17:31 G 11625522.01 11625522.23 11625522.46 0.0138 0.0065 Uranus 27118-07-06 07:12 G 11625891.54 11625891.80 11625892.05 0.0137 0.0003 Uranus 27119-07-10 19:55 G 11626261.12 11626261.33 11626261.56 0.0137 0.0069 Saturn 27119-07-19 03:50 G 11626269.43 11626269.66 11626269.89 0.0290 0.0103 Uranus 27120-07-14 08:09 G 11626630.81 11626630.84 11626630.89 0.0137 0.0135 Jupiter 27121-07-13 06:29 G 11626994.62 11626994.77 11626994.92 0.0496 0.0379 Jupiter 27122-08-14 15:50 G 11627391.93 11627392.16 11627392.39 0.0509 0.0079 Jupiter 27127-01-07 00:14 G 11628998.43 11628998.51 11628998.60 0.0532 0.0496 Jupiter 27128-02-11 21:21 G 11629399.16 11629399.39 11629399.62 0.0519 0.0045

Saturn 27133-01-12 02:53 G 11631195.39 11631195.62 11631195.86 0.0272 0.0075 Jupiter 27133-07-17 16:33 G 11631382.02 11631382.19 11631382.37 0.0498 0.0323 Jupiter 27134-08-19 08:53 G 11631779.64 11631779.87 11631780.09 0.0511 0.0149 Jupiter 27139-01-12 01:41 G 11633386.44 11633386.57 11633386.72 0.0531 0.0423 Mars 27139-05-17 03:21 G 11633511.45 11633511.64 11633511.82 0.1586 0.0214 Jupiter 27140-02-16 16:05 G 11633786.94 11633787.17 11633787.40 0.0517 0.0119 Jupiter 27145-07-22 02:09 G 11635769.40 11635769.59 11635769.79 0.0499 0.0264 Jupiter 27146-08-23 23:02 G 11636167.25 11636167.46 11636167.68 0.0512 0.0217 Saturn 27148-07-12 15:07 G 11636855.90 11636856.13 11636856.37 0.0289 0.0088 Jupiter 27151-01-17 02:09 G 11637774.42 11637774.59 11637774.77 0.0530 0.0351 Jupiter 27152-02-21 11:17 G 11638174.75 11638174.97 11638175.19 0.0516 0.0190 Jupiter 27157-07-26 12:43 G 11640156.82 11640157.03 11640157.25 0.0501 0.0201 Jupiter 27158-08-28 16:19 G 11640554.99 11640555.18 11640555.37 0.0514 0.0288 Uranus 27160-12-28 10:48 G 11641407.82 11641407.95 11641408.09 0.0140 0.0118 Uranus 27162-01-02 04:48 G 11641777.48 11641777.70 11641777.95 0.0140 0.0048 Saturn 27162-01-07 03:21 G 11641782.53 11641782.64 11641782.77 0.0272 0.0236 Uranus 27163-01-07 00:14 G 11642147.26 11642147.51 11642147.76 0.0141 0.0025 Saturn 27163-01-19 11:45 G 11642159.78 11642159.99 11642160.20 0.0270 0.0140 Jupiter 27163-01-22 05:17 G 11642162.52 11642162.72 11642162.92 0.0528 0.0272 Uranus 27164-01-11 19:12 G 11642517.13 11642517.30 11642517.50 0.0141 0.0099 Jupiter 27164-02-26 07:12 G 11642562.60 11642562.80 11642563.00 0.0514 0.0261 Pluto 27165-12-22 12:14 G 11643227.80 11643228.01 11643228.23 0.0064 0.0036 Pluto 27166-12-24 00:14 G 11643594.35 11643594.51 11643594.71 0.0065 0.0047 Jupiter 27169-07-31 00:00 G 11644544.28 11644544.50 11644544.73 0.0502 0.0136 Jupiter 27170-09-02 10:33 G 11644942.78 11644942.94 11644943.11 0.0517 0.0360 Jupiter 27175-01-27 07:26 G 11646550.60 11646550.81 11646551.03 0.0526 0.0192 Jupiter 27176-03-02 01:12 G 11646950.38 11646950.55 11646950.73 0.0511 0.0329 Neptune 27176-04-26 16:48 G 11647006.15 11647006.20 11647006.27 0.0088 0.0085 Neptune 27177-04-29 03:36 G 11647373.53 11647373.65 11647373.77 0.0088 0.0077 Neptune 27178-05-01 13:41 G 11647740.92 11647741.07 11647741.24 0.0088 0.0069 Saturn 27178-07-20 14:24 G 11647820.91 11647821.10 11647821.31 0.0290 0.0164 Neptune 27179-05-04 00:00 G 11648108.34 11648108.50 11648108.70 0.0088 0.0061 Neptune 27180-05-05 10:19 G 11648475.75 11648475.93 11648476.16 0.0088 0.0053 Jupiter 27180-07-03 18:00 G 11648535.24 11648535.25 11648535.28 0.0493 0.0491 Neptune 27181-05-07 21:07 G 11648843.16 11648843.38 11648843.61 0.0088 0.0044 Jupiter 27181-08-04 14:24 G 11648931.87 11648932.10 11648932.34 0.0504 0.0067 Neptune 27182-05-10 07:12 G 11649210.59 11649210.80 11649211.06 0.0088 0.0036 Jupiter 27182-09-07 09:21 G 11649330.76 11649330.89 11649331.02 0.0519 0.0431 Neptune 27183-05-12 17:45 G 11649578.00 11649578.24 11649578.49 0.0088 0.0027 Neptune 27184-05-14 04:19 G 11649945.43 11649945.68 11649945.93 0.0088 0.0018 Neptune 27185-05-16 14:24 G 11650312.85 11650313.10 11650313.37 0.0088 0.0010 Neptune 27186-05-19 00:57 G 11650680.28 11650680.54 11650680.80 0.0088 0.0001 Jupiter 27187-02-01 04:19 G 11650938.46 11650938.68 11650938.91 0.0524 0.0117 Neptune 27187-05-21 11:17 G 11651047.71 11651047.97 11651048.23 0.0088 0.0008 Jupiter 27188-03-06 13:26 G 11651337.92 11651338.06 11651338.21 0.0509 0.0389 Neptune 27188-05-22 21:50 G 11651415.15 11651415.41 11651415.66 0.0088 0.0016 Neptune 27189-05-25 07:55 G 11651782.60 11651782.83 11651783.09 0.0088 0.0025 Neptune 27190-05-27 18:14 G 11652150.04 11652150.26 11652150.52 0.0088 0.0034 Neptune 27191-05-30 05:02 G 11652517.50 11652517.71 11652517.95 0.0088 0.0042 Saturn 27192-01-14 09:50 G 11652746.66 11652746.91 11652747.15 0.0272 0.0023 Neptune 27192-05-31 15:21 G 11652884.95 11652885.14 11652885.37 0.0088 0.0051 Jupiter 27192-07-08 02:09 G 11652922.49 11652922.59 11652922.69 0.0495 0.0441 Neptune 27193-06-03 02:09 G 11653252.42 11653252.59 11653252.80 0.0088 0.0059 Jupiter 27193-08-09 05:02 G 11653319.48 11653319.71 11653319.94 0.0506 0.0002 Neptune 27194-06-05 12:43 G 11653619.88 11653620.03 11653620.20 0.0088 0.0067 Jupiter 27194-09-12 07:12 G 11653718.74 11653718.80 11653718.87 0.0521 0.0498 Neptune 27195-06-07 22:48 G 11653987.36 11653987.45 11653987.61 0.0088 0.0076 Neptune 27196-06-09 09:36 G 11654354.85 11654354.90 11654355.00 0.0088 0.0084 Jupiter 27199-02-06 01:12 G 11655326.31 11655326.55 11655326.78 0.0522 0.0040 Jupiter 27200-03-11 03:07 G 11655725.53 11655725.63 11655725.75 0.0507 0.0449

Uranus 27200-06-27 15:21 G 11655834.06 11655834.14 11655834.24 0.0138 0.0129 Uranus 27201-07-02 05:17 G 11656203.51 11656203.72 11656203.96 0.0138 0.0061 Uranus 27202-07-06 18:57 G 11656573.04 11656573.29 11656573.54 0.0137 0.0007 Uranus 27203-07-11 07:41 G 11656942.62 11656942.82 11656943.05 0.0137 0.0074 Jupiter 27204-07-12 10:33 G 11657309.80 11657309.94 11657310.08 0.0496 0.0388 Jupiter 27205-08-13 17:45 G 11657707.01 11657707.24 11657707.47 0.0508 0.0068 Saturn 27207-07-15 03:21 G 11658407.40 11658407.64 11658407.89 0.0289 0.0025 Jupiter 27210-01-05 20:38 G 11659313.30 11659313.36 11659313.43 0.0533 0.0507 Jupiter 27211-02-10 21:21 G 11659714.16 11659714.39 11659714.62 0.0520 0.0035 Jupiter 27212-03-15 18:00 G 11660113.23 11660113.25 11660113.27 0.0506 0.0504 Jupiter 27216-07-16 19:41 G 11661697.15 11661697.32 11661697.50 0.0497 0.0329 Jupiter 27217-08-18 08:24 G 11662094.63 11662094.85 11662095.08 0.0510 0.0138 Saturn 27221-01-08 12:14 G 11663333.83 11663334.01 11663334.20 0.0272 0.0182 Jupiter 27222-01-11 00:43 G 11663701.40 11663701.53 11663701.66 0.0532 0.0433 Saturn 27222-01-20 19:55 G 11663711.18 11663711.33 11663711.52 0.0270 0.0194 Jupiter 27223-02-15 18:57 G 11664102.06 11664102.29 11664102.52 0.0518 0.0111 Jupiter 27228-07-21 04:48 G 11666084.50 11666084.70 11666084.89 0.0499 0.0269 Jupiter 27229-08-22 23:45 G 11666482.28 11666482.49 11666482.71 0.0512 0.0210 Jupiter 27234-01-16 05:02 G 11668089.54 11668089.71 11668089.88 0.0530 0.0356 Jupiter 27235-02-20 15:36 G 11668489.94 11668490.15 11668490.38 0.0516 0.0187 Saturn 27236-07-08 06:14 G 11668993.62 11668993.76 11668993.91 0.0288 0.0229 Saturn 27237-07-22 05:31 G 11669372.59 11669372.73 11669372.88 0.0290 0.0230 Jupiter 27240-07-25 16:48 G 11670471.99 11670472.20 11670472.41 0.0500 0.0205 Jupiter 27241-08-27 19:26 G 11670870.12 11670870.31 11670870.51 0.0514 0.0283 Uranus 27244-12-28 18:43 G 11672089.16 11672089.28 11672089.44 0.0140 0.0117 Uranus 27246-01-02 13:12 G 11672458.82 11672459.05 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22:48 G 11684885.24 11684885.45 11684885.67 0.0272 0.0126 Saturn 27281-01-22 06:14 G 11685262.68 11685262.76 11685262.86 0.0270 0.0249 Jupiter 27282-02-05 00:43 G 11685641.30 11685641.53 11685641.77 0.0523 0.0050 Jupiter 27283-03-11 06:57 G 11686040.68 11686040.79 11686040.90 0.0508 0.0443 Uranus 27284-06-28 03:36 G 11686515.55 11686515.65 11686515.76 0.0138 0.0125 Uranus 27285-07-02 17:31 G 11686885.01 11686885.23 11686885.47 0.0138 0.0057 Uranus 27286-07-07 07:12 G 11687254.55 11687254.80 11687255.06 0.0137 0.0011 Uranus 27287-07-11 19:55 G 11687624.14 11687624.33 11687624.55 0.0137 0.0078 Jupiter 27287-07-12 12:43 G 11687624.89 11687625.03 11687625.17 0.0495 0.0392 Jupiter 27288-08-12 17:31 G 11688022.00 11688022.23 11688022.46 0.0507 0.0060 Jupiter 27293-01-04 21:07 G 11689628.32 11689628.38 11689628.44 0.0534 0.0514 Jupiter 27294-02-10 00:00 G 11690029.27 11690029.50 11690029.74 0.0521 0.0029 Jupiter 27295-03-15 22:05 G 11690428.39 11690428.42 11690428.46 0.0506 0.0499 Saturn 27295-07-10 22:05 G 11690545.23 11690545.42 11690545.63 0.0288 0.0162 Jupiter 27299-07-16 22:33 G 11692012.26 11692012.44 11692012.61 0.0497 0.0333 Jupiter 27300-08-18 10:19 G 11692409.71 11692409.93 11692410.16 0.0510 0.0132 Jupiter 27305-01-11 00:43 G 11694016.42 11694016.53 11694016.67 0.0532 0.0443 Jupiter 27306-02-15 18:57 G 11694417.06 11694417.29 11694417.52 0.0518 0.0101 Saturn 27310-01-18 04:33 G 11695849.46 11695849.69 11695849.92 0.0271 0.0087 Jupiter 27311-07-22 08:09 G 11696399.64 11696399.84 11696400.03 0.0499 0.0276 Jupiter 27312-08-23 03:07 G 11696797.41 11696797.63 11696797.84 0.0512 0.0202 Jupiter 27317-01-16 02:09 G 11698404.42 11698404.59 11698404.76 0.0530 0.0367 Jupiter 27318-02-20 12:57 G 11698804.82 11698805.04 11698805.26 0.0516 0.0174 Jupiter 27323-07-26 18:14 G 11700787.05 11700787.26 11700787.47 0.0500 0.0215 Jupiter 27324-08-27 18:14 G 11701185.07 11701185.26 11701185.47 0.0513 0.0270 Saturn 27325-07-19 10:05 G 11701510.70 11701510.92 11701511.16 0.0290 0.0110

Uranus 27328-12-30 03:07 G 11702770.51 11702770.63 11702770.80 0.0140 0.0116 Jupiter 27329-01-20 23:45 G 11702792.30 11702792.49 11702792.69 0.0529 0.0295 Uranus 27330-01-03 21:36 G 11703140.17 11703140.40 11703140.65 0.0141 0.0044 Jupiter 27330-02-25 05:45 G 11703192.53 11703192.74 11703192.94 0.0515 0.0242 Uranus 27331-01-08 16:48 G 11703509.95 11703510.20 11703510.45 0.0141 0.0029 Uranus 27332-01-13 11:45 G 11703879.83 11703879.99 11703880.18 0.0141 0.0103 Jupiter 27335-07-31 05:31 G 11705174.51 11705174.73 11705174.95 0.0501 0.0151 Jupiter 27336-09-01 11:31 G 11705572.80 11705572.98 11705573.15 0.0515 0.0340 Saturn 27339-01-13 10:05 G 11706436.69 11706436.92 11706437.16 0.0272 0.0069 Jupiter 27341-01-26 00:57 G 11707180.33 11707180.54 11707180.75 0.0527 0.0215 Neptune 27341-04-29 12:14 G 11707273.95 11707274.01 11707274.12 0.0088 0.0083 Jupiter 27342-03-02 00:00 G 11707580.32 11707580.50 11707580.69 0.0513 0.0311 Neptune 27342-05-01 22:33 G 11707641.33 11707641.44 11707641.60 0.0088 0.0075 Neptune 27343-05-04 09:36 G 11708008.74 11708008.90 11708009.07 0.0088 0.0066 Neptune 27344-05-05 19:41 G 11708376.15 11708376.32 11708376.53 0.0088 0.0058 Mars 27344-05-16 13:26 G 11708386.88 11708387.06 11708387.24 0.1589 0.0419 Neptune 27345-05-08 06:29 G 11708743.57 11708743.77 11708743.99 0.0088 0.0049 Neptune 27346-05-10 16:33 G 11709110.98 11709111.19 11709111.44 0.0088 0.0041 Neptune 27347-05-13 03:21 G 11709478.41 11709478.64 11709478.89 0.0088 0.0032 Jupiter 27347-08-04 16:05 G 11709561.94 11709562.17 11709562.40 0.0503 0.0084 Neptune 27348-05-14 13:41 G 11709845.83 11709846.07 11709846.33 0.0088 0.0023 Jupiter 27348-09-06 05:17 G 11709960.58 11709960.72 11709960.86 0.0517 0.0408 Neptune 27349-05-17 00:14 G 11710213.26 11710213.51 11710213.77 0.0088 0.0014 Neptune 27350-05-19 10:33 G 11710580.69 11710580.94 11710581.20 0.0088 0.0006 Neptune 27351-05-21 20:53 G 11710948.12 11710948.37 11710948.63 0.0088 0.0004 Neptune 27352-05-23 07:26 G 11711315.56 11711315.81 11711316.07 0.0088 0.0012 27352-11-17 07:41 G 11711493.72 11711493.82 11711493.93 0.1951 0.1664 Jupiter 27353-01-31 02:38 G 11711568.39 11711568.61 11711568.84 0.0525 0.0136 Neptune 27353-05-25 17:45 G 11711682.99 11711683.24 11711683.49 0.0088 0.0021 Jupiter 27354-03-06 17:45 G 11711968.09 11711968.24 11711968.40 0.0511 0.0376

Neptune 27354-05-28 04:05 G 11712050.44 11712050.67 11712050.92 0.0088 0.0030 Saturn 27354-07-13 15:07 G 11712096.90 11712097.13 11712097.36 0.0288 0.0093 Neptune 27355-05-30 14:24 G 11712417.89 11712418.10 11712418.35 0.0088 0.0039 Neptune 27356-06-01 00:57 G 11712785.35 11712785.54 11712785.78 0.0088 0.0048 Neptune 27357-06-03 11:45 G 11713152.80 11713152.99 11713153.20 0.0088 0.0056 Neptune 27358-06-05 22:05 G 11713520.27 11713520.42 11713520.62 0.0088 0.0065 Jupiter 27358-07-08 07:26 G 11713552.73 11713552.81 11713552.92 0.0494 0.0451 Neptune 27359-06-08 09:07 G 11713887.75 11713887.88 11713888.03 0.0088 0.0073 Jupiter 27359-08-09 06:00 G 11713949.52 11713949.75 11713949.98 0.0505 0.0015 Neptune 27360-06-09 19:12 G 11714255.24 11714255.30 11714255.42 0.0088 0.0082 Jupiter 27360-09-11 03:07 G 11714348.55 11714348.63 11714348.73 0.0520 0.0478 Jupiter 27365-02-05 01:26 G 11715956.33 11715956.56 11715956.79 0.0523 0.0060 Jupiter 27366-03-11 07:26 G 11716355.69 11716355.81 11716355.93 0.0508 0.0434 Saturn 27368-01-08 05:17 G 11717023.60 11717023.72 11717023.84 0.0273 0.0239 Uranus 27368-06-29 14:24 G 11717197.00 11717197.10 11717197.24 0.0138 0.0122 Saturn 27369-01-19 15:07 G 11717400.92 11717401.13 11717401.34 0.0271 0.0142 Uranus 27369-07-04 04:48 G 11717566.48 11717566.70 11717566.95 0.0138 0.0053 Uranus 27370-07-08 18:29 G 11717936.02 11717936.27 11717936.53 0.0137 0.0015 Jupiter 27370-07-12 15:07 G 11717939.99 11717940.13 11717940.26 0.0495 0.0399 Uranus 27371-07-13 07:12 G 11718305.61 11718305.80 11718306.02 0.0137 0.0082 Jupiter 27371-08-13 20:09 G 11718337.11 11718337.34 11718337.57 0.0507 0.0052 Jupiter 27376-01-05 19:12 G 11719943.26 11719943.30 11719943.34 0.0533 0.0523 Jupiter 27377-02-09 21:50 G 11720344.18 11720344.41 11720344.65 0.0521 0.0020 Jupiter 27378-03-15 20:38 G 11720743.31 11720743.36 11720743.42 0.0506 0.0490 Jupiter 27382-07-17 00:29 G 11722327.35 11722327.52 11722327.69 0.0497 0.0342 Saturn 27383-07-08 03:21 G 11722683.60 11722683.64 11722683.70 0.0287 0.0281 Jupiter 27383-08-18 10:19 G 11722724.70 11722724.93 11722725.16 0.0509 0.0120 Saturn 27384-07-21 01:41 G 11723062.38 11723062.57 11723062.77 0.0290 0.0176 Jupiter 27388-01-10 17:45 G 11724331.12 11724331.24 11724331.36 0.0532 0.0454 Jupiter 27389-02-14 15:36 G 11724731.92 11724732.15 11724732.38 0.0519 0.0090

Jupiter 27394-07-21 10:33 G 11726714.75 11726714.94 11726715.13 0.0498 0.0282 Jupiter 27395-08-23 01:41 G 11727112.35 11727112.57 11727112.79 0.0511 0.0191 Saturn 27398-01-14 21:21 G 11727988.15 11727988.39 11727988.64 0.0272 0.0012 Jupiter 27400-01-15 20:09 G 11728719.18 11728719.34 11728719.51 0.0531 0.0380 Jupiter 27401-02-20 12:14 G 11729119.79 11729120.01 11729120.23 0.0518 0.0165 Jupiter 27406-07-26 19:26 G 11731102.10 11731102.31 11731102.52 0.0499 0.0221 Jupiter 27407-08-28 16:48 G 11731500.00 11731500.20 11731500.40 0.0513 0.0261 Jupiter 27412-01-22 00:14 G 11733107.32 11733107.51 11733107.70 0.0530 0.0302 Uranus 27412-12-31 11:31 G 11733451.84 11733451.98 11733452.14 0.0140 0.0113 Jupiter 27413-02-25 08:24 G 11733507.65 11733507.85 11733508.06 0.0515 0.0237 Saturn 27413-07-16 07:26 G 11733648.57 11733648.81 11733649.05 0.0289 0.0026 Pluto 27413-12-25 18:43 G 11733811.19 11733811.28 11733811.42 0.0064 0.0057 Uranus 27414-01-05 05:45 G 11733821.50 11733821.74 11733821.99 0.0140 0.0042 Pluto 27414-12-27 07:12 G 11734177.57 11734177.80 11734178.05 0.0065 0.0025 Uranus 27415-01-10 00:14 G 11734191.27 11734191.51 11734191.77 0.0141 0.0031 Uranus 27416-01-14 19:26 G 11734561.15 11734561.31 11734561.49 0.0141 0.0105 Jupiter 27418-07-31 06:57 G 11735489.57 11735489.79 11735490.01 0.0501 0.0157 Jupiter 27419-09-02 11:45 G 11735887.81 11735887.99 11735888.17 0.0515 0.0332 Mars 27423-05-20 12:57 G 11737243.89 11737244.04 11737244.19 0.1588 0.0977 Neptune 27423-10-31 04:19 G 11737407.63 11737407.68 11737407.79 0.0090 0.0085 Jupiter 27424-01-27 02:24 G 11737495.39 11737495.60 11737495.81 0.0527 0.0225 Neptune 27424-11-01 17:31 G 11737775.12 11737775.23 11737775.39 0.0090 0.0076 Jupiter 27425-03-02 01:41 G 11737895.39 11737895.57 11737895.76 0.0513 0.0302 Neptune 27425-11-04 06:29 G 11738142.62 11738142.77 11738142.97 0.0090 0.0067 Neptune 27426-11-06 20:09 G 11738510.14 11738510.34 11738510.54 0.0090 0.0057 Saturn 27427-01-10 16:19 G 11738575.00 11738575.18 11738575.36 0.0273 0.0182 Neptune 27427-11-09 08:38 G 11738877.65 11738877.86 11738878.09 0.0090 0.0048 Saturn 27428-01-23 00:57 G 11738952.38 11738952.54 11738952.72 0.0270 0.0197 Neptune 27428-11-10 21:36 G 11739245.18 11739245.40 11739245.65 0.0090 0.0039 Neptune 27429-11-13 10:33 G 11739612.71 11739612.94 11739613.20 0.0090 0.0029

Jupiter 27430-08-04 18:43 G 11739877.05 11739877.28 11739877.51 0.0503 0.0092 Neptune 27430-11-15 23:31 G 11739980.24 11739980.48 11739980.74 0.0090 0.0020 Jupiter 27431-09-07 07:41 G 11740275.67 11740275.82 11740275.97 0.0517 0.0400 Neptune 27431-11-18 12:43 G 11740347.78 11740348.03 11740348.29 0.0089 0.0010 Neptune 27432-11-20 01:41 G 11740715.32 11740715.57 11740715.83 0.0089 0.0002 Neptune 27433-11-22 14:53 G 11741082.86 11741083.12 11741083.38 0.0089 0.0009 Neptune 27434-11-25 03:50 G 11741450.41 11741450.66 11741450.92 0.0089 0.0019 Neptune 27435-11-27 16:48 G 11741817.96 11741818.20 11741818.45 0.0089 0.0028 Jupiter 27436-02-01 01:55 G 11741883.35 11741883.58 11741883.80 0.0525 0.0145 Neptune 27436-11-29 05:31 G 11742185.51 11742185.73 11742185.98 0.0089 0.0038 Jupiter 27437-03-06 17:31 G 11742283.07 11742283.23 11742283.40 0.0511 0.0367 Neptune 27437-12-01 18:29 G 11742553.06 11742553.27 11742553.50 0.0089 0.0047 Neptune 27438-12-04 07:26 G 11742920.61 11742920.81 11742921.01 0.0089 0.0056 Neptune 27439-12-06 19:26 G 11743288.17 11743288.31 11743288.52 0.0089 0.0066 Neptune 27440-12-08 08:24 G 11743655.73 11743655.85 11743656.01 0.0089 0.0075 Jupiter 27441-07-08 10:33 G 11743867.86 11743867.94 11743868.04 0.0494 0.0457 Neptune 27441-12-10 20:53 G 11744023.31 11744023.37 11744023.49 0.0089 0.0084 Saturn 27442-07-10 16:33 G 11744235.04 11744235.19 11744235.36 0.0287 0.0219 Jupiter 27442-08-09 07:55 G 11744264.59 11744264.83 11744265.06 0.0504 0.0026 Saturn 27443-07-24 15:36 G 11744614.03 11744614.15 11744614.30 0.0290 0.0241 Jupiter 27443-09-12 01:55 G 11744663.48 11744663.58 11744663.69 0.0519 0.0465 Jupiter 27448-02-05 20:53 G 11746271.14 11746271.37 11746271.60 0.0524 0.0071 Jupiter 27449-03-11 07:12 G 11746670.68 11746670.80 11746670.93 0.0510 0.0427 Uranus 27452-07-01 01:12 G 11747878.45 11747878.55 11747878.71 0.0138 0.0119 Uranus 27453-07-05 15:50 G 11748247.93 11748248.16 11748248.41 0.0138 0.0050 Jupiter 27453-07-12 19:55 G 11748255.20 11748255.33 11748255.47 0.0495 0.0402 Uranus 27454-07-10 05:45 G 11748617.49 11748617.74 11748617.99 0.0138 0.0018 Jupiter 27454-08-13 21:36 G 11748652.17 11748652.40 11748652.63 0.0506 0.0044 Uranus 27455-07-14 18:43 G 11748987.09 11748987.28 11748987.48 0.0137 0.0085 Saturn 27457-01-17 07:12 G 11749539.56 11749539.80 11749540.04 0.0271 0.0042

Jupiter 27459-01-05 11:45 G 11750257.99 11750257.99 11750258.01 0.0534 0.0534 Jupiter 27460-02-10 19:12 G 11750659.07 11750659.30 11750659.53 0.0522 0.0007 Jupiter 27461-03-15 23:02 G 11751058.40 11751058.46 11751058.53 0.0508 0.0485 Jupiter 27465-07-17 03:36 G 11752642.48 11752642.65 11752642.82 0.0496 0.0346 Jupiter 27466-08-18 10:33 G 11753039.71 11753039.94 11753040.17 0.0508 0.0112 Jupiter 27471-01-10 17:17 G 11754646.11 11754646.22 11754646.34 0.0533 0.0461 Jupiter 27472-02-15 18:29 G 11755047.04 11755047.27 11755047.50 0.0520 0.0084 Saturn 27472-07-17 20:53 G 11755200.13 11755200.37 11755200.61 0.0289 0.0038 Jupiter 27477-07-21 13:12 G 11757029.86 11757030.05 11757030.24 0.0497 0.0286 Jupiter 27478-08-23 02:38 G 11757427.40 11757427.61 11757427.83 0.0510 0.0184 Jupiter 27483-01-15 23:02 G 11759034.31 11759034.46 11759034.62 0.0531 0.0387 Jupiter 27484-02-20 15:21 G 11759434.92 11759435.14 11759435.36 0.0518 0.0157 Saturn 27486-01-12 01:41 G 11760126.36 11760126.57 11760126.80 0.0272 0.0129 Saturn 27487-01-24 09:21 G 11760503.81 11760503.89 11760504.00 0.0270 0.0248 Jupiter 27489-07-25 22:48 G 11761417.25 11761417.45 11761417.67 0.0499 0.0228 Jupiter 27490-08-27 20:09 G 11761815.14 11761815.34 11761815.54 0.0513 0.0254 Jupiter 27495-01-21 01:12 G 11763422.37 11763422.55 11763422.74 0.0530 0.0309 Jupiter 27496-02-25 10:05 G 11763822.71 11763822.92 11763823.13 0.0516 0.0228 Uranus 27496-12-31 23:02 G 11764133.31 11764133.46 11764133.62 0.0140 0.0109 Uranus 27498-01-05 16:48 G 11764502.96 11764503.20 11764503.45 0.0140 0.0038 Uranus 27499-01-10 11:17 G 11764872.73 11764872.97 11764873.23 0.0141 0.0035 Uranus 27500-01-15 06:14 G 11765242.62 11765242.76 11765242.94 0.0141 0.0109 Saturn 27501-07-13 02:24 G 11765786.41 11765786.60 11765786.82 0.0288 0.0163 Jupiter 27501-07-31 11:02 G 11765804.74 11765804.96 11765805.18 0.0501 0.0163 Jupiter 27502-09-02 13:41 G 11766202.89 11766203.07 11766203.25 0.0514 0.0322 Pluto 27503-06-29 03:07 G 11766502.40 11766502.63 11766502.87 0.0079 0.0033 Neptune 27506-05-03 08:09 G 11767541.74 11767541.84 11767541.95 0.0088 0.0080 Jupiter 27507-01-26 21:36 G 11767810.20 11767810.40 11767810.61 0.0528 0.0235 Neptune 27507-05-05 18:00 G 11767909.13 11767909.25 11767909.42 0.0088 0.0072 Jupiter 27508-03-02 00:57 G 11768210.35 11768210.54 11768210.73 0.0514 0.0294

Neptune 27508-05-07 04:48 G 11768276.53 11768276.70 11768276.89 0.0088 0.0063 Neptune 27509-05-09 14:38 G 11768643.94 11768644.11 11768644.34 0.0088 0.0055 Neptune 27510-05-12 01:26 G 11769011.36 11769011.56 11769011.80 0.0088 0.0046 Neptune 27511-05-14 12:00 G 11769378.78 11769379.00 11769379.25 0.0088 0.0037 Neptune 27512-05-15 22:33 G 11769746.20 11769746.44 11769746.69 0.0088 0.0028 Neptune 27513-05-18 08:53 G 11770113.63 11770113.87 11770114.13 0.0088 0.0019 Jupiter 27513-08-04 23:31 G 11770192.26 11770192.48 11770192.71 0.0502 0.0097 Neptune 27514-05-20 19:26 G 11770481.05 11770481.31 11770481.57 0.0088 0.0010 Jupiter 27514-09-07 07:55 G 11770590.69 11770590.83 11770590.99 0.0516 0.0391 Neptune 27515-05-23 05:45 G 11770848.49 11770848.74 11770849.00 0.0088 0.0002 Saturn 27516-01-20 15:07 G 11771090.90 11771091.13 11771091.37 0.0271 0.0094 Neptune 27516-05-24 16:05 G 11771215.92 11771216.17 11771216.43 0.0088 0.0008 Neptune 27517-05-27 02:24 G 11771583.35 11771583.60 11771583.86 0.0088 0.0017 Neptune 27518-05-29 12:43 G 11771950.79 11771951.03 11771951.28 0.0088 0.0026 Jupiter 27519-01-31 22:05 G 11772198.20 11772198.42 11772198.64 0.0527 0.0155 Neptune 27519-05-31 23:17 G 11772318.24 11772318.47 11772318.71 0.0088 0.0035 Jupiter 27520-03-06 18:43 G 11772598.12 11772598.28 11772598.45 0.0512 0.0361 Neptune 27520-06-02 09:21 G 11772685.68 11772685.89 11772686.13 0.0088 0.0044 Neptune 27521-06-04 19:55 G 11773053.14 11773053.33 11773053.55 0.0088 0.0053 Neptune 27522-06-07 06:14 G 11773420.61 11773420.76 11773420.97 0.0088 0.0062 Neptune 27523-06-09 17:31 G 11773788.08 11773788.23 11773788.38 0.0088 0.0070 Neptune 27524-06-11 03:50 G 11774155.57 11774155.66 11774155.79 0.0088 0.0079 Jupiter 27524-07-08 16:33 G 11774183.11 11774183.19 11774183.28 0.0493 0.0458 Neptune 27525-06-13 14:24 G 11774523.10 11774523.10 11774523.14 0.0088 0.0088 Jupiter 27525-08-09 10:33 G 11774579.70 11774579.94 11774580.17 0.0504 0.0031 Jupiter 27526-09-12 01:41 G 11774978.47 11774978.57 11774978.69 0.0518 0.0458 Jupiter 27531-02-05 23:45 G 11776586.26 11776586.49 11776586.72 0.0525 0.0077 Saturn 27531-07-21 07:12 G 11776751.57 11776751.80 11776752.03 0.0289 0.0096 Jupiter 27532-03-11 12:57 G 11776985.91 11776986.04 11776986.17 0.0510 0.0423 Uranus 27536-07-02 12:14 G 11778559.89 11778560.01 11778560.17 0.0138 0.0115

Jupiter 27536-07-13 00:29 G 11778570.39 11778570.52 11778570.66 0.0494 0.0404 Uranus 27537-07-07 03:07 G 11778929.39 11778929.63 11778929.87 0.0138 0.0046 Jupiter 27537-08-14 00:29 G 11778967.29 11778967.52 11778967.75 0.0506 0.0038 Uranus 27538-07-11 16:48 G 11779298.95 11779299.20 11779299.46 0.0138 0.0022 Uranus 27539-07-16 05:31 G 11779668.55 11779668.73 11779668.93 0.0137 0.0089 Jupiter 27543-02-11 00:29 G 11780974.29 11780974.52 11780974.75 0.0522 0.0002 Jupiter 27544-03-16 04:33 G 11781373.62 11781373.69 11781373.76 0.0508 0.0479 Saturn 27545-01-14 08:53 G 11781677.64 11781677.87 11781678.12 0.0272 0.0078 Jupiter 27548-07-17 08:38 G 11782957.70 11782957.86 11782958.03 0.0496 0.0349 27549-05-17 22:48 G 11783262.32 11783262.45 11783262.59 0.1592 0.1066 Mars Jupiter 27549-08-18 15:21 G 11783354.91 11783355.14 11783355.36 0.0508 0.0107 Jupiter 27554-01-10 20:53 G 11784961.27 11784961.37 11784961.49 0.0533 0.0466 Jupiter 27555-02-15 22:05 G 11785362.19 11785362.42 11785362.65 0.0520 0.0078 Saturn 27560-07-14 08:53 G 11787337.66 11787337.87 11787338.11 0.0288 0.0111 Jupiter 27560-07-21 19:41 G 11787345.13 11787345.32 11787345.51 0.0497 0.0289 Jupiter 27561-08-23 07:41 G 11787742.61 11787742.82 11787743.04 0.0510 0.0178 Jupiter 27566-01-15 18:43 G 11789349.14 11789349.28 11789349.45 0.0532 0.0395 Jupiter 27567-02-20 14:24 G 11789749.88 11789750.10 11789750.32 0.0519 0.0150 Jupiter 27572-07-26 07:12 G 11791732.59 11791732.80 11791733.01 0.0498 0.0228 Jupiter 27573-08-28 00:43 G 11792130.33 11792130.53 11792130.73 0.0511 0.0248 Saturn 27574-01-09 11:02 G 11792264.85 11792264.96 11792265.09 0.0273 0.0240 Saturn 27575-01-21 20:38 G 11792642.15 11792642.36 11792642.57 0.0271 0.0142 Jupiter 27578-01-20 21:07 G 11793737.20 11793737.38 11793737.57 0.0531 0.0318 Jupiter 27579-02-25 10:19 G 11794137.72 11794137.93 11794138.14 0.0517 0.0222 Uranus 27581-01-02 09:50 G 11794814.76 11794814.91 11794815.10 0.0140 0.0106 Uranus 27582-01-07 04:05 G 11795184.43 11795184.67 11795184.92 0.0140 0.0034 Uranus 27583-01-11 22:33 G 11795554.20 11795554.44 11795554.69 0.0141 0.0039 Uranus 27584-01-16 17:31 G 11795924.10 11795924.23 11795924.40 0.0141 0.0113 Jupiter 27584-07-30 16:48 G 11796119.98 11796120.20 11796120.42 0.0500 0.0166 Jupiter 27585-09-01 16:05 G 11796517.99 11796518.17 11796518.36 0.0513 0.0316

Neptune 27588-11-01 23:45 G 11797675.41 11797675.49 11797675.62 0.0090 0.0082 Neptune 27589-11-04 12:43 G 11798042.91 11798043.03 11798043.21 0.0090 0.0073 Jupiter 27590-01-26 00:57 G 11798125.34 11798125.54 11798125.75 0.0529 0.0240 Saturn 27590-07-22 12:57 G 11798302.84 11798303.04 11798303.26 0.0290 0.0149 Neptune 27590-11-07 02:09 G 11798410.41 11798410.59 11798410.78 0.0090 0.0063 Jupiter 27591-03-02 07:12 G 11798525.61 11798525.80 11798525.99 0.0515 0.0291 Neptune 27591-11-09 14:53 G 11798777.93 11798778.12 11798778.35 0.0090 0.0054 Neptune 27592-11-11 04:19 G 11799145.46 11799145.68 11799145.90 0.0090 0.0044 Neptune 27593-11-13 16:48 G 11799512.98 11799513.20 11799513.46 0.0090 0.0035 Neptune 27594-11-16 06:00 G 11799880.51 11799880.75 11799881.01 0.0090 0.0025 Neptune 27595-11-18 18:43 G 11800248.04 11800248.28 11800248.55 0.0090 0.0016 Jupiter 27596-08-04 04:33 G 11800507.46 11800507.69 11800507.92 0.0502 0.0100 Neptune 27596-11-20 08:09 G 11800615.58 11800615.84 11800616.10 0.0089 0.0005 Jupiter 27597-09-06 11:17 G 11800905.82 11800905.97 11800906.13 0.0516 0.0385 Neptune 27597-11-22 21:07 G 11800983.12 11800983.38 11800983.64 0.0089 0.0004 Neptune 27598-11-25 10:05 G 11801350.67 11801350.92 11801351.18 0.0089 0.0014 Neptune 27599-11-27 23:02 G 11801718.22 11801718.46 11801718.71 0.0089 0.0024 Neptune 27600-11-29 12:00 G 11802085.78 11802086.00 11802086.26 0.0089 0.0034 Neptune 27601-12-02 01:12 G 11802453.33 11802453.55 11802453.78 0.0089 0.0043 Jupiter 27602-01-31 04:48 G 11802513.48 11802513.70 11802513.93 0.0527 0.0160 Neptune 27602-12-04 13:41 G 11802820.89 11802821.07 11802821.30 0.0089 0.0053 Jupiter 27603-03-07 02:24 G 11802913.44 11802913.60 11802913.77 0.0512 0.0356 Neptune 27603-12-07 02:53 G 11803188.44 11803188.62 11803188.81 0.0089 0.0062 Saturn 27604-01-16 14:24 G 11803228.85 11803229.10 11803229.34 0.0272 0.0030 Neptune 27604-12-08 15:21 G 11803556.01 11803556.14 11803556.32 0.0089 0.0071 Neptune 27605-12-11 04:05 G 11803923.59 11803923.67 11803923.81 0.0089 0.0081 Neptune 27606-12-13 17:02 G 11804291.21 11804291.21 11804291.23 0.0089 0.0089 Jupiter 27607-07-08 23:17 G 11804498.40 11804498.47 11804498.56 0.0493 0.0459 Jupiter 27608-08-08 17:02 G 11804894.98 11804895.21 11804895.45 0.0504 0.0034 Jupiter 27609-09-11 07:55 G 11805293.73 11805293.83 11805293.95 0.0518 0.0453

Jupiter 27614-02-05 05:45 G 11806901.51 11806901.74 11806901.97 0.0525 0.0081 Jupiter 27615-03-11 19:12 G 11807301.17 11807301.30 11807301.43 0.0510 0.0419 Jupiter 27619-07-13 09:21 G 11808885.76 11808885.89 11808886.02 0.0494 0.0404 Saturn 27619-07-16 12:00 G 11808888.76 11808889.00 11808889.24 0.0288 0.0064 Uranus 27620-07-03 01:26 G 11809241.42 11809241.56 11809241.72 0.0138 0.0111 Jupiter 27620-08-13 08:24 G 11809282.61 11809282.85 11809283.08 0.0505 0.0036 Uranus 27621-07-07 15:36 G 11809610.92 11809611.15 11809611.41 0.0138 0.0042 Jupiter 27621-09-16 05:31 G 11809681.72 11809681.73 11809681.74 0.0519 0.0519 Uranus 27622-07-12 05:31 G 11809980.48 11809980.73 11809980.98 0.0138 0.0027 Uranus 27623-07-16 18:29 G 11810350.09 11810350.27 11810350.46 0.0137 0.0094 Jupiter 27626-02-09 23:31 G 11811289.25 11811289.48 11811289.72 0.0523 0.0010 Jupiter 27627-03-16 07:26 G 11811688.74 11811688.81 11811688.90 0.0509 0.0476 Mars 27628-05-19 22:19 G 11812119.24 11812119.43 11812119.61 0.1590 0.0334 Jupiter 27631-07-17 19:41 G 11813273.17 11813273.32 11813273.50 0.0495 0.0348 Jupiter 27632-08-17 23:45 G 11813670.26 11813670.49 11813670.72 0.0507 0.0106 Saturn 27633-01-10 14:53 G 11813815.96 11813816.12 11813816.30 0.0273 0.0194 Saturn 27634-01-22 23:45 G 11814193.32 11814193.49 11814193.67 0.0270 0.0186 27636-11-18 01:26 G 11815223.35 11815223.56 11815223.77 0.1948 0.0028 Mars Jupiter 27637-01-09 17:02 G 11815276.12 11815276.21 11815276.33 0.0534 0.0473 Jupiter 27638-02-14 21:50 G 11815677.18 11815677.41 11815677.64 0.0521 0.0072 Jupiter 27643-07-22 04:19 G 11817660.49 11817660.68 11817660.87 0.0496 0.0291 Jupiter 27644-08-22 13:12 G 11818057.83 11818058.05 11818058.27 0.0509 0.0174 Saturn 27648-07-09 17:31 G 11819475.14 11819475.23 11819475.34 0.0287 0.0262 Jupiter 27649-01-14 22:48 G 11819664.30 11819664.45 11819664.61 0.0533 0.0400 Saturn 27649-07-23 15:21 G 11819853.96 11819854.14 11819854.32 0.0290 0.0195 Jupiter 27650-02-19 21:07 G 11820065.16 11820065.38 11820065.61 0.0519 0.0147 Jupiter 27655-07-26 14:24 G 11822047.89 11822048.10 11822048.31 0.0498 0.0229 Jupiter 27656-08-27 05:45 G 11822445.54 11822445.74 11822445.95 0.0511 0.0244 Jupiter 27661-01-20 05:17 G 11824052.53 11824052.72 11824052.90 0.0531 0.0321 Jupiter 27662-02-24 19:41 G 11824453.11 11824453.32 11824453.53 0.0517 0.0219

27662-12-29 15:21 G 11824760.89 11824761.14 11824761.41 0.0064 0.0007 Pluto Saturn 27663-01-17 17:02 G 11824779.97 11824780.21 11824780.46 0.0271 0.0014 Uranus 27665-01-02 22:48 G 11825496.29 11825496.45 11825496.64 0.0140 0.0101 Uranus 27666-01-07 16:48 G 11825865.96 11825866.20 11825866.46 0.0140 0.0030 Uranus 27667-01-12 11:31 G 11826235.74 11826235.98 11826236.23 0.0141 0.0044 Jupiter 27667-07-31 00:57 G 11826435.32 11826435.54 11826435.76 0.0500 0.0167 Uranus 27668-01-17 06:43 G 11826605.65 11826605.78 11826605.93 0.0141 0.0118 Jupiter 27668-09-01 00:00 G 11826833.32 11826833.50 11826833.69 0.0513 0.0313 Neptune 27670-05-02 15:36 G 11827442.14 11827442.15 11827442.22 0.0088 0.0087 Neptune 27671-05-05 02:09 G 11827809.50 11827809.59 11827809.74 0.0088 0.0078 Neptune 27672-05-06 12:43 G 11828176.88 11828177.03 11828177.20 0.0088 0.0069 Jupiter 27673-01-25 08:53 G 11828440.67 11828440.87 11828441.08 0.0529 0.0241 Neptune 27673-05-08 23:17 G 11828544.29 11828544.47 11828544.66 0.0088 0.0060 Jupiter 27674-03-01 15:21 G 11828840.95 11828841.14 11828841.34 0.0515 0.0289 Neptune 27674-05-11 09:50 G 11828911.70 11828911.91 11828912.12 0.0088 0.0051 Neptune 27675-05-13 20:09 G 11829279.12 11829279.34 11829279.57 0.0088 0.0042 Neptune 27676-05-15 06:43 G 11829646.54 11829646.78 11829647.02 0.0088 0.0033 Neptune 27677-05-17 16:48 G 11830013.96 11830014.20 11830014.46 0.0088 0.0024 Neptune 27678-05-20 03:36 G 11830381.40 11830381.65 11830381.91 0.0088 0.0015 Saturn 27678-07-17 11:17 G 11830439.73 11830439.97 11830440.22 0.0288 0.0022 Neptune 27679-05-22 13:55 G 11830748.83 11830749.08 11830749.34 0.0088 0.0006 Jupiter 27679-08-04 14:53 G 11830822.89 11830823.12 11830823.35 0.0501 0.0099 Neptune 27680-05-24 00:29 G 11831116.26 11831116.52 11831116.78 0.0088 0.0004 Jupiter 27680-09-05 20:09 G 11831221.19 11831221.34 11831221.50 0.0515 0.0383 Neptune 27681-05-26 10:33 G 11831483.69 11831483.94 11831484.20 0.0088 0.0013 Neptune 27682-05-28 21:07 G 11831851.14 11831851.38 11831851.63 0.0088 0.0022 Neptune 27683-05-31 07:26 G 11832218.57 11832218.81 11832219.05 0.0088 0.0031 Neptune 27684-06-01 17:45 G 11832586.02 11832586.24 11832586.48 0.0088 0.0040 Jupiter 27685-01-30 05:02 G 11832828.49 11832828.71 11832828.93 0.0527 0.0165 Neptune 27685-06-04 04:19 G 11832953.47 11832953.68 11832953.89 0.0088 0.0049

Jupiter 27686-03-06 05:02 G 11833228.55 11833228.71 11833228.89 0.0513 0.0354 Neptune 27686-06-06 14:38 G 11833320.92 11833321.11 11833321.31 0.0088 0.0058 Neptune 27687-06-09 01:12 G 11833688.39 11833688.55 11833688.72 0.0088 0.0067 Neptune 27688-06-10 11:31 G 11834055.86 11834055.98 11834056.12 0.0088 0.0076 Neptune 27689-06-12 22:05 G 11834423.38 11834423.42 11834423.50 0.0088 0.0085 Jupiter 27690-07-08 12:29 G 11834813.94 11834814.02 11834814.11 0.0493 0.0457 Jupiter 27691-08-09 04:48 G 11835210.46 11835210.70 11835210.93 0.0503 0.0032 Saturn 27692-01-12 16:48 G 11835367.00 11835367.20 11835367.41 0.0273 0.0151 Jupiter 27692-09-10 16:19 G 11835609.07 11835609.18 11835609.30 0.0517 0.0451 Saturn 27693-01-24 00:57 G 11835744.42 11835744.54 11835744.68 0.0270 0.0227 Jupiter 27697-02-04 05:17 G 11837216.49 11837216.72 11837216.95 0.0526 0.0087 Jupiter 27698-03-10 22:48 G 11837616.32 11837616.45 11837616.59 0.0511 0.0417 Jupiter 27702-07-13 20:09 G 11839201.21 11839201.34 11839201.47 0.0494 0.0404 Jupiter 27703-08-14 16:33 G 11839597.96 11839598.19 11839598.42 0.0504 0.0033 Uranus 27704-07-04 14:53 G 11839922.97 11839923.12 11839923.30 0.0138 0.0106 Jupiter 27704-09-16 10:19 G 11839996.91 11839996.93 11839996.96 0.0519 0.0515 Uranus 27705-07-09 05:17 G 11840292.48 11840292.72 11840292.97 0.0138 0.0037 Uranus 27706-07-13 18:57 G 11840662.05 11840662.29 11840662.54 0.0138 0.0032 Saturn 27707-07-12 16:19 G 11841026.04 11841026.18 11841026.34 0.0287 0.0221 Uranus 27707-07-18 07:12 G 11841031.65 11841031.80 11841032.00 0.0137 0.0099 Saturn 27708-07-25 14:38 G 11841404.98 11841405.11 11841405.26 0.0290 0.0238 Jupiter 27709-02-10 06:43 G 11841604.55 11841604.78 11841605.01 0.0524 0.0009 Jupiter 27710-03-16 17:02 G 11842004.14 11842004.21 11842004.30 0.0509 0.0476 Jupiter 27714-07-18 05:02 G 11843588.54 11843588.71 11843588.87 0.0495 0.0348 Jupiter 27715-08-19 06:43 G 11843985.55 11843985.78 11843986.01 0.0506 0.0103 Jupiter 27720-01-11 01:41 G 11845591.47 11845591.57 11845591.68 0.0534 0.0475 Jupiter 27721-02-15 08:09 G 11845992.61 11845992.84 11845993.08 0.0522 0.0071 Saturn 27722-01-19 18:14 G 11846331.02 11846331.26 11846331.50 0.0271 0.0056 Jupiter 27726-07-22 13:55 G 11847975.89 11847976.08 11847976.27 0.0496 0.0290 Jupiter 27727-08-23 22:19 G 11848373.22 11848373.43 11848373.65 0.0509 0.0173

Jupiter 27732-01-16 07:55 G 11849979.69 11849979.83 11849979.99 0.0533 0.0400 Jupiter 27733-02-20 06:57 G 11850380.57 11850380.79 11850381.01 0.0520 0.0146 Saturn 27737-07-19 08:53 G 11851990.63 11851990.87 11851991.11 0.0289 0.0018 Jupiter 27738-07-27 02:09 G 11852363.39 11852363.59 11852363.80 0.0498 0.0228 Jupiter 27739-08-28 17:02 G 11852761.01 11852761.21 11852761.42 0.0510 0.0245 Jupiter 27744-01-21 06:29 G 11854367.60 11854367.77 11854367.96 0.0531 0.0326 Jupiter 27745-02-24 22:33 G 11854768.23 11854768.44 11854768.66 0.0518 0.0216 Uranus 27749-01-04 09:36 G 11856177.72 11856177.90 11856178.08 0.0140 0.0097 Uranus 27750-01-09 03:21 G 11856547.40 11856547.64 11856547.90 0.0140 0.0026 Jupiter 27750-07-31 14:38 G 11856750.90 11856751.11 11856751.34 0.0499 0.0164 Uranus 27751-01-13 21:50 G 11856917.18 11856917.41 11856917.66 0.0141 0.0048 Saturn 27751-01-14 16:33 G 11856917.97 11856918.19 11856918.42 0.0273 0.0110 Pluto 27751-07-01 10:48 G 11857085.69 11857085.95 11857086.21 0.0079 0.0006 Jupiter 27751-09-02 11:17 G 11857148.79 11857148.97 11857149.16 0.0512 0.0314 Uranus 27752-01-18 17:02 G 11857287.10 11857287.21 11857287.36 0.0141 0.0122 Saturn 27752-01-27 00:29 G 11857295.50 11857295.52 11857295.56 0.0270 0.0267 Neptune 27752-11-02 05:45 G 11857575.70 11857575.74 11857575.79 0.0090 0.0088 Neptune 27753-11-04 18:29 G 11857943.17 11857943.27 11857943.41 0.0090 0.0079 Neptune 27754-11-07 07:26 G 11858310.68 11858310.81 11858311.00 0.0090 0.0070 Neptune 27755-11-09 20:53 G 11858678.19 11858678.37 11858678.58 0.0090 0.0060 Jupiter 27756-01-26 08:38 G 11858755.66 11858755.86 11858756.07 0.0530 0.0247 Neptune 27756-11-11 10:19 G 11859045.71 11859045.93 11859046.14 0.0090 0.0050 Jupiter 27757-03-01 18:00 G 11859156.06 11859156.25 11859156.44 0.0516 0.0286 Neptune 27757-11-13 22:48 G 11859413.24 11859413.45 11859413.70 0.0090 0.0041 Neptune 27758-11-16 11:45 G 11859780.76 11859780.99 11859781.25 0.0090 0.0031 Neptune 27759-11-19 00:57 G 11860148.30 11860148.54 11860148.80 0.0090 0.0021 Neptune 27760-11-20 13:55 G 11860515.83 11860516.08 11860516.34 0.0090 0.0011 Neptune 27761-11-23 02:53 G 11860883.36 11860883.62 11860883.88 0.0090 0.0001 Jupiter 27762-08-05 00:57 G 11861138.32 11861138.54 11861138.77 0.0501 0.0101 Neptune 27762-11-25 15:36 G 11861250.90 11861251.15 11861251.41 0.0090 0.0009 Jupiter 27763-09-07 03:21 G 11861536.49 11861536.64 11861536.80 0.0514 0.0380 Neptune 27763-11-28 04:19 G 11861618.45 11861618.68 11861618.95 0.0089 0.0020 Neptune 27764-11-29 17:31 G 11861985.99 11861986.23 11861986.48 0.0089 0.0029 Neptune 27765-12-02 06:29 G 11862353.55 11862353.77 11862354.01 0.0089 0.0039 Saturn 27766-07-13 13:26 G 11862576.88 11862577.06 11862577.25 0.0287 0.0182 Neptune 27766-12-04 19:12 G 11862721.10 11862721.30 11862721.54 0.0089 0.0049 Saturn 27767-07-27 12:14 G 11862955.94 11862956.01 11862956.08 0.0290 0.0278 Neptune 27767-12-07 08:09 G 11863088.67 11863088.84 11863089.06 0.0089 0.0058 Jupiter 27768-01-31 11:31 G 11863143.77 11863143.98 11863144.21 0.0528 0.0169 Neptune 27768-12-08 21:07 G 11863456.23 11863456.38 11863456.57 0.0089 0.0068 Jupiter 27769-03-06 14:38 G 11863543.95 11863544.11 11863544.29 0.0514 0.0353 Neptune 27769-12-11 09:36 G 11863823.80 11863823.90 11863824.06 0.0089 0.0078 Neptune 27770-12-13 22:33 G 11864191.40 11864191.44 11864191.53 0.0089 0.0087 Jupiter 27773-07-08 23:02 G 11865129.38 11865129.46 11865129.55 0.0492 0.0457 Jupiter 27774-08-09 13:12 G 11865525.82 11865526.05 11865526.29 0.0502 0.0035 Jupiter 27775-09-11 22:33 G 11865924.33 11865924.44 11865924.56 0.0516 0.0447 Jupiter 27780-02-05 15:50 G 11867531.93 11867532.16 11867532.39 0.0526 0.0089 Saturn 27781-01-20 18:29 G 11867882.05 11867882.27 11867882.51 0.0271 0.0098 Jupiter 27781-03-11 10:33 G 11867931.81 11867931.94 11867932.08 0.0512 0.0417 Jupiter 27785-07-13 06:29 G 11869516.65 11869516.77 11869516.91 0.0493 0.0404 Jupiter 27786-08-14 02:38 G 11869913.37 11869913.61 11869913.84 0.0504 0.0034 Jupiter 27787-09-16 19:55 G 11870312.31 11870312.33 11870312.37 0.0519 0.0514 Uranus 27788-07-05 05:45 G 11870604.56 11870604.74 11870604.91 0.0138 0.0100 Uranus 27789-07-09 19:41 G 11870974.08 11870974.32 11870974.57 0.0138 0.0031 Uranus 27790-07-14 09:07 G 11871343.64 11871343.88 11871344.13 0.0138 0.0037 Uranus 27791-07-18 21:50 G 11871713.25 11871713.41 11871713.58 0.0137 0.0104 Jupiter 27792-02-10 17:17 G 11871919.99 11871920.22 11871920.46 0.0524 0.0012 Jupiter 27793-03-16 04:05 G 11872319.60 11872319.67 11872319.76 0.0510 0.0476 Saturn 27796-07-20 05:02 G 11873541.47 11873541.71 11873541.95 0.0289 0.0056 Jupiter 27797-07-17 17:31 G 11873904.07 11873904.23 11873904.40 0.0495 0.0346

Jupiter 27798-08-18 19:12 G 11874301.07 11874301.30 11874301.53 0.0506 0.0105 Jupiter 27803-01-11 04:33 G 11875906.60 11875906.69 11875906.80 0.0534 0.0479 Jupiter 27804-02-16 11:17 G 11876307.74 11876307.97 11876308.20 0.0522 0.0066 Jupiter 27809-07-23 04:33 G 11878291.50 11878291.69 11878291.88 0.0496 0.0288 Saturn 27810-01-16 15:50 G 11878468.92 11878469.16 11878469.40 0.0273 0.0069 Jupiter 27810-08-24 12:00 G 11878688.78 11878689.00 11878689.22 0.0508 0.0175 Jupiter 27815-01-16 07:55 G 11880294.69 11880294.83 11880294.99 0.0533 0.0406 Jupiter 27816-02-21 08:38 G 11880695.64 11880695.86 11880696.09 0.0520 0.0142 Jupiter 27821-07-27 13:41 G 11882678.87 11882679.07 11882679.28 0.0497 0.0230 Jupiter 27822-08-29 01:41 G 11883076.37 11883076.57 11883076.78 0.0510 0.0242 Saturn 27825-07-15 10:48 G 11884127.74 11884127.95 11884128.17 0.0287 0.0142 Jupiter 27827-01-21 12:14 G 11884682.84 11884683.01 11884683.20 0.0532 0.0331 Jupiter 27828-02-26 07:12 G 11885083.59 11885083.80 11885084.02 0.0519 0.0214 Uranus 27833-01-05 20:09 G 11886859.17 11886859.34 11886859.54 0.0140 0.0094 Mars 27833-05-21 07:41 G 11886994.64 11886994.82 11886995.01 0.1593 0.0321 Jupiter 27833-08-01 00:00 G 11887066.28 11887066.50 11887066.72 0.0499 0.0166 Uranus 27834-01-10 14:24 G 11887228.85 11887229.10 11887229.35 0.0140 0.0022 Jupiter 27834-09-02 18:29 G 11887464.09 11887464.27 11887464.46 0.0512 0.0311 Uranus 27835-01-15 09:07 G 11887598.64 11887598.88 11887599.11 0.0141 0.0051 Neptune 27835-05-06 09:50 G 11887709.85 11887709.91 11887710.00 0.0088 0.0084 Uranus 27836-01-20 04:05 G 11887968.58 11887968.67 11887968.81 0.0141 0.0126 Neptune 27836-05-07 20:09 G 11888077.23 11888077.34 11888077.49 0.0088 0.0075 Neptune 27837-05-10 06:29 G 11888444.62 11888444.77 11888444.95 0.0088 0.0066 Neptune 27838-05-12 16:48 G 11888812.02 11888812.20 11888812.41 0.0088 0.0057 Saturn 27839-01-11 07:55 G 11889055.72 11889055.83 11889055.94 0.0274 0.0244 Jupiter 27839-01-26 18:29 G 11889071.06 11889071.27 11889071.47 0.0530 0.0250 Neptune 27839-05-15 03:07 G 11889179.43 11889179.63 11889179.86 0.0088 0.0048 Saturn 27840-01-23 18:14 G 11889433.06 11889433.26 11889433.48 0.0271 0.0139 Jupiter 27840-03-02 06:00 G 11889471.56 11889471.75 11889471.94 0.0516 0.0285 Neptune 27840-05-16 13:12 G 11889546.84 11889547.05 11889547.30 0.0088 0.0039

Neptune 27841-05-18 23:45 G 11889914.26 11889914.49 11889914.75 0.0088 0.0030 Neptune 27842-05-21 10:33 G 11890281.69 11890281.94 11890282.19 0.0088 0.0020 Neptune 27843-05-23 20:53 G 11890649.12 11890649.37 11890649.63 0.0088 0.0011 Neptune 27844-05-25 07:26 G 11891016.55 11891016.81 11891017.07 0.0088 0.0002 Neptune 27845-05-27 17:45 G 11891383.99 11891384.24 11891384.50 0.0088 0.0008 Jupiter 27845-08-05 11:17 G 11891453.74 11891453.97 11891454.20 0.0500 0.0100 Neptune 27846-05-30 04:05 G 11891751.43 11891751.67 11891751.93 0.0088 0.0018 Jupiter 27846-09-07 12:57 G 11891851.89 11891852.04 11891852.20 0.0514 0.0379 Neptune 27847-06-01 14:24 G 11892118.87 11892119.10 11892119.36 0.0088 0.0027 Neptune 27848-06-03 00:43 G 11892486.31 11892486.53 11892486.78 0.0088 0.0036 Neptune 27849-06-05 11:17 G 11892853.75 11892853.97 11892854.19 0.0088 0.0045 Neptune 27850-06-07 21:21 G 11893221.21 11893221.39 11893221.62 0.0088 0.0055 Jupiter 27851-01-31 22:33 G 11893459.22 11893459.44 11893459.66 0.0528 0.0168 Neptune 27851-06-10 07:41 G 11893588.67 11893588.82 11893589.02 0.0088 0.0064 Jupiter 27852-03-07 01:55 G 11893859.42 11893859.58 11893859.75 0.0514 0.0354 Neptune 27852-06-11 18:14 G 11893956.14 11893956.26 11893956.43 0.0088 0.0073 Neptune 27853-06-14 04:33 G 11894323.63 11894323.69 11894323.82 0.0088 0.0082 Saturn 27855-07-23 01:41 G 11895092.34 11895092.57 11895092.81 0.0289 0.0095 Jupiter 27856-07-09 11:31 G 11895444.89 11895444.98 11895445.07 0.0492 0.0455 Jupiter 27857-08-10 01:55 G 11895841.35 11895841.58 11895841.81 0.0502 0.0032 Jupiter 27858-09-12 10:48 G 11896239.84 11896239.95 11896240.07 0.0516 0.0449 Jupiter 27863-02-05 18:57 G 11897847.06 11897847.29 11897847.52 0.0526 0.0093 Jupiter 27864-03-11 14:53 G 11898246.99 11898247.12 11898247.26 0.0512 0.0415 Jupiter 27868-07-13 20:38 G 11899832.24 11899832.36 11899832.50 0.0494 0.0403 Saturn 27869-01-17 15:21 G 11900019.89 11900020.14 11900020.38 0.0273 0.0028 Jupiter 27869-08-14 16:33 G 11900228.96 11900229.19 11900229.42 0.0504 0.0036 Jupiter 27870-09-17 07:41 G 11900627.81 11900627.82 11900627.85 0.0518 0.0515 Uranus 27872-07-06 19:12 G 11901286.12 11901286.30 11901286.49 0.0139 0.0095 Uranus 27873-07-11 09:21 G 11901655.64 11901655.89 11901656.14 0.0138 0.0026 Uranus 27874-07-15 22:48 G 11902025.21 11902025.45 11902025.69 0.0138 0.0043

Jupiter 27875-02-10 18:14 G 11902235.03 11902235.26 11902235.49 0.0524 0.0014 Uranus 27875-07-20 11:02 G 11902394.83 11902394.96 11902395.13 0.0137 0.0110 Jupiter 27876-03-16 07:26 G 11902634.74 11902634.81 11902634.91 0.0510 0.0475 Jupiter 27880-07-18 04:48 G 11904219.54 11904219.70 11904219.87 0.0495 0.0349 Jupiter 27881-08-19 04:48 G 11904616.47 11904616.70 11904616.93 0.0505 0.0102 Saturn 27884-07-16 08:38 G 11905678.64 11905678.86 11905679.10 0.0287 0.0102 Jupiter 27886-01-10 09:07 G 11906221.78 11906221.88 11906221.97 0.0535 0.0485 Jupiter 27887-02-15 18:29 G 11906623.04 11906623.27 11906623.50 0.0523 0.0063 Jupiter 27892-07-22 14:09 G 11908606.90 11908607.09 11908607.28 0.0496 0.0290 Jupiter 27893-08-23 18:57 G 11909004.08 11909004.29 11909004.52 0.0507 0.0172 Saturn 27898-01-12 08:24 G 11910606.69 11910606.85 11910607.02 0.0274 0.0201 Jupiter 27898-01-15 16:05 G 11910610.03 11910610.17 11910610.32 0.0533 0.0409 Saturn 27899-01-24 18:57 G 11910984.12 11910984.29 11910984.48 0.0271 0.0181 Jupiter 27899-02-20 19:12 G 11911011.08 11911011.30 11911011.53 0.0521 0.0141 Jupiter 27904-07-27 23:17 G 11912994.26 11912994.47 11912994.68 0.0497 0.0229 Jupiter 27905-08-29 10:48 G 11913391.75 11913391.95 11913392.16 0.0510 0.0241 Jupiter 27910-01-21 22:19 G 11914998.25 11914998.43 11914998.61 0.0532 0.0330 Pluto 27911-01-03 04:05 G 11915344.42 11915344.67 11915344.94 0.0064 0.0001 Jupiter 27911-02-26 18:00 G 11915399.04 11915399.25 11915399.47 0.0519 0.0214 27912-05-24 06:43 G 11915851.64 11915851.78 11915851.91 0.1592 0.1085 Mars Saturn 27914-07-25 01:12 G 11916643.34 11916643.55 11916643.77 0.0289 0.0139 Jupiter 27916-08-01 12:00 G 11917381.78 11917382.00 11917382.22 0.0499 0.0164 Uranus 27917-01-07 04:33 G 11917540.52 11917540.69 11917540.90 0.0140 0.0092 Jupiter 27917-09-03 06:14 G 11917779.58 11917779.76 11917779.95 0.0512 0.0313 Neptune 27917-11-05 22:33 G 11917843.39 11917843.44 11917843.54 0.0090 0.0086 Uranus 27918-01-11 22:48 G 11917910.20 11917910.45 11917910.71 0.0140 0.0020 Neptune 27918-11-08 12:00 G 11918210.88 11918211.00 11918211.15 0.0090 0.0076 Uranus 27919-01-16 17:17 G 11918279.99 11918280.22 11918280.46 0.0141 0.0054 Neptune 27919-11-11 00:43 G 11918578.39 11918578.53 11918578.73 0.0090 0.0067 Uranus 27920-01-21 12:29 G 11918649.93 11918650.02 11918650.14 0.0141 0.0128

Neptune 27920-11-12 14:09 G 11918945.91 11918946.09 11918946.31 0.0090 0.0057 27920-11-19 19:12 G 11918953.20 11918953.30 11918953.40 0.1943 0.1703 Mars Neptune 27921-11-15 03:07 G 11919313.43 11919313.63 11919313.87 0.0090 0.0047 Jupiter 27922-01-26 21:50 G 11919386.21 11919386.41 11919386.62 0.0530 0.0255 Neptune 27922-11-17 16:33 G 11919680.96 11919681.19 11919681.44 0.0090 0.0037 Jupiter 27923-03-03 09:07 G 11919786.69 11919786.88 11919787.08 0.0516 0.0283 Neptune 27923-11-20 05:31 G 11920048.50 11920048.73 11920048.99 0.0090 0.0027 Neptune 27924-11-21 18:29 G 11920416.03 11920416.27 11920416.54 0.0090 0.0017 Neptune 27925-11-24 07:41 G 11920783.56 11920783.82 11920784.08 0.0090 0.0006 Neptune 27926-11-26 20:38 G 11921151.10 11921151.36 11921151.62 0.0090 0.0004 Neptune 27927-11-29 09:36 G 11921518.65 11921518.90 11921519.16 0.0090 0.0014 Saturn 27928-01-20 15:36 G 11921570.90 11921571.15 11921571.39 0.0273 0.0015 Jupiter 27928-08-06 00:29 G 11921769.29 11921769.52 11921769.75 0.0500 0.0100 Neptune 27928-11-30 22:33 G 11921886.19 11921886.44 11921886.69 0.0089 0.0024 Jupiter 27929-09-08 01:12 G 11922167.40 11922167.55 11922167.71 0.0513 0.0381 Neptune 27929-12-03 11:31 G 11922253.74 11922253.98 11922254.22 0.0089 0.0034 Neptune 27930-12-06 00:29 G 11922621.30 11922621.52 11922621.75 0.0089 0.0044 Neptune 27931-12-08 13:26 G 11922988.86 11922989.06 11922989.28 0.0089 0.0054 Neptune 27932-12-10 02:09 G 11923356.42 11923356.59 11923356.78 0.0089 0.0064 Neptune 27933-12-12 15:07 G 11923724.00 11923724.13 11923724.30 0.0089 0.0074 Jupiter 27934-01-31 22:33 G 11923774.23 11923774.44 11923774.67 0.0528 0.0176 Neptune 27934-12-15 03:36 G 11924091.59 11924091.65 11924091.78 0.0089 0.0084 Jupiter 27935-03-08 03:36 G 11924174.48 11924174.65 11924174.82 0.0515 0.0350 Jupiter 27939-07-10 22:05 G 11925760.34 11925760.42 11925760.50 0.0492 0.0459 Jupiter 27940-08-10 11:02 G 11926156.73 11926156.96 11926157.20 0.0502 0.0037 Jupiter 27941-09-12 17:17 G 11926555.11 11926555.22 11926555.34 0.0515 0.0444 Saturn 27943-07-19 09:21 G 11927229.65 11927229.89 11927230.14 0.0287 0.0056 Jupiter 27946-02-06 00:00 G 11928162.27 11928162.50 11928162.73 0.0527 0.0099 Jupiter 27947-03-12 22:48 G 11928562.32 11928562.45 11928562.60 0.0513 0.0413 Jupiter 27951-07-15 06:00 G 11930147.62 11930147.75 11930147.88 0.0493 0.0405

Jupiter 27952-08-14 23:31 G 11930544.25 11930544.48 11930544.71 0.0503 0.0031 Jupiter 27953-09-17 12:14 G 11930942.97 11930943.01 11930943.05 0.0517 0.0509 Uranus 27956-07-08 07:55 G 11931967.65 11931967.83 11931968.03 0.0139 0.0090 Saturn 27957-01-14 10:05 G 11932157.73 11932157.92 11932158.13 0.0274 0.0156 Uranus 27957-07-12 22:05 G 11932337.18 11932337.42 11932337.68 0.0138 0.0022 Saturn 27958-01-26 20:53 G 11932535.24 11932535.37 11932535.51 0.0271 0.0225 Jupiter 27958-02-11 02:38 G 11932550.38 11932550.61 11932550.84 0.0525 0.0018 Uranus 27958-07-17 11:45 G 11932706.76 11932706.99 11932707.23 0.0138 0.0048 Jupiter 27959-03-17 18:14 G 11932950.18 11932950.26 11932950.35 0.0511 0.0473 Uranus 27959-07-22 00:14 G 11933076.39 11933076.51 11933076.66 0.0137 0.0115 Jupiter 27963-07-19 13:55 G 11934534.91 11934535.08 11934535.24 0.0494 0.0349 Jupiter 27964-08-19 12:29 G 11934931.79 11934932.02 11934932.25 0.0505 0.0100 Jupiter 27969-01-10 17:31 G 11936537.14 11936537.23 11936537.33 0.0535 0.0486 Jupiter 27970-02-16 03:36 G 11936938.42 11936938.65 11936938.89 0.0523 0.0063 Saturn 27972-07-12 07:55 G 11937815.74 11937815.83 11937815.92 0.0286 0.0264 Saturn 27973-07-26 03:07 G 11938194.45 11938194.63 11938194.82 0.0289 0.0186 Jupiter 27975-07-24 00:29 G 11938922.33 11938922.52 11938922.71 0.0496 0.0290 Jupiter 27976-08-24 05:31 G 11939319.52 11939319.73 11939319.96 0.0507 0.0172 Jupiter 27981-01-15 19:55 G 11940925.18 11940925.33 11940925.47 0.0533 0.0415 Jupiter 27982-02-20 22:05 G 11941326.19 11941326.42 11941326.64 0.0521 0.0135 Saturn 27987-01-21 17:17 G 11943121.98 11943122.22 11943122.46 0.0273 0.0059 Jupiter 27987-07-28 10:48 G 11943309.74 11943309.95 11943310.16 0.0497 0.0231 Jupiter 27988-08-28 22:05 G 11943707.22 11943707.42 11943707.63 0.0509 0.0241 Jupiter 27993-01-20 22:19 G 11945313.25 11945313.43 11945313.61 0.0532 0.0339 Jupiter 27994-02-25 17:45 G 11945714.03 11945714.24 11945714.46 0.0519 0.0208 Pluto 27999-07-04 23:31 G 11947669.22 11947669.48 11947669.74 0.0079 0.0005 Jupiter 27999-08-01 20:09 G 11947697.12 11947697.34 11947697.56 0.0498 0.0170 Neptune 28000-05-08 02:53 G 11947977.56 11947977.62 11947977.75 0.0088 0.0082 Jupiter 28000-09-02 12:14 G 11948094.83 11948095.01 11948095.20 0.0511 0.0305

## 29TH MILLENNIUM CE

## This is a list of transits of Earth in the 29th millennium CE.

FROM MAX- C START MAX END SUNRAD DEPTH S

TRANSIT

TIME

Uranus 28001-01-07 16:19 G 11948222.00 11948222.18 11948222.39 0.0140 0.0088 Neptune 28001-05-10 13:12 G 11948344.94 11948345.05 11948345.23 0.0088 0.0073 28002-01-12 10:19 G 11948591.68 11948591.93 11948592.19 0.0140 0.0015 Neptune 28002-05-13 00:14 G 11948712.34 11948712.51 11948712.69 0.0088 0.0063 Saturn 28002-07-20 13:41 G 11948780.82 11948781.07 11948781.31 0.0288 0.0005 Uranus 28003-01-17 04:33 G 11948961.47 11948961.69 11948961.93 0.0141 0.0058 Neptune 28003-05-15 10:05 G 11949079.73 11949079.92 11949080.14 0.0088 0.0054 Uranus 28004-01-22 00:00 G 11949331.42 11949331.50 11949331.60 0.0141 0.0132 Neptune 28004-05-16 20:24 G 11949447.15 11949447.35 11949447.59 0.0088 0.0045 Jupiter 28005-01-25 23:45 G 11949701.29 11949701.49 11949701.70 0.0531 0.0263 Neptune 28005-05-19 06:57 G 11949814.56 11949814.79 11949815.03 0.0088 0.0035 Jupiter 28006-03-02 14:38 G 11950101.91 11950102.11 11950102.31 0.0517 0.0277 Neptune 28006-05-21 17:02 G 11950181.98 11950182.21 11950182.47 0.0088 0.0026 Neptune 28007-05-24 03:21 G 11950549.40 11950549.64 11950549.91 0.0088 0.0017 Neptune 28008-05-25 13:55 G 11950916.83 11950917.08 11950917.34 0.0088 0.0007 Neptune 28009-05-28 00:29 G 11951284.27 11951284.52 11951284.78 0.0088 0.0003 Neptune 28010-05-30 10:48 G 11951651.70 11951651.95 11951652.21 0.0088 0.0013 Neptune 28011-06-01 21:07 G 11952019.14 11952019.38 11952019.64 0.0088 0.0022 Jupiter 28011-08-06 06:43 G 11952084.55 11952084.78 11952085.01 0.0500 0.0105 Neptune 28012-06-03 07:26 G 11952386.58 11952386.81 11952387.06 0.0088 0.0032 Jupiter 28012-09-07 04:33 G 11952482.54 11952482.69 11952482.86 0.0513 0.0374 Neptune 28013-06-05 18:00 G 11952754.03 11952754.25 11952754.48 0.0088 0.0041 Neptune 28014-06-08 03:50 G 11953121.47 11953121.66 11953121.89 0.0088 0.0051 Neptune 28015-06-10 14:24 G 11953488.93 11953489.10 11953489.31 0.0088 0.0060 Saturn 28016-01-16 14:09 G 11953708.87 11953709.09 11953709.32 0.0274 0.0108 Neptune 28016-06-12 00:57 G 11953856.39 11953856.54 11953856.71 0.0088 0.0069 Jupiter 28017-01-31 03:50 G 11954089.45 11954089.66 11954089.88 0.0529 0.0183 Neptune 28017-06-14 11:17 G 11954223.87 11954223.97 11954224.10 0.0088 0.0078 Jupiter 28018-03-07 12:00 G 11954489.83 11954490.00 11954490.17 0.0515 0.0347 Neptune 28018-06-16 22:05 G 11954591.40 11954591.42 11954591.45 0.0088 0.0087 Jupiter 28022-07-10 05:31 G 11956075.66 11956075.73 11956075.82 0.0492 0.0460 Jupiter 28023-08-10 17:31 G 11956472.00 11956472.23 11956472.46 0.0501 0.0039 Jupiter 28024-09-11 22:33 G 11956870.33 11956870.44 11956870.56 0.0515 0.0441 Jupiter 28029-02-05 07:26 G 11958477.58 11958477.81 11958478.04 0.0527 0.0101 Jupiter 28030-03-12 07:26 G 11958877.67 11958877.81 11958877.95 0.0513 0.0412 Saturn 28031-07-14 13:55 G 11959366.93 11959367.08 11959367.25 0.0286 0.0211 Saturn 28032-07-27 09:07 G 11959745.76 11959745.88 11959746.03 0.0289 0.0240 Jupiter 28034-07-14 14:53 G 11960462.99 11960463.12 11960463.25 0.0493 0.0405 Jupiter 28035-08-15 07:55 G 11960859.59 11960859.83 11960860.06 0.0503 0.0031 Jupiter 28036-09-16 20:38 G 11961258.32 11961258.36 11961258.40 0.0517 0.0509 Mars 28038-05-21 15:07 G 11961869.99 11961870.13 11961870.27 0.1597 0.1044 Uranus 28040-07-08 19:55 G 11962649.13 11962649.33 11962649.53 0.0139 0.0086 Jupiter 28041-02-10 04:33 G 11962865.46 11962865.69 11962865.92 0.0525 0.0026 Uranus 28041-07-13 10:05 G 11963018.67 11963018.92 11963019.18 0.0138 0.0017 Jupiter 28042-03-16 20:09 G 11963265.26 11963265.34 11963265.44 0.0511 0.0468 Uranus 28042-07-17 23:45 G 11963388.26 11963388.49 11963388.73 0.0138 0.0052 Uranus 28043-07-22 12:43 G 11963757.91 11963758.03 11963758.16 0.0137 0.0120 Saturn 28046-01-22 20:38 G 11964673.14 11964673.36 11964673.59 0.0273 0.0107 Jupiter 28046-07-18 22:48 G 11964850.29 11964850.45 11964850.61 0.0495 0.0353 Jupiter 28047-08-19 22:05 G 11965247.19 11965247.42 11965247.65 0.0505 0.0098

Jupiter 28052-01-10 16:48 G 11966852.13 11966852.20 11966852.30 0.0534 0.0495 Jupiter 28053-02-15 02:24 G 11967253.37 11967253.60 11967253.83 0.0523 0.0053 Jupiter 28058-07-23 07:12 G 11969237.61 11969237.80 11969237.99 0.0495 0.0297 Jupiter 28059-08-24 10:33 G 11969634.72 11969634.94 11969635.16 0.0507 0.0164 Saturn 28061-07-21 21:21 G 11970332.15 11970332.39 11970332.63 0.0288 0.0051 Jupiter 28064-01-15 18:43 G 11971240.15 11971240.28 11971240.43 0.0534 0.0426 Jupiter 28065-02-20 00:00 G 11971641.27 11971641.50 11971641.73 0.0522 0.0126 Jupiter 28070-07-27 16:19 G 11973624.97 11973625.18 11973625.38 0.0497 0.0236 Jupiter 28071-08-29 00:43 G 11974022.32 11974022.53 11974022.74 0.0508 0.0232 Saturn 28075-01-17 19:55 G 11975260.09 11975260.33 11975260.58 0.0274 0.0058 Jupiter 28076-01-20 23:45 G 11975628.32 11975628.49 11975628.67 0.0532 0.0347 Jupiter 28077-02-24 23:02 G 11976029.25 11976029.46 11976029.68 0.0520 0.0202 Jupiter 28082-08-01 00:57 G 11978012.33 11978012.54 11978012.76 0.0498 0.0174 Neptune 28082-11-07 15:36 G 11978111.07 11978111.15 11978111.26 0.0090 0.0083 Jupiter 28083-09-02 15:36 G 11978409.97 11978410.15 11978410.34 0.0510 0.0301 Neptune 28083-11-10 05:02 G 11978478.56 11978478.71 11978478.86 0.0090 0.0073 Neptune 28084-11-11 18:00 G 11978846.07 11978846.25 11978846.43 0.0090 0.0063 Uranus 28085-01-08 04:19 G 11978903.49 11978903.68 11978903.90 0.0140 0.0083 Neptune 28085-11-14 06:43 G 11979213.59 11979213.78 11979214.01 0.0090 0.0054 Uranus 28086-01-12 22:33 G 11979273.19 11979273.44 11979273.69 0.0140 0.0011 Neptune 28086-11-16 20:09 G 11979581.12 11979581.34 11979581.58 0.0090 0.0043 Uranus 28087-01-17 16:33 G 11979642.98 11979643.19 11979643.44 0.0141 0.0063 Neptune 28087-11-19 09:21 G 11979948.66 11979948.89 11979949.14 0.0090 0.0033 Uranus 28088-01-22 11:45 G 11980012.94 11980012.99 11980013.07 0.0141 0.0136 Jupiter 28088-01-26 05:02 G 11980016.51 11980016.71 11980016.91 0.0531 0.0267 Neptune 28088-11-20 22:19 G 11980316.19 11980316.43 11980316.69 0.0090 0.0023 Jupiter 28089-03-01 20:53 G 11980417.18 11980417.37 11980417.57 0.0518 0.0274 Neptune 28089-11-23 11:17 G 11980683.72 11980683.97 11980684.24 0.0090 0.0013 Saturn 28090-07-15 23:45 G 11980918.29 11980918.49 11980918.70 0.0286 0.0153 Neptune 28090-11-26 00:29 G 11981051.26 11981051.52 11981051.78 0.0090 0.0002

Neptune 28091-11-28 13:26 G 11981418.80 11981419.06 11981419.32 0.0090 0.0008 Neptune 28092-11-30 02:09 G 11981786.34 11981786.59 11981786.85 0.0090 0.0019 Neptune 28093-12-02 15:07 G 11982153.89 11982154.13 11982154.38 0.0090 0.0029 Jupiter 28094-08-05 12:57 G 11982399.82 11982400.04 11982400.27 0.0500 0.0107 Neptune 28094-12-05 03:50 G 11982521.45 11982521.66 11982521.91 0.0089 0.0040 Jupiter 28095-09-07 10:48 G 11982797.79 11982797.95 11982798.11 0.0513 0.0371 Neptune 28095-12-07 16:33 G 11982888.99 11982889.19 11982889.43 0.0089 0.0049 Neptune 28096-12-09 05:31 G 11983256.56 11983256.73 11983256.95 0.0089 0.0060 Neptune 28097-12-11 18:29 G 11983624.13 11983624.27 11983624.46 0.0089 0.0069 Neptune 28098-12-14 07:26 G 11983991.72 11983991.81 11983991.96 0.0089 0.0080 Neptune 28099-12-16 20:53 G 11984359.35 11984359.37 11984359.41 0.0089 0.0089 Jupiter 28100-01-31 05:31 G 11984404.52 11984404.73 11984404.95 0.0529 0.0191 Jupiter 28101-03-07 12:43 G 11984804.86 11984805.03 11984805.20 0.0515 0.0339 Saturn 28104-01-13 12:00 G 11985846.88 11985847.00 11985847.14 0.0276 0.0233 Saturn 28105-01-25 02:38 G 11986224.42 11986224.61 11986224.82 0.0273 0.0158 Jupiter 28105-07-10 12:00 G 11986390.93 11986391.00 11986391.08 0.0492 0.0466 Jupiter 28106-08-11 00:43 G 11986787.29 11986787.53 11986787.76 0.0501 0.0045 Jupiter 28107-09-13 05:31 G 11987185.61 11987185.73 11987185.86 0.0515 0.0437 Jupiter 28112-02-06 05:02 G 11988792.48 11988792.71 11988792.94 0.0527 0.0112 Jupiter 28113-03-12 05:31 G 11989192.59 11989192.73 11989192.88 0.0513 0.0403 Mars 28117-05-24 15:36 G 11990726.97 11990727.15 11990727.33 0.1595 0.0410 Jupiter 28117-07-14 19:26 G 11990778.19 11990778.31 11990778.44 0.0493 0.0414 Jupiter 28118-08-15 11:45 G 11991174.75 11991174.99 11991175.22 0.0503 0.0023 Jupiter 28119-09-17 21:21 G 11991573.34 11991573.39 11991573.46 0.0516 0.0498 Saturn 28120-07-24 08:53 G 11991883.65 11991883.87 11991884.10 0.0288 0.0112 Jupiter 28124-02-11 03:36 G 11993180.42 11993180.65 11993180.88 0.0526 0.0036 Uranus 28124-07-10 07:55 G 11993330.65 11993330.83 11993331.05 0.0139 0.0082 Jupiter 28125-03-16 22:33 G 11993580.35 11993580.44 11993580.54 0.0512 0.0462 Uranus 28125-07-14 22:48 G 11993700.20 11993700.45 11993700.70 0.0138 0.0012 Uranus 28126-07-19 12:43 G 11994069.80 11994070.03 11994070.26 0.0138 0.0057

Uranus 28127-07-24 01:41 G 11994439.48 11994439.57 11994439.68 0.0137 0.0125 Jupiter 28129-07-19 03:36 G 11995165.49 11995165.65 11995165.81 0.0494 0.0358 Jupiter 28130-08-19 23:45 G 11995562.26 11995562.49 11995562.72 0.0504 0.0089 Saturn 28134-01-20 03:50 G 11996811.41 11996811.66 11996811.91 0.0274 0.0004 Jupiter 28135-01-10 14:38 G 11997167.04 11997167.11 11997167.19 0.0535 0.0505 Jupiter 28136-02-16 03:50 G 11997568.43 11997568.66 11997568.90 0.0524 0.0045 Jupiter 28141-07-23 10:48 G 11999552.77 11999552.95 11999553.14 0.0495 0.0301 Jupiter 28142-08-24 12:14 G 11999949.79 11999950.01 11999950.23 0.0506 0.0158 Jupiter 28147-01-15 21:07 G 12001555.25 12001555.38 12001555.52 0.0534 0.0431 Jupiter 28148-02-21 04:05 G 12001956.45 12001956.67 12001956.90 0.0522 0.0122 Saturn 28149-07-18 13:12 G 12002469.82 12002470.05 12002470.29 0.0286 0.0090 Jupiter 28153-07-27 20:38 G 12003940.16 12003940.36 12003940.56 0.0496 0.0240 Jupiter 28154-08-29 04:33 G 12004337.48 12004337.69 12004337.90 0.0508 0.0228 Pluto 28159-01-05 18:29 G 12005928.01 12005928.27 12005928.53 0.0065 0.0002 Jupiter 28159-01-21 00:57 G 12005943.37 12005943.54 12005943.72 0.0532 0.0357 Jupiter 28160-02-25 23:17 G 12006344.25 12006344.47 12006344.69 0.0520 0.0192 Saturn 28163-01-14 20:38 G 12007398.18 12007398.36 12007398.55 0.0276 0.0178 Saturn 28164-01-27 10:48 G 12007775.80 12007775.95 12007776.11 0.0273 0.0211 Neptune 28165-05-10 19:55 G 12008245.24 12008245.33 12008245.46 0.0088 0.0079 Jupiter 28165-08-01 06:00 G 12008327.53 12008327.75 12008327.97 0.0498 0.0180 Neptune 28166-05-13 06:00 G 12008612.62 12008612.75 12008612.93 0.0088 0.0070 Jupiter 28166-09-02 20:38 G 12008725.17 12008725.36 12008725.55 0.0510 0.0295 Neptune 28167-05-15 16:19 G 12008980.02 12008980.18 12008980.39 0.0088 0.0061 Neptune 28168-05-17 02:38 G 12009347.42 12009347.61 12009347.84 0.0088 0.0051 Uranus 28169-01-09 19:26 G 12009585.12 12009585.31 12009585.54 0.0140 0.0077 Neptune 28169-05-19 12:57 G 12009714.83 12009715.04 12009715.28 0.0088 0.0042 Uranus 28170-01-14 13:55 G 12009954.82 12009955.08 12009955.33 0.0140 0.0005 Neptune 28170-05-21 23:17 G 12010082.24 12010082.47 12010082.72 0.0088 0.0032 Uranus 28171-01-19 08:09 G 12010324.62 12010324.84 12010325.07 0.0141 0.0069 Jupiter 28171-01-26 02:24 G 12010331.41 12010331.60 12010331.80 0.0531 0.0279

Neptune 28171-05-24 09:50 G 12010449.66 12010449.91 12010450.16 0.0088 0.0022 Jupiter 28172-03-01 18:00 G 12010732.06 12010732.25 12010732.46 0.0518 0.0264 Neptune 28172-05-25 19:55 G 12010817.09 12010817.33 12010817.60 0.0088 0.0013 Neptune 28173-05-28 06:29 G 12011184.52 12011184.77 12011185.03 0.0088 0.0003 Neptune 28174-05-30 16:48 G 12011551.95 12011552.20 12011552.46 0.0088 0.0007 Neptune 28175-06-02 03:07 G 12011919.39 12011919.63 12011919.89 0.0088 0.0017 Neptune 28176-06-03 13:41 G 12012286.84 12012287.07 12012287.33 0.0088 0.0027 Neptune 28177-06-06 00:14 G 12012654.28 12012654.51 12012654.74 0.0088 0.0036 Jupiter 28177-08-05 15:36 G 12012714.92 12012715.15 12012715.38 0.0499 0.0117 Neptune 28178-06-08 10:19 G 12013021.73 12013021.93 12013022.17 0.0088 0.0046 Saturn 28178-07-13 05:45 G 12013056.67 12013056.74 12013056.83 0.0285 0.0269 Jupiter 28178-09-07 11:02 G 12013112.80 12013112.96 12013113.13 0.0512 0.0359 Neptune 28179-06-10 20:24 G 12013389.18 12013389.35 12013389.58 0.0088 0.0056 Saturn 28179-07-26 22:48 G 12013435.26 12013435.45 12013435.65 0.0288 0.0177 Neptune 28180-06-12 07:12 G 12013756.64 12013756.80 12013756.98 0.0088 0.0065 Neptune 28181-06-14 17:17 G 12014124.11 12014124.22 12014124.38 0.0088 0.0075 Neptune 28182-06-17 03:36 G 12014491.60 12014491.65 12014491.75 0.0088 0.0084 Jupiter 28183-01-31 01:12 G 12014719.34 12014719.55 12014719.77 0.0530 0.0203 Jupiter 28184-03-06 12:14 G 12015119.83 12015120.01 12015120.19 0.0516 0.0331 Jupiter 28188-07-09 16:33 G 12016706.12 12016706.19 12016706.25 0.0492 0.0469 Jupiter 28189-08-10 02:24 G 12017102.37 12017102.60 12017102.83 0.0501 0.0052 Jupiter 28190-09-12 03:21 G 12017500.51 12017500.64 12017500.77 0.0514 0.0426 Saturn 28193-01-21 13:41 G 12018362.83 12018363.07 12018363.32 0.0273 0.0052 Jupiter 28195-02-05 03:07 G 12019107.40 12019107.63 12019107.86 0.0528 0.0123 Jupiter 28196-03-11 07:41 G 12019507.67 12019507.82 12019507.97 0.0514 0.0396 Jupiter 28200-07-14 22:48 G 12021093.33 12021093.45 12021093.57 0.0492 0.0417 Jupiter 28201-08-15 12:29 G 12021489.78 12021490.02 12021490.25 0.0502 0.0015 Jupiter 28202-09-17 20:09 G 12021888.28 12021888.34 12021888.42 0.0516 0.0491 Jupiter 28207-02-11 05:31 G 12023495.49 12023495.73 12023495.96 0.0526 0.0043 Jupiter 28208-03-17 02:09 G 12023895.50 12023895.59 12023895.70 0.0512 0.0458

Uranus 28208-07-11 22:19 G 12024012.23 12024012.43 12024012.65 0.0139 0.0076 Saturn 28208-07-21 05:17 G 12024021.48 12024021.72 12024021.97 0.0286 0.0022 Uranus 28209-07-16 12:57 G 12024381.78 12024382.04 12024382.29 0.0138 0.0006 Uranus 28210-07-21 02:38 G 12024751.40 12024751.61 12024751.85 0.0138 0.0063 Uranus 28211-07-25 15:50 G 12025121.10 12025121.16 12025121.25 0.0137 0.0131 Jupiter 28212-07-19 06:43 G 12025480.62 12025480.78 12025480.94 0.0494 0.0362 Jupiter 28213-08-20 01:55 G 12025877.35 12025877.58 12025877.82 0.0504 0.0084 Jupiter 28218-01-10 15:36 G 12027482.09 12027482.15 12027482.21 0.0535 0.0514 Jupiter 28219-02-16 04:19 G 12027883.44 12027883.68 12027883.91 0.0524 0.0035 Saturn 28222-01-17 06:57 G 12028949.58 12028949.79 12028950.02 0.0275 0.0121 Saturn 28223-01-29 20:24 G 12029327.31 12029327.35 12029327.41 0.0272 0.0266 Jupiter 28224-07-23 13:41 G 12029867.89 12029868.07 12029868.26 0.0495 0.0308 Jupiter 28225-08-24 15:21 G 12030264.92 12030265.14 12030265.37 0.0506 0.0151 Jupiter 28230-01-15 18:57 G 12031870.16 12031870.29 12031870.42 0.0534 0.0441 Jupiter 28231-02-21 01:12 G 12032271.32 12032271.55 12032271.78 0.0522 0.0110 Jupiter 28236-07-27 22:33 G 12034255.24 12034255.44 12034255.64 0.0496 0.0249 Saturn 28237-07-15 20:53 G 12034608.21 12034608.37 12034608.55 0.0285 0.0205 Jupiter 28237-08-29 04:33 G 12034652.48 12034652.69 12034652.90 0.0508 0.0216 Saturn 28238-07-29 14:24 G 12034986.98 12034987.10 12034987.24 0.0288 0.0245 Jupiter 28242-01-20 18:14 G 12036258.09 12036258.26 12036258.42 0.0533 0.0369 Jupiter 28243-02-25 19:55 G 12036659.12 12036659.33 12036659.56 0.0521 0.0182 Pluto 28247-07-08 17:31 G 12038252.97 12038253.23 12038253.49 0.0079 0.0003 Neptune 28247-11-11 07:12 G 12038378.71 12038378.80 12038378.94 0.0090 0.0081 Jupiter 28248-08-01 08:09 G 12038642.62 12038642.84 12038643.06 0.0497 0.0186 Neptune 28248-11-12 20:24 G 12038746.21 12038746.35 12038746.53 0.0090 0.0071 Jupiter 28249-09-02 18:57 G 12039040.10 12039040.29 12039040.49 0.0509 0.0284 Neptune 28249-11-15 09:21 G 12039113.73 12039113.89 12039114.11 0.0090 0.0061 Neptune 28250-11-17 23:02 G 12039481.25 12039481.46 12039481.68 0.0090 0.0050 Neptune 28251-11-20 12:00 G 12039848.78 12039849.00 12039849.25 0.0090 0.0040 Saturn 28252-01-25 00:43 G 12039914.31 12039914.53 12039914.76 0.0273 0.0109

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Jupiter 28284-08-14 14:38 G 12051804.88 12051805.11 12051805.35 0.0502 0.0008 Jupiter 28285-09-16 22:19 G 12052203.35 12052203.43 12052203.51 0.0516 0.0483 Jupiter 28290-02-10 03:07 G 12053810.40 12053810.63 12053810.87 0.0526 0.0054 Jupiter 28291-03-17 00:00 G 12054210.40 12054210.50 12054210.62 0.0512 0.0448 Uranus 28292-07-12 12:57 G 12054693.84 12054694.04 12054694.27 0.0139 0.0070 Uranus 28293-07-17 03:50 G 12055063.41 12055063.66 12055063.92 0.0138 0.0001 Uranus 28294-07-21 17:31 G 12055433.03 12055433.23 12055433.47 0.0138 0.0070 Jupiter 28295-07-19 08:38 G 12055795.70 12055795.86 12055796.01 0.0493 0.0370 Uranus 28295-07-26 06:57 G 12055802.79 12055802.79 12055802.82 0.0137 0.0137 Saturn 28296-07-17 11:45 G 12056159.78 12056159.99 12056160.21 0.0285 0.0141 Jupiter 28296-08-19 02:38 G 12056192.39 12056192.61 12056192.85 0.0504 0.0074 Jupiter 28301-01-10 07:12 G 12057796.76 12057796.80 12057796.85 0.0535 0.0525 Jupiter 28302-02-15 22:48 G 12058198.22 12058198.45 12058198.68 0.0525 0.0023 Jupiter 28303-03-22 14:53 G 12058598.10 12058598.12 12058598.16 0.0511 0.0505 Jupiter 28307-07-24 17:31 G 12060183.05 12060183.23 12060183.41 0.0494 0.0313 Jupiter 28308-08-24 15:36 G 12060579.93 12060580.15 12060580.38 0.0505 0.0141 Saturn 28310-01-14 21:07 G 12061088.25 12061088.38 12061088.52 0.0276 0.0226 Saturn 28311-01-27 12:14 G 12061465.82 12061466.01 12061466.21 0.0273 0.0166 Jupiter 28313-01-15 11:02 G 12062184.84 12062184.96 12062185.08 0.0535 0.0453 Jupiter 28314-02-20 21:50 G 12062586.19 12062586.41 12062586.64 0.0523 0.0101 Jupiter 28319-07-29 00:14 G 12064570.32 12064570.51 12064570.72 0.0495 0.0255 Jupiter 28320-08-29 03:50 G 12064967.45 12064967.66 12064967.87 0.0507 0.0208 28322-05-25 22:19 G 12065602.25 12065602.43 12065602.61 0.1600 0.0325 Mars Jupiter 28325-01-20 16:33 G 12066573.04 12066573.19 12066573.36 0.0534 0.0378 Jupiter 28326-02-25 21:36 G 12066974.18 12066974.40 12066974.62 0.0521 0.0175 Saturn 28326-07-26 14:24 G 12067124.88 12067125.10 12067125.33 0.0287 0.0113 Neptune 28329-05-12 02:09 G 12068145.56 12068145.59 12068145.67 0.0088 0.0086 Neptune 28330-05-14 12:29 G 12068512.93 12068513.02 12068513.17 0.0088 0.0077 Neptune 28331-05-16 23:02 G 12068880.31 12068880.46 12068880.64 0.0088 0.0067 Jupiter 28331-08-02 09:50 G 12068957.69 12068957.91 12068958.12 0.0497 0.0192

Neptune 28332-05-18 09:50 G 12069247.71 12069247.91 12069248.10 0.0088 0.0057 Jupiter 28332-09-02 18:57 G 12069355.10 12069355.29 12069355.49 0.0509 0.0277 Neptune 28333-05-20 19:26 G 12069615.12 12069615.31 12069615.55 0.0088 0.0048 Neptune 28334-05-23 05:45 G 12069982.52 12069982.74 12069982.98 0.0088 0.0038 Neptune 28335-05-25 16:05 G 12070349.94 12070350.17 12070350.42 0.0088 0.0028 Uranus 28336-01-09 06:43 G 12070578.73 12070578.78 12070578.84 0.0139 0.0136 Neptune 28336-05-27 02:24 G 12070717.35 12070717.60 12070717.86 0.0088 0.0018 Uranus 28337-01-12 23:45 G 12070948.27 12070948.49 12070948.72 0.0140 0.0065 Jupiter 28337-01-25 22:05 G 12070961.23 12070961.42 12070961.62 0.0532 0.0299 Neptune 28337-05-29 12:43 G 12071084.77 12071085.03 12071085.29 0.0088 0.0008 Uranus 28338-01-17 17:45 G 12071317.99 12071318.24 12071318.50 0.0140 0.0008 Jupiter 28338-03-02 18:43 G 12071362.07 12071362.28 12071362.48 0.0519 0.0246 Neptune 28338-05-31 22:48 G 12071452.20 12071452.45 12071452.71 0.0088 0.0002 Uranus 28339-01-22 12:00 G 12071687.80 12071688.00 12071688.21 0.0141 0.0081 Neptune 28339-06-03 09:07 G 12071819.63 12071819.88 12071820.14 0.0088 0.0012 Saturn 28340-01-22 06:29 G 12072052.52 12072052.77 12072053.02 0.0274 0.0006 Neptune 28340-06-04 19:12 G 12072187.07 12072187.30 12072187.57 0.0088 0.0022 Neptune 28341-06-07 05:31 G 12072554.51 12072554.73 12072554.99 0.0088 0.0032 Neptune 28342-06-09 16:05 G 12072921.96 12072922.17 12072922.41 0.0088 0.0041 Neptune 28343-06-12 02:38 G 12073289.41 12073289.61 12073289.83 0.0088 0.0051 Jupiter 28343-08-06 18:29 G 12073345.05 12073345.27 12073345.50 0.0499 0.0131 Neptune 28344-06-13 12:43 G 12073656.87 12073657.03 12073657.24 0.0088 0.0061 Jupiter 28344-09-07 11:31 G 12073742.81 12073742.98 12073743.15 0.0511 0.0343 Neptune 28345-06-15 23:31 G 12074024.33 12074024.48 12074024.63 0.0088 0.0070 Neptune 28346-06-18 09:21 G 12074391.81 12074391.89 12074392.02 0.0088 0.0080 Jupiter 28349-01-31 00:14 G 12075349.30 12075349.51 12075349.72 0.0530 0.0220 Jupiter 28350-03-07 13:26 G 12075749.88 12075750.06 12075750.25 0.0517 0.0316 Jupiter 28354-07-10 21:36 G 12077336.35 12077336.40 12077336.45 0.0491 0.0479 Saturn 28355-07-21 01:12 G 12077711.31 12077711.55 12077711.78 0.0286 0.0080 Jupiter 28355-08-11 05:45 G 12077732.51 12077732.74 12077732.97 0.0500 0.0067

Jupiter 28356-09-12 03:21 G 12078130.50 12078130.64 12078130.78 0.0513 0.0409 Jupiter 28361-02-04 21:07 G 12079737.16 12079737.38 12079737.61 0.0529 0.0144 Jupiter 28362-03-12 05:17 G 12080137.57 12080137.72 12080137.88 0.0515 0.0380 Jupiter 28366-07-15 05:45 G 12081723.63 12081723.74 12081723.86 0.0492 0.0426 Jupiter 28367-08-15 17:17 G 12082119.99 12082120.22 12082120.46 0.0501 0.0007 Jupiter 28368-09-16 20:38 G 12082518.28 12082518.36 12082518.46 0.0514 0.0473 Saturn 28369-01-16 09:07 G 12082639.69 12082639.88 12082640.08 0.0275 0.0168 Saturn 28370-01-28 23:17 G 12083017.34 12083017.47 12083017.62 0.0272 0.0222 Jupiter 28373-02-09 21:50 G 12084125.18 12084125.41 12084125.64 0.0527 0.0065 Jupiter 28374-03-16 23:45 G 12084525.38 12084525.49 12084525.61 0.0514 0.0443 Uranus 28375-07-10 12:57 G 12085005.99 12085006.04 12085006.13 0.0139 0.0134 Uranus 28376-07-14 04:48 G 12085375.48 12085375.70 12085375.93 0.0139 0.0063 Uranus 28377-07-18 19:12 G 12085745.05 12085745.30 12085745.56 0.0138 0.0008 Jupiter 28378-07-19 12:14 G 12086110.86 12086111.01 12086111.17 0.0493 0.0374 Uranus 28378-07-23 09:07 G 12086114.68 12086114.88 12086115.11 0.0138 0.0076 Jupiter 28379-08-20 03:36 G 12086507.42 12086507.65 12086507.88 0.0503 0.0066 Jupiter 28384-01-10 05:02 G 12088111.69 12088111.71 12088111.73 0.0536 0.0532 Saturn 28384-07-14 12:29 G 12088297.96 12088298.02 12088298.11 0.0284 0.0269 Jupiter 28385-02-14 23:45 G 12088513.26 12088513.49 12088513.72 0.0526 0.0016 Saturn 28385-07-28 04:05 G 12088676.49 12088676.67 12088676.87 0.0288 0.0177 Jupiter 28386-03-21 18:14 G 12088913.23 12088913.26 12088913.31 0.0512 0.0502 Jupiter 28390-07-23 19:55 G 12090498.16 12090498.33 12090498.51 0.0494 0.0317 Jupiter 28391-08-24 16:48 G 12090894.97 12090895.20 12090895.42 0.0505 0.0135 Jupiter 28396-01-15 12:43 G 12092499.92 12092500.03 12092500.15 0.0535 0.0461 Jupiter 28397-02-20 00:29 G 12092901.29 12092901.52 12092901.75 0.0523 0.0092 Saturn 28399-01-23 17:31 G 12093603.99 12093604.23 12093604.47 0.0274 0.0050 28401-05-27 22:19 G 12094459.30 12094459.43 12094459.56 0.1598 0.1135 Mars Jupiter 28402-07-28 03:21 G 12094885.44 12094885.64 12094885.84 0.0495 0.0260 Jupiter 28403-08-29 06:29 G 12095282.55 12095282.77 12095282.98 0.0507 0.0201 Pluto 28407-01-09 13:41 G 12096511.82 12096512.07 12096512.33 0.0065 0.0010

Jupiter 28408-01-20 17:31 G 12096888.07 12096888.23 12096888.39 0.0533 0.0383 Jupiter 28409-02-24 22:19 G 12097289.21 12097289.43 12097289.65 0.0521 0.0167 Neptune 28411-11-11 09:50 G 12098278.88 12098278.91 12098278.97 0.0090 0.0088 Neptune 28412-11-12 22:48 G 12098646.34 12098646.45 12098646.59 0.0090 0.0078 Neptune 28413-11-15 11:45 G 12099013.84 12099013.99 12099014.18 0.0090 0.0068 Saturn 28414-07-22 12:14 G 12099262.77 12099263.01 12099263.26 0.0286 0.0022 Jupiter 28414-08-01 13:26 G 12099272.84 12099273.06 12099273.27 0.0497 0.0198 Neptune 28414-11-18 01:12 G 12099381.35 12099381.55 12099381.75 0.0090 0.0057 Jupiter 28415-09-02 21:36 G 12099670.20 12099670.40 12099670.60 0.0508 0.0269 Neptune 28415-11-20 13:55 G 12099748.87 12099749.08 12099749.31 0.0090 0.0047 Neptune 28416-11-22 03:21 G 12100116.41 12100116.64 12100116.88 0.0090 0.0036 Neptune 28417-11-24 16:19 G 12100483.94 12100484.18 12100484.44 0.0090 0.0026 Neptune 28418-11-27 05:45 G 12100851.49 12100851.74 12100852.00 0.0090 0.0015 Neptune 28419-11-29 18:43 G 12101219.03 12101219.28 12101219.55 0.0090 0.0005 Uranus 28420-01-09 18:29 G 12101260.20 12101260.27 12101260.36 0.0139 0.0131 Jupiter 28420-01-25 15:21 G 12101275.96 12101276.14 12101276.34 0.0532 0.0310 Neptune 28420-12-01 08:09 G 12101586.58 12101586.84 12101587.10 0.0090 0.0007 Uranus 28421-01-13 11:17 G 12101629.75 12101629.97 12101630.21 0.0140 0.0061 Jupiter 28421-03-01 15:21 G 12101676.94 12101677.14 12101677.35 0.0520 0.0238 Neptune 28421-12-03 20:53 G 12101954.13 12101954.37 12101954.64 0.0090 0.0018 Uranus 28422-01-18 05:17 G 12101999.47 12101999.72 12101999.97 0.0140 0.0012 Neptune 28422-12-06 10:05 G 12102321.68 12102321.92 12102322.17 0.0090 0.0028 Uranus 28423-01-22 23:02 G 12102369.28 12102369.46 12102369.68 0.0141 0.0086 Neptune 28423-12-08 22:48 G 12102689.23 12102689.45 12102689.70 0.0090 0.0039 Neptune 28424-12-10 11:31 G 12103056.79 12103056.98 12103057.22 0.0090 0.0050 Neptune 28425-12-13 00:43 G 12103424.36 12103424.53 12103424.74 0.0090 0.0060 Jupiter 28426-08-06 00:14 G 12103660.28 12103660.51 12103660.73 0.0498 0.0133 Neptune 28426-12-15 13:41 G 12103791.92 12103792.07 12103792.24 0.0089 0.0070 Jupiter 28427-09-07 13:12 G 12104057.88 12104058.05 12104058.23 0.0510 0.0337 Neptune 28427-12-18 02:09 G 12104159.51 12104159.59 12104159.73 0.0089 0.0081

Saturn 28428-01-18 19:41 G 12104191.09 12104191.32 12104191.54 0.0275 0.0113 Jupiter 28432-01-30 17:45 G 12105664.04 12105664.24 12105664.46 0.0531 0.0231 Jupiter 28433-03-06 11:45 G 12106064.81 12106064.99 12106065.18 0.0518 0.0310 Jupiter 28437-07-10 03:36 G 12107651.61 12107651.65 12107651.70 0.0491 0.0481 Jupiter 28438-08-10 09:07 G 12108047.65 12108047.88 12108048.11 0.0499 0.0071 Jupiter 28439-09-12 03:36 G 12108445.52 12108445.65 12108445.80 0.0512 0.0402 Saturn 28443-07-16 22:19 G 12109849.27 12109849.43 12109849.60 0.0285 0.0213 Jupiter 28444-02-04 21:50 G 12110052.19 12110052.41 12110052.63 0.0530 0.0152 Saturn 28444-07-29 14:38 G 12110227.98 12110228.11 12110228.26 0.0288 0.0236 Jupiter 28445-03-11 09:07 G 12110452.73 12110452.88 12110453.04 0.0516 0.0376 Jupiter 28449-07-14 10:19 G 12112038.83 12112038.93 12112039.05 0.0492 0.0429 Jupiter 28450-08-14 20:09 G 12112435.11 12112435.34 12112435.57 0.0501 0.0005 Jupiter 28451-09-16 21:50 G 12112833.32 12112833.41 12112833.51 0.0514 0.0467 Jupiter 28456-02-10 01:55 G 12114440.35 12114440.58 12114440.81 0.0528 0.0070 Jupiter 28457-03-16 04:33 G 12114840.58 12114840.69 12114840.82 0.0514 0.0437 Saturn 28458-01-25 02:38 G 12115155.39 12115155.61 12115155.84 0.0273 0.0103 Uranus 28459-07-11 02:53 G 12115687.54 12115687.62 12115687.73 0.0139 0.0129 Uranus 28460-07-14 18:29 G 12116057.05 12116057.27 12116057.51 0.0139 0.0058 Jupiter 28461-07-18 16:19 G 12116426.04 12116426.18 12116426.34 0.0493 0.0377 Uranus 28461-07-19 09:36 G 12116426.65 12116426.90 12116427.15 0.0138 0.0013 Uranus 28462-07-23 23:31 G 12116796.29 12116796.48 12116796.70 0.0138 0.0082 Jupiter 28462-08-19 07:41 G 12116822.59 12116822.82 12116823.06 0.0503 0.0061 Jupiter 28468-02-15 02:38 G 12118828.38 12118828.61 12118828.85 0.0526 0.0010 Jupiter 28469-03-20 21:50 G 12119228.36 12119228.41 12119228.47 0.0512 0.0496 Jupiter 28473-07-23 01:41 G 12120813.40 12120813.57 12120813.75 0.0494 0.0320 Saturn 28473-07-23 19:26 G 12120814.07 12120814.31 12120814.55 0.0287 0.0031 Jupiter 28474-08-23 21:36 G 12121210.18 12121210.40 12121210.63 0.0504 0.0130 Jupiter 28479-01-14 07:26 G 12122814.71 12122814.81 12122814.93 0.0535 0.0468 Jupiter 28480-02-19 21:07 G 12123216.15 12123216.38 12123216.61 0.0524 0.0085 Jupiter 28485-07-27 11:45 G 12125200.79 12125200.99 12125201.19 0.0495 0.0260

Jupiter 28486-08-28 12:14 G 12125597.80 12125598.01 12125598.23 0.0506 0.0198 Saturn 28487-01-20 04:05 G 12125742.43 12125742.67 12125742.91 0.0275 0.0061 Jupiter 28491-01-19 11:02 G 12127202.81 12127202.96 12127203.13 0.0534 0.0393 Jupiter 28492-02-24 19:55 G 12127604.11 12127604.33 12127604.55 0.0523 0.0160 Neptune 28494-05-13 18:57 G 12128413.22 12128413.29 12128413.37 0.0088 0.0083 Neptune 28495-05-16 05:02 G 12128780.59 12128780.71 12128780.87 0.0088 0.0074 Pluto 28495-07-11 16:05 G 12128836.93 12128837.17 12128837.42 0.0079 0.0027 Neptune 28496-05-17 15:36 G 12129147.99 12129148.15 12129148.34 0.0088 0.0064 Neptune 28497-05-20 01:55 G 12129515.39 12129515.58 12129515.79 0.0088 0.0054 Jupiter 28497-07-31 19:41 G 12129588.11 12129588.32 12129588.54 0.0496 0.0200 Neptune 28498-05-22 12:29 G 12129882.80 12129883.02 12129883.24 0.0088 0.0044 Jupiter 28498-09-02 00:43 G 12129985.33 12129985.53 12129985.73 0.0507 0.0264 Neptune 28499-05-24 22:19 G 12130250.21 12130250.43 12130250.69 0.0088 0.0035 Neptune 28500-05-27 08:38 G 12130617.63 12130617.86 12130618.12 0.0088 0.0025 Neptune 28501-05-29 19:12 G 12130985.04 12130985.30 12130985.55 0.0088 0.0014 Neptune 28502-06-01 05:31 G 12131352.47 12131352.73 12131352.98 0.0088 0.0004 Saturn 28502-07-19 04:33 G 12131400.50 12131400.69 12131400.90 0.0285 0.0163 Jupiter 28503-01-25 16:48 G 12131591.02 12131591.20 12131591.39 0.0533 0.0316 Neptune 28503-06-03 15:36 G 12131719.90 12131720.15 12131720.41 0.0088 0.0006 Uranus 28504-01-11 06:29 G 12131941.69 12131941.77 12131941.89 0.0139 0.0127 Jupiter 28504-03-01 19:41 G 12131992.11 12131992.32 12131992.53 0.0521 0.0234 Neptune 28504-06-05 01:55 G 12132087.33 12132087.58 12132087.84 0.0088 0.0016 Uranus 28505-01-14 23:31 G 12132311.25 12132311.48 12132311.72 0.0140 0.0056 Neptune 28505-06-07 12:14 G 12132454.76 12132455.01 12132455.25 0.0088 0.0026 Uranus 28506-01-19 17:02 G 12132680.96 12132681.21 12132681.47 0.0140 0.0017 Neptune 28506-06-09 22:33 G 12132822.21 12132822.44 12132822.68 0.0088 0.0036 Uranus 28507-01-24 10:48 G 12133050.77 12133050.95 12133051.16 0.0141 0.0090 Neptune 28507-06-12 08:53 G 12133189.66 12133189.87 12133190.10 0.0088 0.0046 Neptune 28508-06-13 19:12 G 12133557.11 12133557.30 12133557.50 0.0088 0.0056 Neptune 28509-06-16 05:31 G 12133924.58 12133924.73 12133924.91 0.0088 0.0066 Jupiter 28509-08-06 05:17 G 12133975.50 12133975.72 12133975.94 0.0497 0.0137 Neptune 28510-06-18 15:36 G 12134292.05 12134292.15 12134292.30 0.0088 0.0076 Jupiter 28510-09-07 16:33 G 12134373.01 12134373.19 12134373.37 0.0510 0.0331 Neptune 28511-06-21 01:55 G 12134659.55 12134659.58 12134659.67 0.0088 0.0086 Jupiter 28515-01-30 23:17 G 12135979.26 12135979.47 12135979.68 0.0532 0.0236 Saturn 28516-01-15 17:45 G 12136329.14 12136329.24 12136329.37 0.0276 0.0241 Jupiter 28516-03-06 18:43 G 12136380.09 12136380.28 12136380.47 0.0518 0.0306 Saturn 28517-01-27 09:21 G 12136706.70 12136706.89 12136707.11 0.0273 0.0153 Jupiter 28520-07-10 09:50 G 12137966.87 12137966.91 12137966.95 0.0491 0.0482 Jupiter 28521-08-10 14:53 G 12138362.89 12138363.12 12138363.35 0.0499 0.0074 Jupiter 28522-09-12 09:07 G 12138760.74 12138760.88 12138761.03 0.0512 0.0399 Jupiter 28527-02-05 03:07 G 12140367.41 12140367.63 12140367.85 0.0530 0.0155 Mars 28527-05-26 05:17 G 12140477.58 12140477.72 12140477.85 0.1604 0.1083 Jupiter 28528-03-11 14:38 G 12140767.96 12140768.11 12140768.28 0.0516 0.0373 Jupiter 28532-07-14 18:00 G 12142354.15 12142354.25 12142354.37 0.0492 0.0430 Saturn 28532-07-25 23:02 G 12142365.23 12142365.46 12142365.70 0.0287 0.0079 Jupiter 28533-08-15 03:50 G 12142750.43 12142750.66 12142750.89 0.0500 0.0007 Jupiter 28534-09-17 04:05 G 12143148.57 12143148.67 12143148.77 0.0513 0.0463 Jupiter 28539-02-09 23:31 G 12144755.25 12144755.48 12144755.71 0.0528 0.0077 Jupiter 28540-03-16 05:02 G 12145155.60 12145155.71 12145155.85 0.0515 0.0435 Uranus 28543-07-12 16:19 G 12146369.08 12146369.18 12146369.31 0.0139 0.0124 Uranus 28544-07-16 07:55 G 12146738.61 12146738.83 12146739.08 0.0139 0.0053 Jupiter 28544-07-19 03:36 G 12146741.50 12146741.65 12146741.80 0.0493 0.0376 Uranus 28545-07-20 23:02 G 12147108.21 12147108.46 12147108.72 0.0138 0.0018 Jupiter 28545-08-19 17:02 G 12147137.98 12147138.21 12147138.44 0.0502 0.0061 Saturn 28546-01-22 09:21 G 12147293.64 12147293.89 12147294.13 0.0274 0.0014 Uranus 28546-07-25 13:12 G 12147477.86 12147478.05 12147478.25 0.0138 0.0087 Jupiter 28551-02-15 00:00 G 12149143.27 12149143.50 12149143.74 0.0527 0.0010 Jupiter 28552-03-20 23:45 G 12149543.43 12149543.49 12149543.55 0.0513 0.0494 Jupiter 28556-07-23 10:48 G 12151128.78 12151128.95 12151129.13 0.0493 0.0321

Jupiter 28557-08-24 04:19 G 12151525.45 12151525.68 12151525.90 0.0503 0.0127 Saturn 28561-07-20 06:57 G 12152951.57 12152951.79 12152952.02 0.0286 0.0116 Jupiter 28562-01-14 09:36 G 12153129.79 12153129.90 12153130.00 0.0536 0.0474 Jupiter 28563-02-20 02:09 G 12153531.36 12153531.59 12153531.82 0.0525 0.0081 Mars 28567-11-26 04:33 G 12155271.48 12155271.69 12155271.89 0.1936 0.0148 Jupiter 28568-07-27 19:12 G 12155516.11 12155516.30 12155516.50 0.0494 0.0262 Jupiter 28569-08-28 17:31 G 12155913.02 12155913.23 12155913.45 0.0505 0.0194 Jupiter 28574-01-19 18:00 G 12157518.09 12157518.25 12157518.40 0.0535 0.0397 Saturn 28575-01-16 22:48 G 12157880.29 12157880.45 12157880.64 0.0275 0.0193 Jupiter 28575-02-25 04:05 G 12157919.45 12157919.67 12157919.90 0.0523 0.0158 Saturn 28576-01-29 13:41 G 12158257.91 12158258.07 12158258.25 0.0272 0.0198 Neptune 28576-11-13 01:12 G 12158546.50 12158546.55 12158546.65 0.0090 0.0086 Neptune 28577-11-15 14:38 G 12158913.98 12158914.11 12158914.26 0.0090 0.0075 Neptune 28578-11-18 03:07 G 12159281.48 12159281.63 12159281.83 0.0090 0.0065 Neptune 28579-11-20 16:33 G 12159648.99 12159649.19 12159649.41 0.0090 0.0054 Jupiter 28580-08-01 03:21 G 12159903.43 12159903.64 12159903.86 0.0496 0.0201 Neptune 28580-11-22 05:17 G 12160016.52 12160016.72 12160016.97 0.0090 0.0044 Jupiter 28581-09-02 08:09 G 12160300.64 12160300.84 12160301.04 0.0507 0.0262 Neptune 28581-11-24 18:29 G 12160384.05 12160384.27 12160384.53 0.0090 0.0033 Neptune 28582-11-27 07:41 G 12160751.58 12160751.82 12160752.08 0.0090 0.0022 Neptune 28583-11-29 21:07 G 12161119.12 12161119.38 12161119.64 0.0090 0.0011 Neptune 28584-12-01 10:19 G 12161486.67 12161486.93 12161487.19 0.0090 0.0000 Neptune 28585-12-03 23:17 G 12161854.22 12161854.47 12161854.74 0.0090 0.0012 Jupiter 28586-01-25 00:00 G 12161906.32 12161906.50 12161906.69 0.0533 0.0317 Neptune 28586-12-06 12:29 G 12162221.77 12162222.02 12162222.27 0.0090 0.0022 Jupiter 28587-03-02 03:21 G 12162307.43 12162307.64 12162307.85 0.0521 0.0233 Neptune 28587-12-09 01:26 G 12162589.32 12162589.56 12162589.80 0.0090 0.0033 Uranus 28588-01-11 19:12 G 12162623.20 12162623.30 12162623.44 0.0139 0.0122 Neptune 28588-12-10 14:24 G 12162956.88 12162957.10 12162957.33 0.0090 0.0044 Uranus 28589-01-15 12:00 G 12162992.77 12162993.00 12162993.25 0.0139 0.0051

Neptune 28589-12-13 02:53 G 12163324.44 12163324.62 12163324.85 0.0090 0.0055 Uranus 28590-01-20 05:02 G 12163362.47 12163362.71 12163362.97 0.0140 0.0022 Neptune 28590-12-15 16:19 G 12163692.01 12163692.18 12163692.36 0.0090 0.0065 Uranus 28591-01-24 23:02 G 12163732.28 12163732.46 12163732.65 0.0140 0.0095 Saturn 28591-07-27 23:17 G 12163916.26 12163916.47 12163916.70 0.0287 0.0123 Neptune 28591-12-18 04:48 G 12164059.58 12164059.70 12164059.86 0.0090 0.0076 Jupiter 28592-08-05 15:07 G 12164290.91 12164291.13 12164291.35 0.0497 0.0137 Neptune 28592-12-19 18:00 G 12164427.19 12164427.25 12164427.33 0.0089 0.0086 Jupiter 28593-09-07 01:41 G 12164688.39 12164688.57 12164688.75 0.0509 0.0331 Jupiter 28598-01-29 22:48 G 12166294.24 12166294.45 12166294.66 0.0532 0.0242 Jupiter 28599-03-06 19:41 G 12166695.13 12166695.32 12166695.51 0.0519 0.0302 Jupiter 28603-07-11 22:19 G 12168282.40 12168282.43 12168282.49 0.0491 0.0481 Jupiter 28604-08-11 03:07 G 12168678.40 12168678.63 12168678.86 0.0499 0.0072 Saturn 28605-01-24 12:00 G 12168844.76 12168845.00 12168845.25 0.0274 0.0032 Jupiter 28605-09-12 18:57 G 12169076.15 12169076.29 12169076.44 0.0511 0.0398 Mars 28606-05-29 05:31 G 12169334.54 12169334.73 12169334.91 0.1602 0.0402 Jupiter 28610-02-05 01:12 G 12170682.33 12170682.55 12170682.77 0.0530 0.0162 Jupiter 28611-03-12 15:50 G 12171083.01 12171083.16 12171083.33 0.0517 0.0370 Jupiter 28615-07-16 05:31 G 12172669.63 12172669.73 12172669.85 0.0491 0.0431 Jupiter 28616-08-15 12:57 G 12173065.81 12173066.04 12173066.27 0.0500 0.0009 Jupiter 28617-09-17 10:19 G 12173463.83 12173463.93 12173464.03 0.0513 0.0460 Saturn 28620-07-22 06:29 G 12174502.54 12174502.77 12174503.01 0.0286 0.0074 Jupiter 28622-02-10 04:48 G 12175070.47 12175070.70 12175070.93 0.0529 0.0082 Jupiter 28623-03-17 13:26 G 12175470.94 12175471.06 12175471.19 0.0515 0.0433 Uranus 28627-07-14 03:21 G 12177050.53 12177050.64 12177050.78 0.0140 0.0120 Jupiter 28627-07-20 13:12 G 12177056.90 12177057.05 12177057.20 0.0492 0.0377 Uranus 28628-07-17 19:26 G 12177420.08 12177420.31 12177420.55 0.0139 0.0048 Jupiter 28628-08-20 00:43 G 12177453.30 12177453.53 12177453.76 0.0501 0.0059 Uranus 28629-07-22 10:33 G 12177789.69 12177789.94 12177790.19 0.0139 0.0022 Uranus 28630-07-27 00:43 G 12178159.36 12178159.53 12178159.73 0.0138 0.0092

Saturn 28634-01-19 01:12 G 12179431.35 12179431.55 12179431.76 0.0275 0.0148 Jupiter 28634-02-15 09:36 G 12179458.66 12179458.90 12179459.13 0.0527 0.0009 Saturn 28635-01-31 15:07 G 12179809.03 12179809.13 12179809.26 0.0272 0.0241 Jupiter 28635-03-22 10:05 G 12179858.87 12179858.92 12179858.99 0.0513 0.0494 Jupiter 28639-07-24 20:09 G 12181444.17 12181444.34 12181444.52 0.0493 0.0321 Jupiter 28640-08-24 12:57 G 12181840.82 12181841.04 12181841.27 0.0503 0.0126 Jupiter 28645-01-14 18:43 G 12183445.17 12183445.28 12183445.39 0.0536 0.0474 Jupiter 28646-02-20 11:31 G 12183846.75 12183846.98 12183847.21 0.0525 0.0080 Saturn 28649-07-16 06:14 G 12185088.72 12185088.76 12185088.79 0.0284 0.0280 Saturn 28650-07-29 20:53 G 12185467.17 12185467.37 12185467.57 0.0287 0.0162 Jupiter 28651-07-29 06:43 G 12185831.58 12185831.78 12185831.98 0.0494 0.0260 Jupiter 28652-08-29 04:48 G 12186228.49 12186228.70 12186228.92 0.0505 0.0196 Pluto 28654-01-11 22:19 G 12186729.29 12186729.43 12186729.57 0.0064 0.0054 Pluto 28655-01-13 10:33 G 12187095.72 12187095.94 12187096.19 0.0065 0.0029 Jupiter 28657-01-19 19:26 G 12187833.16 12187833.31 12187833.47 0.0534 0.0402 Jupiter 28658-02-25 06:00 G 12188234.53 12188234.75 12188234.98 0.0523 0.0154 Neptune 28659-05-17 11:17 G 12188680.90 12188680.97 12188681.10 0.0088 0.0081 Neptune 28660-05-18 21:36 G 12189048.28 12189048.40 12189048.58 0.0088 0.0071 Neptune 28661-05-21 08:09 G 12189415.68 12189415.84 12189416.05 0.0088 0.0061 Neptune 28662-05-23 18:29 G 12189783.08 12189783.27 12189783.50 0.0088 0.0051 Neptune 28663-05-26 05:02 G 12190150.49 12190150.71 12190150.95 0.0088 0.0041 Jupiter 28663-08-02 17:31 G 12190219.01 12190219.23 12190219.44 0.0496 0.0199 Saturn 28664-01-26 12:14 G 12190395.78 12190396.01 12190396.25 0.0274 0.0074 Neptune 28664-05-27 15:07 G 12190517.91 12190518.13 12190518.39 0.0088 0.0031 Jupiter 28664-09-02 20:53 G 12190616.17 12190616.37 12190616.57 0.0507 0.0264 Neptune 28665-05-30 01:26 G 12190885.32 12190885.56 12190885.82 0.0088 0.0021 Neptune 28666-06-01 11:45 G 12191252.74 12191252.99 12191253.25 0.0088 0.0010 Neptune 28667-06-03 22:05 G 12191620.17 12191620.42 12191620.68 0.0088 0.0001 Neptune 28668-06-05 08:09 G 12191987.59 12191987.84 12191988.10 0.0088 0.0011 Jupiter 28669-01-24 23:17 G 12192221.29 12192221.47 12192221.66 0.0533 0.0324

Neptune 28669-06-07 18:14 G 12192355.02 12192355.26 12192355.52 0.0088 0.0021 Jupiter 28670-03-02 04:05 G 12192622.47 12192622.67 12192622.89 0.0522 0.0230 Neptune 28670-06-10 04:48 G 12192722.46 12192722.70 12192722.94 0.0088 0.0031 Neptune 28671-06-12 14:53 G 12193089.90 12193090.12 12193090.35 0.0088 0.0041 Uranus 28672-01-13 10:33 G 12193304.81 12193304.94 12193305.09 0.0139 0.0115 Neptune 28672-06-14 00:57 G 12193457.36 12193457.54 12193457.77 0.0088 0.0052 Uranus 28673-01-17 02:53 G 12193674.39 12193674.62 12193674.87 0.0139 0.0045 Neptune 28673-06-16 11:45 G 12193824.81 12193824.99 12193825.18 0.0088 0.0061 Uranus 28674-01-21 20:09 G 12194044.09 12194044.34 12194044.59 0.0140 0.0028 Neptune 28674-06-18 21:36 G 12194192.29 12194192.40 12194192.58 0.0088 0.0072 Uranus 28675-01-26 13:41 G 12194413.91 12194414.07 12194414.25 0.0140 0.0102 Neptune 28675-06-21 08:38 G 12194559.77 12194559.86 12194559.96 0.0088 0.0081 Jupiter 28675-08-07 02:24 G 12194606.38 12194606.60 12194606.83 0.0497 0.0138 Jupiter 28676-09-07 10:05 G 12195003.75 12195003.92 12195004.10 0.0508 0.0329 Saturn 28679-07-24 03:36 G 12196053.41 12196053.65 12196053.90 0.0286 0.0035 Jupiter 28681-01-30 04:05 G 12196609.46 12196609.67 12196609.88 0.0532 0.0247 Jupiter 28682-03-07 03:50 G 12197010.47 12197010.66 12197010.85 0.0520 0.0300 Jupiter 28686-07-11 09:50 G 12198597.87 12198597.91 12198597.95 0.0491 0.0481 Jupiter 28687-08-11 12:29 G 12198993.79 12198994.02 12198994.25 0.0498 0.0074 Jupiter 28688-09-12 02:09 G 12199391.45 12199391.59 12199391.74 0.0510 0.0395 Saturn 28693-01-20 01:55 G 12200982.35 12200982.58 12200982.81 0.0275 0.0105 Jupiter 28693-02-04 10:48 G 12200997.73 12200997.95 12200998.17 0.0531 0.0164 Jupiter 28694-03-12 03:36 G 12201398.49 12201398.65 12201398.81 0.0518 0.0370 Jupiter 28698-07-15 16:05 G 12202985.07 12202985.17 12202985.29 0.0491 0.0430 Jupiter 28699-08-15 23:02 G 12203381.23 12203381.46 12203381.70 0.0500 0.0011 Jupiter 28700-09-17 19:41 G 12203779.23 12203779.32 12203779.43 0.0513 0.0460 Jupiter 28705-02-10 15:21 G 12205385.91 12205386.14 12205386.37 0.0529 0.0081 Jupiter 28706-03-18 00:14 G 12205786.40 12205786.51 12205786.65 0.0516 0.0435 Saturn 28708-07-18 01:55 G 12206639.47 12206639.58 12206639.72 0.0284 0.0243 Saturn 28709-07-31 17:02 G 12207018.05 12207018.21 12207018.40 0.0287 0.0201

Jupiter 28710-07-21 01:26 G 12207372.42 12207372.56 12207372.72 0.0492 0.0375 Uranus 28711-07-15 16:19 G 12207732.06 12207732.18 12207732.35 0.0140 0.0116 Jupiter 28711-08-21 12:57 G 12207768.81 12207769.04 12207769.28 0.0501 0.0063 Uranus 28712-07-19 08:53 G 12208101.63 12208101.87 12208102.11 0.0139 0.0043 Uranus 28713-07-23 23:45 G 12208471.25 12208471.49 12208471.74 0.0139 0.0027 Uranus 28714-07-28 13:55 G 12208840.91 12208841.08 12208841.27 0.0138 0.0097 Jupiter 28717-02-15 12:14 G 12209773.78 12209774.01 12209774.25 0.0527 0.0011 Jupiter 28718-03-22 14:24 G 12210174.04 12210174.10 12210174.17 0.0514 0.0494 Jupiter 28722-07-25 10:48 G 12211759.78 12211759.95 12211760.13 0.0493 0.0320 Saturn 28723-01-28 10:48 G 12211946.73 12211946.95 12211947.18 0.0274 0.0114 Jupiter 28723-08-26 03:21 G 12212156.42 12212156.64 12212156.87 0.0503 0.0129 Jupiter 28728-01-15 19:12 G 12213760.20 12213760.30 12213760.40 0.0535 0.0481 Jupiter 28729-02-20 12:29 G 12214161.79 12214162.02 12214162.25 0.0526 0.0075 Jupiter 28734-07-29 19:12 G 12216147.10 12216147.30 12216147.50 0.0494 0.0262 Jupiter 28735-08-30 15:21 G 12216543.92 12216544.14 12216544.35 0.0504 0.0194 Saturn 28738-07-26 00:14 G 12217604.26 12217604.51 12217604.75 0.0286 0.0006 Jupiter 28740-01-21 00:29 G 12218148.37 12218148.52 12218148.67 0.0535 0.0407 Jupiter 28741-02-25 13:41 G 12218549.85 12218550.07 12218550.29 0.0524 0.0151 Neptune 28741-11-16 16:33 G 12218814.11 12218814.19 12218814.31 0.0090 0.0083 Neptune 28742-11-19 06:00 G 12219181.60 12219181.75 12219181.91 0.0090 0.0072 Pluto 28743-07-16 20:38 G 12219421.28 12219421.36 12219421.50 0.0079 0.0071 Neptune 28743-11-21 18:29 G 12219549.11 12219549.27 12219549.48 0.0090 0.0062 Neptune 28744-11-23 07:41 G 12219916.63 12219916.82 12219917.05 0.0090 0.0051 Neptune 28745-11-25 20:53 G 12220284.15 12220284.37 12220284.61 0.0090 0.0040 Jupiter 28746-08-03 04:05 G 12220534.46 12220534.67 12220534.88 0.0495 0.0200 Neptune 28746-11-28 09:50 G 12220651.68 12220651.91 12220652.17 0.0090 0.0029 Jupiter 28747-09-04 05:02 G 12220931.52 12220931.71 12220931.91 0.0506 0.0261 Neptune 28747-11-30 23:02 G 12221019.22 12221019.46 12221019.73 0.0090 0.0018 Neptune 28748-12-02 12:29 G 12221386.76 12221387.02 12221387.28 0.0090 0.0006 Neptune 28749-12-05 01:41 G 12221754.31 12221754.57 12221754.83 0.0090 0.0005

Neptune 28750-12-07 14:38 G 12222121.86 12222122.11 12222122.37 0.0090 0.0016 Neptune 28751-12-10 04:05 G 12222489.43 12222489.67 12222489.92 0.0090 0.0027 Saturn 28752-01-23 00:57 G 12222533.30 12222533.54 12222533.78 0.0275 0.0064 Jupiter 28752-01-26 08:09 G 12222536.66 12222536.84 12222537.03 0.0534 0.0328 Neptune 28752-12-11 17:02 G 12222856.98 12222857.21 12222857.45 0.0090 0.0038 Jupiter 28753-03-02 15:36 G 12222937.94 12222938.15 12222938.36 0.0522 0.0229 Neptune 28753-12-14 06:00 G 12223224.55 12223224.75 12223224.98 0.0090 0.0049 Neptune 28754-12-16 18:57 G 12223592.11 12223592.29 12223592.49 0.0090 0.0060 Neptune 28755-12-19 07:41 G 12223959.69 12223959.82 12223960.00 0.0090 0.0071 Uranus 28756-01-15 01:55 G 12223986.43 12223986.58 12223986.74 0.0139 0.0108 Neptune 28756-12-20 20:24 G 12224327.28 12224327.35 12224327.49 0.0090 0.0082 Uranus 28757-01-18 18:00 G 12224356.02 12224356.25 12224356.51 0.0139 0.0038 Uranus 28758-01-23 11:17 G 12224725.72 12224725.97 12224726.21 0.0140 0.0035 Jupiter 28758-08-07 12:57 G 12224921.82 12224922.04 12224922.27 0.0496 0.0138 Uranus 28759-01-28 04:48 G 12225095.55 12225095.70 12225095.87 0.0140 0.0109 Jupiter 28759-09-08 20:09 G 12225319.17 12225319.34 12225319.52 0.0508 0.0329 Jupiter 28764-01-31 15:07 G 12226924.92 12226925.13 12226925.33 0.0532 0.0246 Jupiter 28765-03-07 15:21 G 12227325.95 12227326.14 12227326.33 0.0520 0.0302 Saturn 28767-07-19 22:05 G 12228190.25 12228190.42 12228190.59 0.0284 0.0205 Saturn 28768-08-01 12:57 G 12228568.92 12228569.04 12228569.18 0.0287 0.0239 Jupiter 28769-07-11 22:05 G 12228913.39 12228913.42 12228913.48 0.0491 0.0481 Jupiter 28770-08-12 01:26 G 12229309.33 12229309.56 12229309.79 0.0498 0.0072 Jupiter 28771-09-13 14:53 G 12229706.98 12229707.12 12229707.27 0.0510 0.0398 Jupiter 28776-02-05 14:38 G 12231312.90 12231313.11 12231313.34 0.0531 0.0170 Jupiter 28777-03-12 07:26 G 12231713.65 12231713.81 12231713.97 0.0518 0.0367 Saturn 28781-01-16 14:38 G 12233120.01 12233120.11 12233120.24 0.0278 0.0245 Jupiter 28781-07-16 06:14 G 12233300.65 12233300.76 12233300.87 0.0492 0.0431 Saturn 28782-01-29 09:07 G 12233497.68 12233497.88 12233498.09 0.0274 0.0155 Jupiter 28782-08-16 13:55 G 12233696.84 12233697.08 12233697.31 0.0500 0.0012 Jupiter 28783-09-18 09:21 G 12234094.80 12234094.89 12234094.99 0.0512 0.0463

Jupiter 28788-02-10 16:19 G 12235700.96 12235701.18 12235701.42 0.0529 0.0088 Jupiter 28789-03-17 02:53 G 12236101.51 12236101.62 12236101.76 0.0516 0.0433 Jupiter 28793-07-20 13:41 G 12237687.93 12237688.07 12237688.23 0.0492 0.0379 Jupiter 28794-08-21 00:14 G 12238084.28 12238084.51 12238084.75 0.0501 0.0059 Uranus 28795-07-16 05:45 G 12238413.59 12238413.74 12238413.90 0.0140 0.0110 Uranus 28796-07-19 21:36 G 12238783.16 12238783.40 12238783.65 0.0139 0.0038 Uranus 28797-07-24 12:29 G 12239152.78 12239153.02 12239153.28 0.0139 0.0033 Saturn 28797-07-26 21:07 G 12239155.14 12239155.38 12239155.62 0.0286 0.0045 Uranus 28798-07-29 02:53 G 12239522.46 12239522.62 12239522.80 0.0138 0.0102 Jupiter 28800-02-15 18:57 G 12240089.05 12240089.29 12240089.52 0.0528 0.0013 Jupiter 28801-03-21 23:31 G 12240489.42 12240489.48 12240489.55 0.0514 0.0493 Jupiter 28805-07-24 21:50 G 12242075.24 12242075.41 12242075.59 0.0493 0.0321 Jupiter 28806-08-25 12:14 G 12242471.79 12242472.01 12242472.24 0.0502 0.0126 Jupiter 28811-01-15 02:38 G 12244075.51 12244075.61 12244075.70 0.0536 0.0485 Saturn 28811-01-24 00:14 G 12244084.26 12244084.51 12244084.75 0.0275 0.0022 Mars 28811-05-29 11:45 G 12244209.81 12244209.99 12244210.18 0.1607 0.0369 Jupiter 28812-02-20 22:33 G 12244477.21 12244477.44 12244477.67 0.0526 0.0073 Jupiter 28817-07-29 05:45 G 12246462.54 12246462.74 12246462.94 0.0494 0.0262 Jupiter 28818-08-30 00:57 G 12246859.32 12246859.54 12246859.76 0.0504 0.0193 Jupiter 28823-01-20 10:48 G 12248463.80 12248463.95 12248464.10 0.0535 0.0407 Neptune 28823-05-17 18:14 G 12248581.26 12248581.26 12248581.31 0.0088 0.0088 Jupiter 28824-02-26 00:43 G 12248865.31 12248865.53 12248865.76 0.0524 0.0152 Neptune 28824-05-19 04:33 G 12248948.60 12248948.69 12248948.84 0.0088 0.0078 Neptune 28825-05-21 14:53 G 12249315.98 12249316.12 12249316.31 0.0088 0.0068 Neptune 28826-05-24 01:55 G 12249683.39 12249683.58 12249683.78 0.0088 0.0057 Saturn 28826-07-20 19:26 G 12249741.12 12249741.31 12249741.52 0.0284 0.0165 Neptune 28827-05-26 12:00 G 12250050.80 12250051.00 12250051.23 0.0088 0.0047 Saturn 28827-08-03 10:19 G 12250119.90 12250119.93 12250120.00 0.0287 0.0281 Neptune 28828-05-27 22:19 G 12250418.21 12250418.43 12250418.68 0.0088 0.0037 Neptune 28829-05-30 08:38 G 12250785.63 12250785.86 12250786.12 0.0088 0.0027

Jupiter 28829-08-02 16:19 G 12250849.97 12250850.18 12250850.39 0.0495 0.0199 Neptune 28830-06-01 19:12 G 12251153.05 12251153.30 12251153.56 0.0088 0.0016 Jupiter 28830-09-03 17:31 G 12251247.04 12251247.23 12251247.43 0.0506 0.0264 Neptune 28831-06-04 05:17 G 12251520.47 12251520.72 12251520.98 0.0088 0.0006 Neptune 28832-06-05 15:36 G 12251887.89 12251888.15 12251888.41 0.0088 0.0005 Neptune 28833-06-08 01:41 G 12252255.33 12252255.57 12252255.83 0.0088 0.0016 Neptune 28834-06-10 11:45 G 12252622.76 12252622.99 12252623.25 0.0088 0.0026 Jupiter 28835-01-25 13:12 G 12252851.87 12252852.05 12252852.24 0.0533 0.0333 Neptune 28835-06-12 22:19 G 12252990.20 12252990.43 12252990.67 0.0088 0.0036 Jupiter 28836-03-01 19:41 G 12253253.11 12253253.32 12253253.53 0.0522 0.0224 Neptune 28836-06-14 07:55 G 12253357.63 12253357.83 12253358.07 0.0088 0.0047 Neptune 28837-06-16 18:29 G 12253725.09 12253725.27 12253725.48 0.0088 0.0057 Neptune 28838-06-19 04:48 G 12254092.55 12254092.70 12254092.88 0.0088 0.0067 Neptune 28839-06-21 15:07 G 12254460.02 12254460.13 12254460.27 0.0088 0.0077 Uranus 28840-01-15 16:33 G 12254668.03 12254668.19 12254668.37 0.0139 0.0102 Saturn 28840-01-18 13:26 G 12254670.89 12254671.06 12254671.23 0.0278 0.0203 Neptune 28840-06-23 01:41 G 12254827.55 12254827.57 12254827.61 0.0088 0.0087 Uranus 28841-01-19 08:38 G 12255037.62 12255037.86 12255038.12 0.0139 0.0032 Saturn 28841-01-30 07:26 G 12255048.65 12255048.81 12255048.99 0.0274 0.0196 Jupiter 28841-08-07 02:53 G 12255237.40 12255237.62 12255237.85 0.0497 0.0138 Uranus 28842-01-24 01:55 G 12255407.34 12255407.58 12255407.83 0.0140 0.0042 Jupiter 28842-09-08 09:36 G 12255634.73 12255634.90 12255635.09 0.0508 0.0331 Uranus 28843-01-28 19:26 G 12255777.19 12255777.31 12255777.47 0.0140 0.0115 Jupiter 28847-01-30 16:19 G 12257239.98 12257240.18 12257240.39 0.0532 0.0254 Jupiter 28848-03-06 16:48 G 12257641.01 12257641.20 12257641.39 0.0520 0.0297 28851-11-27 02:24 G 12259001.49 12259001.60 12259001.71 0.1930 0.1612 Mars Jupiter 28852-07-11 09:21 G 12259228.87 12259228.89 12259228.93 0.0491 0.0486 Jupiter 28853-08-11 12:14 G 12259624.78 12259625.01 12259625.24 0.0498 0.0076 Jupiter 28854-09-12 23:45 G 12260022.34 12260022.49 12260022.64 0.0509 0.0394 Saturn 28856-07-27 19:41 G 12260706.09 12260706.32 12260706.56 0.0286 0.0088

Jupiter 28859-02-04 19:12 G 12261628.08 12261628.30 12261628.52 0.0531 0.0176 Jupiter 28860-03-11 14:38 G 12262028.96 12262029.11 12262029.29 0.0519 0.0365 Jupiter 28864-07-15 16:48 G 12263616.10 12263616.20 12263616.32 0.0491 0.0433 Jupiter 28865-08-15 22:33 G 12264012.21 12264012.44 12264012.68 0.0499 0.0014 Jupiter 28866-09-17 15:36 G 12264410.05 12264410.15 12264410.25 0.0511 0.0457 Saturn 28870-01-25 00:43 G 12265635.28 12265635.53 12265635.77 0.0275 0.0022 Jupiter 28871-02-10 00:14 G 12266016.28 12266016.51 12266016.74 0.0530 0.0092 Jupiter 28872-03-16 13:26 G 12266416.94 12266417.06 12266417.19 0.0517 0.0431 Jupiter 28876-07-19 23:45 G 12268003.35 12268003.49 12268003.64 0.0492 0.0379 Jupiter 28877-08-20 09:07 G 12268399.65 12268399.88 12268400.11 0.0501 0.0058 Uranus 28879-07-16 20:53 G 12269095.20 12269095.37 12269095.54 0.0140 0.0104 Uranus 28880-07-20 12:29 G 12269464.78 12269465.02 12269465.27 0.0139 0.0032 Uranus 28881-07-25 03:21 G 12269834.41 12269834.64 12269834.89 0.0139 0.0039 Uranus 28882-07-29 17:31 G 12270204.08 12270204.23 12270204.39 0.0138 0.0109 Jupiter 28883-02-15 04:33 G 12270404.46 12270404.69 12270404.93 0.0528 0.0012 Jupiter 28884-03-21 10:05 G 12270804.87 12270804.92 12270804.99 0.0515 0.0494 Saturn 28885-07-21 19:41 G 12271292.10 12271292.32 12271292.54 0.0284 0.0120 Jupiter 28888-07-24 08:53 G 12272390.70 12272390.87 12272391.05 0.0493 0.0321 Jupiter 28889-08-24 23:31 G 12272787.25 12272787.48 12272787.70 0.0502 0.0127 28890-05-31 12:43 G 12273066.90 12273067.03 12273067.16 0.1605 0.1149 Mars Jupiter 28894-01-14 07:55 G 12274390.75 12274390.83 12274390.93 0.0535 0.0492 Jupiter 28895-02-20 02:24 G 12274792.37 12274792.60 12274792.83 0.0526 0.0067 Saturn 28899-01-19 13:41 G 12276221.87 12276222.07 12276222.27 0.0278 0.0159 Saturn 28900-02-01 07:55 G 12276599.71 12276599.83 12276599.95 0.0274 0.0239 Jupiter 28900-07-29 17:17 G 12276778.03 12276778.22 12276778.42 0.0494 0.0265 Jupiter 28901-08-30 13:26 G 12277174.85 12277175.06 12277175.28 0.0504 0.0193 Pluto 28902-01-16 00:00 G 12277313.27 12277313.50 12277313.75 0.0065 0.0025 28903-01-17 13:12 G 12277679.94 12277680.05 12277680.16 0.0065 0.0058 Pluto Jupiter 28906-01-20 12:14 G 12278778.87 12278779.01 12278779.16 0.0534 0.0416 Neptune 28906-11-19 08:38 G 12279081.77 12279081.86 12279082.01 0.0090 0.0080 Jupiter 28907-02-26 01:12 G 12279180.33 12279180.55 12279180.78 0.0524 0.0145 Neptune 28907-11-21 22:05 G 12279449.27 12279449.42 12279449.60 0.0090 0.0069 Neptune 28908-11-23 11:02 G 12279816.78 12279816.96 12279817.17 0.0090 0.0058 Neptune 28909-11-26 00:00 G 12280184.29 12280184.50 12280184.73 0.0090 0.0047 Neptune 28910-11-28 12:57 G 12280551.82 12280552.04 12280552.29 0.0090 0.0036 Neptune 28911-12-01 01:55 G 12280919.35 12280919.58 12280919.85 0.0090 0.0025 Jupiter 28912-08-03 01:55 G 12281165.37 12281165.58 12281165.79 0.0495 0.0205 Neptune 28912-12-02 15:21 G 12281286.88 12281287.14 12281287.39 0.0090 0.0013 Jupiter 28913-09-04 01:41 G 12281562.37 12281562.57 12281562.77 0.0505 0.0258 Neptune 28913-12-05 04:19 G 12281654.42 12281654.68 12281654.94 0.0090 0.0002 Neptune 28914-12-07 17:17 G 12282021.97 12282022.22 12282022.49 0.0090 0.0010 Saturn 28915-07-30 22:05 G 12282257.20 12282257.42 12282257.63 0.0286 0.0135 Neptune 28915-12-10 06:14 G 12282389.52 12282389.76 12282390.02 0.0090 0.0021 Neptune 28916-12-11 19:41 G 12282757.08 12282757.32 12282757.57 0.0090 0.0032 Neptune 28917-12-14 08:09 G 12283124.64 12283124.84 12283125.09 0.0090 0.0044 Jupiter 28918-01-25 15:07 G 12283166.96 12283167.13 12283167.31 0.0534 0.0341 Neptune 28918-12-16 21:21 G 12283492.21 12283492.39 12283492.62 0.0090 0.0055 Jupiter 28919-03-03 00:14 G 12283568.30 12283568.51 12283568.72 0.0523 0.0219 Neptune 28919-12-19 10:19 G 12283859.79 12283859.93 12283860.14 0.0090 0.0066 Neptune 28920-12-20 23:17 G 12284227.36 12284227.47 12284227.63 0.0090 0.0077 Neptune 28921-12-23 12:43 G 12284594.98 12284595.03 12284595.10 0.0090 0.0087 Uranus 28924-01-17 05:31 G 12285349.57 12285349.73 12285349.94 0.0139 0.0097 Jupiter 28924-08-07 11:02 G 12285552.74 12285552.96 12285553.18 0.0496 0.0142 Uranus 28925-01-20 22:19 G 12285719.18 12285719.43 12285719.68 0.0139 0.0025 Jupiter 28925-09-08 15:21 G 12285949.97 12285950.14 12285950.33 0.0507 0.0325 Uranus 28926-01-25 15:07 G 12286088.90 12286089.13 12286089.38 0.0140 0.0048 Uranus 28927-01-30 08:53 G 12286458.76 12286458.87 12286459.01 0.0140 0.0121 Saturn 28929-01-27 02:38 G 12287186.38 12287186.61 12287186.85 0.0275 0.0068 Jupiter 28930-01-30 20:53 G 12287555.17 12287555.37 12287555.58 0.0533 0.0261 Jupiter 28931-03-08 00:43 G 12287956.35 12287956.53 12287956.73 0.0521 0.0294

Jupiter 28935-07-12 18:14 G 12289544.24 12289544.26 12289544.30 0.0490 0.0487 Jupiter 28936-08-11 19:55 G 12289940.10 12289940.33 12289940.56 0.0497 0.0078 Jupiter 28937-09-13 06:14 G 12290337.61 12290337.76 12290337.91 0.0509 0.0391 Jupiter 28942-02-05 03:07 G 12291943.41 12291943.63 12291943.85 0.0531 0.0178 Jupiter 28943-03-12 23:31 G 12292344.32 12292344.48 12292344.65 0.0519 0.0364 Saturn 28944-07-23 23:17 G 12292843.24 12292843.47 12292843.71 0.0284 0.0070 Jupiter 28947-07-17 02:24 G 12293931.49 12293931.60 12293931.71 0.0491 0.0435 Jupiter 28948-08-16 07:55 G 12294327.59 12294327.83 12294328.06 0.0499 0.0011 Jupiter 28949-09-18 00:57 G 12294725.43 12294725.54 12294725.64 0.0511 0.0458 Jupiter 28954-02-10 03:50 G 12296331.43 12296331.66 12296331.89 0.0529 0.0100 Jupiter 28955-03-17 16:05 G 12296732.05 12296732.17 12296732.31 0.0517 0.0426 Saturn 28958-01-21 16:05 G 12297772.95 12297773.17 12297773.40 0.0278 0.0112 Jupiter 28959-07-21 08:53 G 12298318.73 12298318.87 12298319.02 0.0492 0.0384 Jupiter 28960-08-20 19:26 G 12298715.08 12298715.31 12298715.55 0.0501 0.0055 Uranus 28963-07-18 09:36 G 12299776.73 12299776.90 12299777.08 0.0140 0.0099 Uranus 28964-07-22 01:12 G 12300146.31 12300146.55 12300146.81 0.0139 0.0027 Uranus 28965-07-26 16:19 G 12300515.94 12300516.18 12300516.42 0.0139 0.0044 Jupiter 28966-02-15 04:19 G 12300719.45 12300719.68 12300719.92 0.0528 0.0020 Uranus 28966-07-31 06:00 G 12300885.63 12300885.75 12300885.91 0.0138 0.0114 Jupiter 28967-03-22 10:05 G 12301119.85 12301119.92 12301120.00 0.0515 0.0488 Jupiter 28971-07-25 16:33 G 12302706.02 12302706.19 12302706.36 0.0493 0.0329 Jupiter 28972-08-25 06:29 G 12303102.54 12303102.77 12303102.99 0.0502 0.0119 Saturn 28973-07-18 15:50 G 12303430.06 12303430.16 12303430.29 0.0282 0.0248 Saturn 28974-08-01 03:07 G 12303808.46 12303808.63 12303808.83 0.0286 0.0188 Jupiter 28977-01-14 07:26 G 12304705.73 12304705.81 12304705.89 0.0536 0.0500 Jupiter 28978-02-20 04:05 G 12305107.44 12305107.67 12305107.90 0.0527 0.0058 Jupiter 28983-07-30 00:43 G 12307093.34 12307093.53 12307093.73 0.0494 0.0268 Jupiter 28984-08-29 18:14 G 12307490.04 12307490.26 12307490.48 0.0503 0.0187 Saturn 28988-01-29 07:41 G 12308737.60 12308737.82 12308738.04 0.0275 0.0118 Neptune 28988-05-19 12:14 G 12308848.95 12308849.01 12308849.09 0.0088 0.0084 Jupiter 28989-01-19 13:12 G 12309093.92 12309094.05 12309094.20 0.0535 0.0425 Neptune 28989-05-21 22:19 G 12309216.31 12309216.43 12309216.59 0.0088 0.0074 Jupiter 28990-02-25 05:45 G 12309495.52 12309495.74 12309495.97 0.0525 0.0138 Neptune 28990-05-24 08:38 G 12309583.70 12309583.86 12309584.05 0.0088 0.0064 28990-07-18 02:09 G 12309638.36 12309638.59 12309638.85 0.0079 0.0025 Neptune 28991-05-26 18:43 G 12309951.10 12309951.28 12309951.51 0.0088 0.0054 Neptune 28992-05-28 05:31 G 12310318.51 12310318.73 12310318.96 0.0088 0.0043 Neptune 28993-05-30 15:50 G 12310685.93 12310686.16 12310686.41 0.0088 0.0033 Neptune 28994-06-02 02:24 G 12311053.36 12311053.60 12311053.85 0.0088 0.0022 Neptune 28995-06-04 12:43 G 12311420.78 12311421.03 12311421.29 0.0088 0.0011 Jupiter 28995-08-03 08:09 G 12311480.63 12311480.84 12311481.05 0.0495 0.0208 Neptune 28996-06-05 23:17 G 12311788.21 12311788.47 12311788.72 0.0088 0.0001 Jupiter 28996-09-03 06:29 G 12311877.57 12311877.77 12311877.97 0.0505 0.0254 Neptune 28997-06-08 09:21 G 12312155.64 12312155.89 12312156.15 0.0088 0.0010 Neptune 28998-06-10 19:26 G 12312523.07 12312523.31 12312523.57 0.0088 0.0021 Neptune 28999-06-13 05:45 G 12312890.50 12312890.74 12312890.98 0.0088 0.0031 Neptune 29000-06-15 15:36 G 12313257.95 12313258.15 12313258.40 0.0088 0.0042

## 30TH MILLENNIUM CE

## This is a list of transits of Earth in the 30th millennium CE.

FROM MAX- C START MAX END SUNRAD DEPTH S

TRANSIT

TIME

Jupiter 29001-01-25 20:24 G 12313482.18 12313482.35 12313482.53 0.0534 0.0346

Neptune 29001-06-18 02:09 G 12313625.40 12313625.59 12313625.81 0.0088 0.0052

Jupiter 29002-03-03 06:57 G 12313883.58 12313883.79 12313884.01 0.0523 0.0217 Neptune 29002-06-20 12:00 G 12313992.85 12313993.00 12313993.21 0.0088 0.0063 Neptune 29003-06-22 22:33 G 12314360.32 12314360.44 12314360.60 0.0088 0.0073 Saturn 29003-07-27 07:41 G 12314394.58 12314394.82 12314395.07 0.0284 0.0015 Neptune 29004-06-24 08:53 G 12314727.81 12314727.87 12314727.97 0.0088 0.0083 Jupiter 29007-08-08 18:14 G 12315868.04 12315868.26 12315868.48 0.0496 0.0145 Uranus 29008-01-18 17:45 G 12316031.05 12316031.24 12316031.43 0.0139 0.0092 Jupiter 29008-09-08 22:19 G 12316265.25 12316265.43 12316265.61 0.0507 0.0323 Uranus 29009-01-22 09:36 G 12316400.66 12316400.90 12316401.16 0.0139 0.0022 Uranus 29010-01-27 02:38 G 12316770.39 12316770.61 12316770.86 0.0140 0.0052 Uranus 29011-01-31 20:24 G 12317140.26 12317140.35 12317140.48 0.0140 0.0125 Jupiter 29013-01-31 00:14 G 12317870.31 12317870.51 12317870.71 0.0532 0.0270 Jupiter 29014-03-08 02:24 G 12318271.41 12318271.60 12318271.80 0.0521 0.0286 29016-05-29 17:31 G 12319085.10 12319085.23 12319085.36 0.1612 0.1176 Mars Saturn 29017-01-23 21:36 G 12319324.16 12319324.40 12319324.64 0.0277 0.0061 Jupiter 29019-08-13 03:21 G 12320255.41 12320255.64 12320255.87 0.0498 0.0084 Jupiter 29020-09-13 14:24 G 12320652.95 12320653.10 12320653.25 0.0509 0.0388 Jupiter 29025-02-05 02:09 G 12322258.38 12322258.59 12322258.81 0.0531 0.0189 Jupiter 29026-03-12 22:19 G 12322659.27 12322659.43 12322659.61 0.0519 0.0355 Jupiter 29030-07-17 07:55 G 12324246.73 12324246.83 12324246.92 0.0491 0.0443 Jupiter 29031-08-17 12:57 G 12324642.81 12324643.04 12324643.28 0.0499 0.0021 Saturn 29032-07-21 00:57 G 12324981.37 12324981.54 12324981.73 0.0282 0.0192 Jupiter 29032-09-18 04:05 G 12325040.57 12325040.67 12325040.79 0.0511 0.0449 Saturn 29033-08-03 12:43 G 12325359.92 12325360.03 12325360.16 0.0286 0.0246 Jupiter 29037-02-10 02:09 G 12326646.37 12326646.59 12326646.82 0.0530 0.0111 Jupiter 29038-03-17 17:45 G 12327047.11 12327047.24 12327047.38 0.0518 0.0420 Jupiter 29042-07-21 15:07 G 12328633.99 12328634.13 12328634.28 0.0492 0.0388 Jupiter 29043-08-21 23:31 G 12329030.25 12329030.48 12329030.71 0.0500 0.0048 Jupiter 29044-09-22 19:41 G 12329428.32 12329428.32 12329428.35 0.0512 0.0512 Saturn 29046-01-18 17:17 G 12329911.10 12329911.22 12329911.37 0.0279 0.0234

Saturn 29047-01-31 14:53 G 12330288.93 12330289.12 12330289.32 0.0275 0.0171 Uranus 29047-07-19 22:19 G 12330458.26 12330458.43 12330458.64 0.0140 0.0095 Uranus 29048-07-23 14:24 G 12330827.85 12330828.10 12330828.35 0.0139 0.0022 Jupiter 29049-02-15 05:02 G 12331034.47 12331034.71 12331034.94 0.0529 0.0029 Uranus 29049-07-28 05:31 G 12331197.49 12331197.73 12331197.97 0.0139 0.0049 Jupiter 29050-03-22 14:38 G 12331435.03 12331435.11 12331435.19 0.0516 0.0484 Uranus 29050-08-01 19:12 G 12331567.19 12331567.30 12331567.45 0.0138 0.0119 Jupiter 29054-07-25 21:36 G 12333021.24 12333021.40 12333021.58 0.0492 0.0333 Jupiter 29055-08-26 09:21 G 12333417.67 12333417.89 12333418.12 0.0501 0.0114 Jupiter 29060-01-15 09:36 G 12335020.83 12335020.90 12335020.98 0.0536 0.0507 Jupiter 29061-02-20 07:55 G 12335422.60 12335422.83 12335423.07 0.0527 0.0054 Saturn 29062-07-28 19:41 G 12335946.08 12335946.32 12335946.56 0.0284 0.0048 Jupiter 29066-07-30 05:45 G 12337408.55 12337408.74 12337408.94 0.0493 0.0273 Jupiter 29067-08-30 23:02 G 12337805.24 12337805.46 12337805.67 0.0503 0.0182 Neptune 29070-11-19 12:57 G 12338981.99 12338982.04 12338982.11 0.0090 0.0087 Neptune 29071-11-22 01:26 G 12339349.46 12339349.56 12339349.73 0.0090 0.0077 Jupiter 29072-01-20 15:50 G 12339409.04 12339409.16 12339409.30 0.0535 0.0434 Neptune 29072-11-23 15:07 G 12339716.96 12339717.13 12339717.31 0.0090 0.0065 Jupiter 29073-02-25 07:12 G 12339810.57 12339810.80 12339811.02 0.0525 0.0129 Neptune 29073-11-26 04:05 G 12340084.47 12340084.67 12340084.89 0.0090 0.0054 Neptune 29074-11-28 17:02 G 12340452.00 12340452.21 12340452.45 0.0090 0.0043 Neptune 29075-12-01 06:00 G 12340819.52 12340819.75 12340820.01 0.0090 0.0032 Saturn 29076-01-26 06:00 G 12340875.51 12340875.75 12340876.00 0.0277 0.0006 Neptune 29076-12-02 19:12 G 12341187.05 12341187.30 12341187.56 0.0090 0.0020 Neptune 29077-12-05 08:09 G 12341554.59 12341554.84 12341555.11 0.0090 0.0009 Jupiter 29078-08-03 13:12 G 12341795.84 12341796.05 12341796.26 0.0495 0.0215 Neptune 29078-12-07 21:21 G 12341922.13 12341922.39 12341922.65 0.0090 0.0003 Jupiter 29079-09-04 12:00 G 12342192.80 12342193.00 12342193.21 0.0505 0.0248 Neptune 29079-12-10 10:19 G 12342289.68 12342289.93 12342290.19 0.0090 0.0015 Neptune 29080-12-11 23:31 G 12342657.23 12342657.48 12342657.72 0.0090 0.0026

Neptune 29081-12-14 12:14 G 12343024.79 12343025.01 12343025.26 0.0090 0.0038 Neptune 29082-12-17 01:41 G 12343392.36 12343392.57 12343392.79 0.0090 0.0049 Neptune 29083-12-19 14:53 G 12343759.93 12343760.12 12343760.31 0.0090 0.0060 Jupiter 29084-01-25 19:26 G 12343797.14 12343797.31 12343797.49 0.0534 0.0357 Neptune 29084-12-21 03:21 G 12344127.51 12344127.64 12344127.82 0.0090 0.0072 Jupiter 29085-03-02 04:48 G 12344198.48 12344198.70 12344198.91 0.0523 0.0205 Neptune 29085-12-23 16:19 G 12344495.11 12344495.18 12344495.31 0.0090 0.0083 Jupiter 29090-08-07 21:36 G 12346183.18 12346183.40 12346183.62 0.0496 0.0154 Saturn 29091-07-23 13:41 G 12346532.86 12346533.07 12346533.29 0.0283 0.0131 Jupiter 29091-09-09 00:43 G 12346580.35 12346580.53 12346580.71 0.0507 0.0313 Uranus 29092-01-19 04:48 G 12346712.50 12346712.70 12346712.89 0.0139 0.0088 Uranus 29093-01-22 20:53 G 12347082.12 12347082.37 12347082.63 0.0139 0.0017 Uranus 29094-01-27 13:41 G 12347451.85 12347452.07 12347452.31 0.0140 0.0056 Uranus 29095-02-01 07:26 G 12347821.73 12347821.81 12347821.92 0.0140 0.0129 Mars 29095-06-01 18:43 G 12347942.10 12347942.28 12347942.46 0.1610 0.0369 Jupiter 29096-01-30 19:26 G 12348185.12 12348185.31 12348185.51 0.0533 0.0281 Jupiter 29097-03-07 00:57 G 12348586.35 12348586.54 12348586.74 0.0522 0.0277 Jupiter 29102-08-13 06:57 G 12350570.56 12350570.79 12350571.02 0.0497 0.0090 Jupiter 29103-09-14 14:24 G 12350967.95 12350968.10 12350968.26 0.0508 0.0378 Saturn 29105-01-21 03:50 G 12351462.48 12351462.66 12351462.86 0.0278 0.0176 Saturn 29106-02-03 00:43 G 12351840.40 12351840.53 12351840.68 0.0275 0.0227 Jupiter 29108-02-05 22:48 G 12352573.24 12352573.45 12352573.67 0.0532 0.0200 Jupiter 29109-03-12 23:02 G 12352974.30 12352974.46 12352974.64 0.0520 0.0348 Jupiter 29113-07-17 11:45 G 12354561.91 12354561.99 12354562.10 0.0491 0.0447 Jupiter 29114-08-17 15:21 G 12354957.90 12354958.14 12354958.37 0.0498 0.0026 Jupiter 29115-09-19 04:05 G 12355355.56 12355355.67 12355355.79 0.0510 0.0442 Jupiter 29120-02-11 03:36 G 12356961.43 12356961.65 12356961.88 0.0531 0.0118 Jupiter 29121-03-17 21:21 G 12357362.25 12357362.39 12357362.53 0.0518 0.0415 Saturn 29121-07-31 10:33 G 12357497.73 12357497.94 12357498.18 0.0285 0.0114 Jupiter 29125-07-21 18:57 G 12358949.16 12358949.29 12358949.44 0.0492 0.0393

Jupiter 29126-08-22 02:09 G 12359345.36 12359345.59 12359345.83 0.0500 0.0043 Jupiter 29127-09-23 22:05 G 12359743.39 12359743.42 12359743.46 0.0512 0.0506 Uranus 29131-07-21 07:41 G 12361139.64 12361139.82 12361140.02 0.0140 0.0092 Jupiter 29132-02-16 05:45 G 12361349.51 12361349.74 12361349.98 0.0529 0.0039 Uranus 29132-07-24 23:45 G 12361509.24 12361509.49 12361509.75 0.0139 0.0020 Jupiter 29133-03-22 14:53 G 12361750.03 12361750.12 12361750.21 0.0516 0.0475 Uranus 29133-07-29 14:53 G 12361878.89 12361879.12 12361879.36 0.0139 0.0052 Uranus 29134-08-03 04:48 G 12362248.61 12362248.70 12362248.84 0.0138 0.0123 Saturn 29135-01-28 16:33 G 12362426.95 12362427.19 12362427.44 0.0277 0.0052 Jupiter 29137-07-26 00:14 G 12363336.35 12363336.51 12363336.68 0.0493 0.0340 Jupiter 29138-08-26 12:57 G 12363732.81 12363733.04 12363733.27 0.0502 0.0107 Jupiter 29143-01-15 08:38 G 12365335.80 12365335.86 12365335.92 0.0536 0.0515 Jupiter 29144-02-21 05:45 G 12365737.51 12365737.74 12365737.97 0.0527 0.0041 Jupiter 29149-07-30 08:09 G 12367723.65 12367723.84 12367724.03 0.0493 0.0281 Pluto 29150-01-20 04:19 G 12367897.44 12367897.68 12367897.95 0.0065 0.0012 Saturn 29150-07-26 04:05 G 12368084.44 12368084.67 12368084.92 0.0283 0.0068 Jupiter 29150-08-31 00:14 G 12368120.29 12368120.51 12368120.73 0.0503 0.0172 Neptune 29153-05-23 06:29 G 12369116.70 12369116.77 12369116.89 0.0088 0.0081 Neptune 29154-05-25 16:33 G 12369484.07 12369484.19 12369484.37 0.0088 0.0071 Jupiter 29155-01-20 08:53 G 12369723.74 12369723.87 12369724.00 0.0535 0.0445 Neptune 29155-05-28 03:07 G 12369851.46 12369851.63 12369851.84 0.0088 0.0060 Jupiter 29156-02-26 02:24 G 12370125.37 12370125.60 12370125.83 0.0526 0.0118 Neptune 29156-05-29 13:12 G 12370218.87 12370219.05 12370219.29 0.0088 0.0050 Neptune 29157-05-31 23:45 G 12370586.28 12370586.49 12370586.74 0.0088 0.0039 Neptune 29158-06-03 10:19 G 12370953.69 12370953.93 12370954.18 0.0088 0.0028 Neptune 29159-06-05 20:53 G 12371321.12 12371321.37 12371321.62 0.0088 0.0017 Neptune 29160-06-07 07:12 G 12371688.54 12371688.80 12371689.06 0.0088 0.0006 Neptune 29161-06-09 17:31 G 12372055.98 12372056.23 12372056.49 0.0088 0.0005 Jupiter 29161-08-03 16:33 G 12372110.99 12372111.19 12372111.40 0.0494 0.0220 Neptune 29162-06-12 03:50 G 12372423.41 12372423.66 12372423.91 0.0088 0.0015 Jupiter 29162-09-04 12:29 G 12372507.82 12372508.02 12372508.23 0.0504 0.0240 Neptune 29163-06-14 13:55 G 12372790.84 12372791.08 12372791.34 0.0088 0.0026 Saturn 29164-01-23 16:19 G 12373013.96 12373014.18 12373014.41 0.0278 0.0117 Neptune 29164-06-16 00:00 G 12373158.29 12373158.50 12373158.75 0.0088 0.0037 Neptune 29165-06-18 10:05 G 12373525.73 12373525.92 12373526.16 0.0088 0.0048 Neptune 29166-06-20 20:38 G 12373893.18 12373893.36 12373893.57 0.0088 0.0058 Jupiter 29167-01-25 12:43 G 12374111.87 12374112.03 12374112.20 0.0535 0.0369 Neptune 29167-06-23 06:29 G 12374260.64 12374260.77 12374260.96 0.0088 0.0069 Jupiter 29168-03-02 02:09 G 12374513.38 12374513.59 12374513.81 0.0524 0.0196 Neptune 29168-06-24 17:02 G 12374628.12 12374628.21 12374628.34 0.0088 0.0079 Jupiter 29173-08-07 23:31 G 12376498.27 12376498.48 12376498.71 0.0495 0.0161 Jupiter 29174-09-09 00:00 G 12376895.32 12376895.50 12376895.69 0.0506 0.0305 Uranus 29176-01-20 16:33 G 12377394.00 12377394.19 12377394.41 0.0139 0.0084 Uranus 29177-01-24 09:07 G 12377763.62 12377763.88 12377764.13 0.0139 0.0012 Uranus 29178-01-29 01:41 G 12378133.35 12378133.57 12378133.81 0.0140 0.0061 Jupiter 29179-01-30 18:43 G 12378500.08 12378500.28 12378500.47 0.0534 0.0290 Uranus 29179-02-02 19:26 G 12378503.25 12378503.31 12378503.40 0.0140 0.0134 Saturn 29179-07-20 18:43 G 12378671.18 12378671.28 12378671.39 0.0282 0.0251 Jupiter 29180-03-07 02:24 G 12378901.40 12378901.60 12378901.80 0.0522 0.0271 Saturn 29180-08-02 03:36 G 12379049.47 12379049.65 12379049.85 0.0285 0.0182 Jupiter 29185-08-12 08:53 G 12380885.64 12380885.87 12380886.10 0.0496 0.0096 Jupiter 29186-09-13 15:07 G 12381282.97 12381283.13 12381283.29 0.0508 0.0372 Jupiter 29191-02-04 23:31 G 12382888.27 12382888.48 12382888.70 0.0532 0.0210 Jupiter 29192-03-11 23:31 G 12383289.31 12383289.48 12383289.66 0.0520 0.0338 Saturn 29194-01-30 05:02 G 12383978.49 12383978.71 12383978.94 0.0276 0.0111 Jupiter 29196-07-16 13:26 G 12384876.98 12384877.06 12384877.15 0.0491 0.0453 Jupiter 29197-08-16 17:02 G 12385272.98 12385273.21 12385273.44 0.0498 0.0033 Jupiter 29198-09-18 06:14 G 12385670.65 12385670.76 12385670.89 0.0510 0.0435 Jupiter 29203-02-10 01:41 G 12387276.35 12387276.57 12387276.80 0.0530 0.0128 Jupiter 29204-03-16 18:43 G 12387677.15 12387677.28 12387677.43 0.0518 0.0406

Jupiter 29208-07-20 20:38 G 12389264.22 12389264.36 12389264.49 0.0492 0.0400 Saturn 29209-07-27 19:55 G 12389636.08 12389636.33 12389636.57 0.0283 0.0003 Jupiter 29209-08-21 03:36 G 12389660.42 12389660.65 12389660.88 0.0499 0.0033 Jupiter 29210-09-22 21:07 G 12390058.34 12390058.38 12390058.44 0.0511 0.0497 Mars 29214-12-02 21:36 G 12391590.33 12391590.40 12391590.48 0.1928 0.1783 Jupiter 29215-02-14 23:17 G 12391664.23 12391664.47 12391664.70 0.0529 0.0051 Uranus 29215-07-21 18:00 G 12391821.06 12391821.25 12391821.45 0.0140 0.0089 Jupiter 29216-03-21 11:45 G 12392064.90 12392064.99 12392065.09 0.0517 0.0468 Uranus 29216-07-25 09:50 G 12392190.66 12392190.91 12392191.17 0.0139 0.0017 Uranus 29217-07-30 01:12 G 12392560.32 12392560.55 12392560.79 0.0139 0.0055 Uranus 29218-08-03 15:36 G 12392930.06 12392930.15 12392930.27 0.0138 0.0126 Jupiter 29220-07-25 04:33 G 12393651.53 12393651.69 12393651.86 0.0492 0.0343 Jupiter 29221-08-25 14:24 G 12394047.87 12394048.10 12394048.33 0.0501 0.0100 Saturn 29223-01-25 05:31 G 12394565.49 12394565.73 12394565.97 0.0278 0.0057 Jupiter 29226-01-13 23:45 G 12395650.45 12395650.49 12395650.53 0.0536 0.0526 Jupiter 29227-02-20 00:14 G 12396052.28 12396052.51 12396052.74 0.0528 0.0031 Jupiter 29232-07-29 10:48 G 12398038.76 12398038.95 12398039.14 0.0493 0.0286 Jupiter 29233-08-30 00:14 G 12398435.29 12398435.51 12398435.73 0.0502 0.0165 Neptune 29235-11-22 06:00 G 12399249.69 12399249.75 12399249.87 0.0090 0.0084 Neptune 29236-11-23 19:12 G 12399617.18 12399617.30 12399617.48 0.0090 0.0073 Neptune 29237-11-26 08:38 G 12399984.69 12399984.86 12399985.06 0.0090 0.0061 Jupiter 29238-01-19 06:00 G 12400038.63 12400038.75 12400038.88 0.0536 0.0454 Saturn 29238-07-22 10:33 G 12400222.76 12400222.94 12400223.12 0.0282 0.0187 Pluto 29238-07-22 17:02 G 12400223.05 12400223.21 12400223.42 0.0079 0.0054 \* Neptune 29238-11-28 21:36 G 12400352.21 12400352.40 12400352.64 0.0090 0.0050 Jupiter 29239-02-25 02:24 G 12400440.38 12400440.60 12400440.83 0.0526 0.0111 Saturn 29239-08-04 20:24 G 12400601.24 12400601.35 12400601.48 0.0286 0.0249 Neptune 29239-12-01 11:02 G 12400719.73 12400719.96 12400720.19 0.0090 0.0038 Neptune 29240-12-02 23:45 G 12401087.26 12401087.49 12401087.75 0.0090 0.0027 Neptune 29241-12-05 12:57 G 12401454.79 12401455.04 12401455.30 0.0090 0.0015

Neptune 29242-12-08 02:09 G 12401822.33 12401822.59 12401822.85 0.0090 0.0003 Neptune 29243-12-10 14:53 G 12402189.87 12402190.12 12402190.38 0.0090 0.0009 Jupiter 29244-08-02 18:29 G 12402426.07 12402426.27 12402426.48 0.0494 0.0226 Neptune 29244-12-12 03:50 G 12402557.41 12402557.66 12402557.92 0.0090 0.0020 Jupiter 29245-09-03 12:43 G 12402822.83 12402823.03 12402823.24 0.0504 0.0233 Neptune 29245-12-14 16:48 G 12402924.97 12402925.20 12402925.46 0.0090 0.0032 Neptune 29246-12-17 05:31 G 12403292.53 12403292.73 12403292.98 0.0090 0.0044 Neptune 29247-12-19 18:57 G 12403660.10 12403660.29 12403660.51 0.0090 0.0055 Neptune 29248-12-21 08:09 G 12404027.67 12404027.84 12404028.02 0.0090 0.0066 Neptune 29249-12-23 21:07 G 12404395.27 12404395.38 12404395.53 0.0090 0.0078 Jupiter 29250-01-24 13:26 G 12404426.90 12404427.06 12404427.23 0.0535 0.0377 Neptune 29250-12-26 10:05 G 12404762.91 12404762.92 12404762.98 0.0090 0.0089 Jupiter 29251-03-02 03:07 G 12404828.41 12404828.63 12404828.85 0.0524 0.0187 Saturn 29252-01-19 18:43 G 12405152.16 12405152.28 12405152.41 0.0279 0.0240 Saturn 29253-01-31 17:31 G 12405530.04 12405530.23 12405530.43 0.0276 0.0169 Jupiter 29256-08-07 00:57 G 12406813.33 12406813.54 12406813.77 0.0495 0.0168 Jupiter 29257-09-08 01:41 G 12407210.38 12407210.57 12407210.76 0.0506 0.0298 Uranus 29260-01-21 06:29 G 12408075.56 12408075.77 12408075.98 0.0139 0.0078 Uranus 29261-01-24 22:48 G 12408445.20 12408445.45 12408445.71 0.0139 0.0007 Uranus 29262-01-29 15:50 G 12408814.94 12408815.16 12408815.38 0.0140 0.0066 Jupiter 29262-01-29 17:31 G 12408815.04 12408815.23 12408815.43 0.0533 0.0299 \* Uranus 29263-02-03 09:21 G 12409184.87 12409184.89 12409184.91 0.0140 0.0139 Jupiter 29263-03-07 00:57 G 12409216.34 12409216.54 12409216.75 0.0522 0.0261 Saturn 29268-07-29 10:05 G 12411187.69 12411187.92 12411188.16 0.0284 0.0060 Jupiter 29268-08-11 10:33 G 12411200.71 12411200.94 12411201.17 0.0496 0.0103 Jupiter 29269-09-12 15:36 G 12411597.99 12411598.15 12411598.31 0.0507 0.0363 Jupiter 29274-02-03 15:50 G 12413202.95 12413203.16 12413203.37 0.0532 0.0221 Jupiter 29275-03-11 18:57 G 12413604.11 12413604.29 12413604.47 0.0521 0.0330 Jupiter 29279-07-16 18:43 G 12415192.20 12415192.28 12415192.37 0.0491 0.0456 Jupiter 29280-08-15 20:38 G 12415588.13 12415588.36 12415588.60 0.0497 0.0038

Jupiter 29281-09-17 06:14 G 12415985.64 12415985.76 12415985.89 0.0509 0.0427 Saturn 29282-01-26 18:57 G 12416117.04 12416117.29 12416117.53 0.0277 0.0006 Jupiter 29286-02-08 18:14 G 12417591.04 12417591.26 12417591.49 0.0531 0.0139 Jupiter 29287-03-16 15:50 G 12417992.02 12417992.16 12417992.31 0.0519 0.0399 Jupiter 29291-07-21 00:43 G 12419579.40 12419579.53 12419579.67 0.0491 0.0404 Jupiter 29292-08-20 05:02 G 12419975.48 12419975.71 12419975.95 0.0499 0.0028 Jupiter 29293-09-21 19:55 G 12420373.27 12420373.33 12420373.40 0.0511 0.0489 Saturn 29297-07-24 00:29 G 12421774.31 12421774.52 12421774.74 0.0283 0.0126 Jupiter 29298-02-13 22:05 G 12421979.19 12421979.42 12421979.65 0.0530 0.0058 Jupiter 29299-03-21 13:41 G 12422379.97 12422380.07 12422380.17 0.0517 0.0464 Uranus 29299-07-22 02:53 G 12422502.44 12422502.62 12422502.84 0.0140 0.0087 29300-06-02 00:00 G 12422817.32 12422817.50 12422817.69 0.1616 0.0450 Mars Uranus 29300-07-26 19:12 G 12422872.05 12422872.30 12422872.56 0.0139 0.0014 Uranus 29301-07-31 10:33 G 12423241.71 12423241.94 12423242.18 0.0139 0.0058 Uranus 29302-08-05 00:57 G 12423611.47 12423611.54 12423611.65 0.0138 0.0129 Jupiter 29303-07-26 07:26 G 12423966.65 12423966.81 12423966.98 0.0492 0.0348 Jupiter 29304-08-25 15:36 G 12424362.92 12424363.15 12424363.38 0.0500 0.0093 Jupiter 29309-01-14 00:14 G 12425965.50 12425965.51 12425965.54 0.0537 0.0535 Jupiter 29310-02-20 02:09 G 12426367.36 12426367.59 12426367.82 0.0528 0.0023 Saturn 29311-01-22 07:55 G 12426703.65 12426703.83 12426704.02 0.0279 0.0180 Saturn 29312-02-04 05:17 G 12427081.59 12427081.72 12427081.87 0.0275 0.0225 Jupiter 29315-07-30 12:57 G 12428353.85 12428354.04 12428354.22 0.0493 0.0291 Jupiter 29316-08-30 02:09 G 12428750.37 12428750.59 12428750.82 0.0502 0.0159 Neptune 29317-05-23 15:07 G 12429017.13 12429017.13 12429017.16 0.0088 0.0088 Neptune 29318-05-26 01:26 G 12429384.45 12429384.56 12429384.70 0.0088 0.0077 Neptune 29319-05-28 11:31 G 12429751.84 12429751.98 12429752.17 0.0088 0.0067 Neptune 29320-05-29 22:05 G 12430119.24 12430119.42 12430119.64 0.0088 0.0056 Jupiter 29321-01-19 06:29 G 12430353.66 12430353.77 12430353.89 0.0536 0.0460 Neptune 29321-06-01 08:24 G 12430486.65 12430486.85 12430487.09 0.0088 0.0045 Jupiter 29322-02-25 02:38 G 12430755.38 12430755.61 12430755.84 0.0526 0.0103

Neptune 29322-06-03 18:57 G 12430854.06 12430854.29 12430854.53 0.0088 0.0034 Neptune 29323-06-06 05:31 G 12431221.48 12431221.73 12431221.97 0.0088 0.0023 Neptune 29324-06-07 15:36 G 12431588.91 12431589.15 12431589.42 0.0088 0.0013 Neptune 29325-06-10 02:09 G 12431956.34 12431956.59 12431956.85 0.0088 0.0002 Neptune 29326-06-12 12:43 G 12432323.78 12432324.03 12432324.29 0.0088 0.0010 Neptune 29327-06-14 23:02 G 12432691.22 12432691.46 12432691.72 0.0088 0.0021 Saturn 29327-08-01 22:05 G 12432739.20 12432739.42 12432739.65 0.0284 0.0119 Jupiter 29327-08-03 21:36 G 12432741.19 12432741.40 12432741.61 0.0494 0.0231 Neptune 29328-06-16 09:07 G 12433058.66 12433058.88 12433059.14 0.0088 0.0032 Jupiter 29328-09-03 15:07 G 12433137.92 12433138.13 12433138.34 0.0503 0.0226 Neptune 29329-06-18 19:26 G 12433426.11 12433426.31 12433426.56 0.0088 0.0043 Neptune 29330-06-21 05:31 G 12433793.55 12433793.73 12433793.96 0.0088 0.0054 Neptune 29331-06-23 16:19 G 12434161.01 12434161.18 12434161.36 0.0088 0.0064 Neptune 29332-06-25 02:24 G 12434528.48 12434528.60 12434528.75 0.0088 0.0075 Jupiter 29333-01-24 05:45 G 12434741.58 12434741.74 12434741.90 0.0535 0.0387 Neptune 29333-06-27 12:14 G 12434895.98 12434896.01 12434896.10 0.0088 0.0086 Jupiter 29334-03-01 21:50 G 12435143.19 12435143.41 12435143.63 0.0525 0.0178 Jupiter 29339-08-08 06:57 G 12437128.57 12437128.79 12437129.01 0.0495 0.0169 Jupiter 29340-09-08 04:33 G 12437525.51 12437525.69 12437525.89 0.0505 0.0294 Saturn 29341-01-29 06:14 G 12437668.52 12437668.76 12437669.00 0.0277 0.0060 Uranus 29344-01-22 19:41 G 12438757.11 12438757.32 12438757.55 0.0139 0.0073 Uranus 29345-01-26 12:14 G 12439126.76 12439127.01 12439127.27 0.0139 0.0003 Jupiter 29345-01-29 09:21 G 12439129.70 12439129.89 12439130.08 0.0534 0.0310 Uranus 29346-01-31 05:02 G 12439496.50 12439496.71 12439496.94 0.0140 0.0072 Jupiter 29346-03-06 20:38 G 12439531.16 12439531.36 12439531.56 0.0524 0.0254 Jupiter 29351-08-12 14:38 G 12441515.88 12441516.11 12441516.34 0.0496 0.0108 Jupiter 29352-09-12 16:19 G 12441913.02 12441913.18 12441913.35 0.0506 0.0357 Saturn 29356-07-26 11:17 G 12443325.73 12443325.97 12443326.21 0.0283 0.0069 Jupiter 29357-02-03 14:38 G 12443517.90 12443518.11 12443518.32 0.0533 0.0230 Jupiter 29358-03-11 20:38 G 12443919.18 12443919.36 12443919.55 0.0522 0.0326

Jupiter 29362-07-16 23:17 G 12445507.40 12445507.47 12445507.55 0.0490 0.0459 Jupiter 29363-08-16 23:31 G 12445903.25 12445903.48 12445903.71 0.0497 0.0042 Jupiter 29364-09-17 07:12 G 12446300.68 12446300.80 12446300.93 0.0508 0.0421 Jupiter 29369-02-08 21:07 G 12447906.15 12447906.38 12447906.60 0.0532 0.0147 Saturn 29370-01-23 19:41 G 12448255.11 12448255.32 12448255.55 0.0278 0.0123 Jupiter 29370-03-16 19:55 G 12448307.18 12448307.33 12448307.48 0.0519 0.0394 Jupiter 29374-07-21 04:05 G 12449894.55 12449894.67 12449894.80 0.0491 0.0407 Jupiter 29375-08-21 08:24 G 12450290.62 12450290.85 12450291.08 0.0498 0.0022 Jupiter 29376-09-21 22:48 G 12450688.38 12450688.45 12450688.52 0.0511 0.0484 29379-06-05 01:41 G 12451674.44 12451674.57 12451674.70 0.1613 0.1123 Mars Jupiter 29381-02-14 00:29 G 12452294.29 12452294.52 12452294.75 0.0530 0.0064 Jupiter 29382-03-21 15:50 G 12452695.07 12452695.16 12452695.28 0.0517 0.0460 Uranus 29383-07-23 14:53 G 12453183.94 12453184.12 12453184.34 0.0140 0.0083 Uranus 29384-07-27 07:12 G 12453553.55 12453553.80 12453554.06 0.0139 0.0010 Saturn 29385-07-20 21:36 G 12453912.32 12453912.40 12453912.51 0.0281 0.0260 Uranus 29385-07-31 22:33 G 12453923.22 12453923.44 12453923.68 0.0139 0.0062 Jupiter 29386-07-25 12:00 G 12454281.85 12454282.00 12454282.17 0.0492 0.0351 Saturn 29386-08-03 06:29 G 12454290.58 12454290.77 12454290.97 0.0285 0.0173 Uranus 29386-08-05 13:12 G 12454292.99 12454293.05 12454293.13 0.0138 0.0133 Jupiter 29387-08-25 20:09 G 12454678.11 12454678.34 12454678.57 0.0500 0.0089 Jupiter 29393-02-18 21:07 G 12456682.14 12456682.38 12456682.61 0.0529 0.0017 Pluto 29397-01-21 23:17 G 12458115.25 12458115.47 12458115.73 0.0065 0.0026 Pluto 29398-01-23 11:45 G 12458481.91 12458481.99 12458482.14 0.0065 0.0058 Jupiter 29398-07-29 21:07 G 12458669.20 12458669.38 12458669.57 0.0493 0.0292 Jupiter 29399-08-30 08:38 G 12459065.64 12459065.86 12459066.09 0.0501 0.0157 Saturn 29400-01-31 15:21 G 12459219.92 12459220.14 12459220.37 0.0276 0.0114 Neptune 29400-11-25 01:12 G 12459517.46 12459517.55 12459517.69 0.0090 0.0080 Neptune 29401-11-27 14:53 G 12459884.96 12459885.12 12459885.29 0.0090 0.0068 Neptune 29402-11-30 03:36 G 12460252.47 12460252.65 12460252.87 0.0090 0.0057 Neptune 29403-12-02 16:48 G 12460619.99 12460620.20 12460620.44 0.0090 0.0045 Jupiter 29404-01-19 22:48 G 12460668.35 12460668.45 12460668.57 0.0536 0.0470 Neptune 29404-12-04 06:14 G 12460987.52 12460987.76 12460988.00 0.0090 0.0033 Jupiter 29405-02-24 21:50 G 12461070.18 12461070.41 12461070.64 0.0527 0.0095 Neptune 29405-12-06 18:57 G 12461355.05 12461355.29 12461355.55 0.0090 0.0022 Neptune 29406-12-09 07:55 G 12461722.58 12461722.83 12461723.10 0.0090 0.0010 Neptune 29407-12-11 21:07 G 12462090.12 12462090.38 12462090.64 0.0090 0.0002 Neptune 29408-12-13 09:50 G 12462457.67 12462457.91 12462458.18 0.0090 0.0015 Neptune 29409-12-15 23:02 G 12462825.21 12462825.46 12462825.71 0.0090 0.0026 Jupiter 29410-08-04 04:19 G 12463056.47 12463056.68 12463056.88 0.0493 0.0235 Neptune 29410-12-18 11:45 G 12463192.77 12463192.99 12463193.24 0.0090 0.0038 Jupiter 29411-09-04 18:57 G 12463453.09 12463453.29 12463453.51 0.0503 0.0222 Neptune 29411-12-21 00:29 G 12463560.32 12463560.52 12463560.75 0.0090 0.0050 Neptune 29412-12-22 13:55 G 12463927.90 12463928.08 12463928.27 0.0090 0.0061 Neptune 29413-12-25 02:38 G 12464295.48 12464295.61 12464295.78 0.0090 0.0073 Neptune 29414-12-27 15:50 G 12464663.08 12464663.16 12464663.26 0.0090 0.0084 Saturn 29415-07-29 18:29 G 12464877.03 12464877.27 12464877.52 0.0283 0.0017 Jupiter 29416-01-25 05:02 G 12465056.56 12465056.71 12465056.87 0.0536 0.0396 Jupiter 29417-03-02 00:00 G 12465458.28 12465458.50 12465458.72 0.0526 0.0173 Jupiter 29422-08-08 12:14 G 12467443.79 12467444.01 12467444.23 0.0494 0.0173 Jupiter 29423-09-09 07:41 G 12467840.63 12467840.82 12467841.01 0.0504 0.0288 Uranus 29428-01-24 08:53 G 12469438.65 12469438.87 12469439.09 0.0139 0.0068 Jupiter 29428-01-30 13:12 G 12469444.86 12469445.05 12469445.24 0.0535 0.0316 Saturn 29429-01-26 04:48 G 12469806.46 12469806.70 12469806.94 0.0278 0.0069 Uranus 29429-01-28 01:26 G 12469808.30 12469808.56 12469808.81 0.0139 0.0004 Jupiter 29429-03-07 02:09 G 12469846.39 12469846.59 12469846.80 0.0524 0.0250 Uranus 29430-02-01 18:00 G 12470178.05 12470178.25 12470178.48 0.0140 0.0077 Jupiter 29434-08-12 19:41 G 12471831.09 12471831.32 12471831.54 0.0495 0.0111 Jupiter 29435-09-13 21:07 G 12472228.22 12472228.38 12472228.55 0.0506 0.0354 Jupiter 29440-02-04 18:57 G 12473833.08 12473833.29 12473833.50 0.0533 0.0233 Jupiter 29441-03-12 01:26 G 12474234.38 12474234.56 12474234.75 0.0522 0.0323

Saturn 29444-07-23 00:57 G 12475463.40 12475463.54 12475463.72 0.0281 0.0214 Jupiter 29445-07-17 05:45 G 12475822.67 12475822.74 12475822.83 0.0490 0.0461 Saturn 29445-08-05 10:48 G 12475841.80 12475841.95 12475842.10 0.0285 0.0222 Jupiter 29446-08-17 06:29 G 12476218.54 12476218.77 12476219.00 0.0497 0.0044 Jupiter 29447-09-18 13:26 G 12476615.93 12476616.06 12476616.19 0.0508 0.0419 Jupiter 29452-02-09 17:31 G 12478221.01 12478221.23 12478221.46 0.0532 0.0155 Jupiter 29453-03-16 18:14 G 12478622.11 12478622.26 12478622.42 0.0520 0.0390 Jupiter 29457-07-21 14:24 G 12480209.98 12480210.10 12480210.23 0.0491 0.0408 Saturn 29458-01-20 23:17 G 12480393.35 12480393.47 12480393.58 0.0280 0.0246 Jupiter 29458-08-21 18:00 G 12480606.02 12480606.25 12480606.48 0.0498 0.0022 Saturn 29459-02-02 22:19 G 12480771.24 12480771.43 12480771.63 0.0276 0.0164 Jupiter 29459-09-23 05:45 G 12481003.67 12481003.74 12481003.81 0.0510 0.0483 Jupiter 29464-02-14 19:55 G 12482609.10 12482609.33 12482609.56 0.0531 0.0073 Jupiter 29465-03-21 15:07 G 12483010.03 12483010.13 12483010.25 0.0519 0.0457 Uranus 29467-07-25 01:55 G 12483865.39 12483865.58 12483865.81 0.0140 0.0079 Uranus 29468-07-28 18:14 G 12484235.01 12484235.26 12484235.52 0.0139 0.0006 Jupiter 29469-07-25 21:21 G 12484597.23 12484597.39 12484597.55 0.0491 0.0353 Uranus 29469-08-02 09:36 G 12484604.68 12484604.90 12484605.13 0.0139 0.0066 Uranus 29470-08-07 00:00 G 12484974.48 12484974.50 12484974.56 0.0138 0.0136 Jupiter 29470-08-26 03:21 G 12484993.41 12484993.64 12484993.87 0.0499 0.0086 Saturn 29474-07-30 21:21 G 12486428.15 12486428.39 12486428.64 0.0284 0.0030 Jupiter 29476-02-19 23:45 G 12486997.26 12486997.49 12486997.72 0.0530 0.0008 Jupiter 29481-07-30 04:33 G 12488984.51 12488984.69 12488984.88 0.0492 0.0295 Neptune 29482-05-26 10:33 G 12489284.89 12489284.94 12489285.04 0.0088 0.0084 Jupiter 29482-08-30 14:24 G 12489380.88 12489381.10 12489381.32 0.0501 0.0153 Neptune 29483-05-28 21:07 G 12489652.26 12489652.38 12489652.54 0.0088 0.0073 Neptune 29484-05-30 07:26 G 12490019.65 12490019.81 12490020.01 0.0088 0.0062 Neptune 29485-06-01 18:00 G 12490387.05 12490387.25 12490387.46 0.0088 0.0051 Pluto 29485-07-25 07:41 G 12490440.57 12490440.82 12490441.08 0.0079 0.0012 Neptune 29486-06-04 04:19 G 12490754.45 12490754.68 12490754.91 0.0088 0.0040 Jupiter 29487-01-19 03:36 G 12490983.55 12490983.65 12490983.76 0.0537 0.0476 Neptune 29487-06-06 14:38 G 12491121.87 12491122.11 12491122.36 0.0088 0.0029 Saturn 29488-01-28 11:02 G 12491357.71 12491357.96 12491358.21 0.0277 0.0018 Jupiter 29488-02-25 04:33 G 12491385.46 12491385.69 12491385.92 0.0528 0.0092 Neptune 29488-06-08 00:57 G 12491489.29 12491489.54 12491489.80 0.0088 0.0018 Neptune 29489-06-10 11:17 G 12491856.72 12491856.97 12491857.23 0.0088 0.0007 Neptune 29490-06-12 21:50 G 12492224.15 12492224.41 12492224.67 0.0088 0.0004 Neptune 29491-06-15 07:55 G 12492591.59 12492591.83 12492592.10 0.0088 0.0016 Neptune 29492-06-16 18:29 G 12492959.04 12492959.27 12492959.53 0.0088 0.0027 Neptune 29493-06-19 04:33 G 12493326.48 12493326.69 12493326.94 0.0088 0.0038 Jupiter 29493-08-03 11:17 G 12493371.77 12493371.97 12493372.18 0.0493 0.0235 Neptune 29494-06-21 15:07 G 12493693.93 12493694.13 12493694.36 0.0088 0.0049 Jupiter 29494-09-04 01:41 G 12493768.36 12493768.57 12493768.78 0.0502 0.0220 Neptune 29495-06-24 01:26 G 12494061.39 12494061.56 12494061.77 0.0088 0.0060 Neptune 29496-06-25 11:31 G 12494428.86 12494428.98 12494429.16 0.0088 0.0071 Neptune 29497-06-27 22:19 G 12494796.34 12494796.43 12494796.53 0.0088 0.0081 Mars 29498-12-03 23:02 G 12495320.26 12495320.46 12495320.66 0.1921 0.0461 Jupiter 29499-01-24 11:31 G 12495371.83 12495371.98 12495372.14 0.0536 0.0398 Jupiter 29500-03-02 06:43 G 12495773.57 12495773.78 12495774.01 0.0526 0.0172 Saturn 29503-07-26 01:41 G 12497014.39 12497014.57 12497014.77 0.0282 0.0171 Saturn 29504-08-07 12:00 G 12497392.91 12497393.00 12497393.09 0.0285 0.0266 29505-06-03 04:48 G 12497692.59 12497692.70 12497692.81 0.1622 0.1306 Mars Jupiter 29505-08-08 21:07 G 12497759.16 12497759.38 12497759.60 0.0494 0.0173 Jupiter 29506-09-09 16:33 G 12498156.00 12498156.19 12498156.39 0.0504 0.0289 Uranus 29511-01-21 03:50 G 12499750.63 12499750.66 12499750.73 0.0138 0.0135 Jupiter 29511-01-30 12:00 G 12499759.82 12499760.00 12499760.19 0.0534 0.0323 Uranus 29512-01-25 19:26 G 12500120.10 12500120.31 12500120.55 0.0139 0.0065 Jupiter 29512-03-07 01:41 G 12500161.37 12500161.57 12500161.78 0.0524 0.0245 Uranus 29513-01-29 12:14 G 12500489.76 12500490.01 12500490.27 0.0139 0.0008 Uranus 29514-02-03 04:48 G 12500859.50 12500859.70 12500859.92 0.0140 0.0081

Saturn 29517-01-23 03:21 G 12501944.47 12501944.64 12501944.82 0.0280 0.0198 Jupiter 29517-08-13 07:41 G 12502146.59 12502146.82 12502147.05 0.0495 0.0109 Saturn 29518-02-05 01:55 G 12502322.43 12502322.58 12502322.75 0.0276 0.0211 Jupiter 29518-09-14 07:26 G 12502543.65 12502543.81 12502543.98 0.0506 0.0355 Jupiter 29523-02-04 15:50 G 12504147.96 12504148.16 12504148.38 0.0533 0.0242 Jupiter 29524-03-12 00:29 G 12504549.34 12504549.52 12504549.71 0.0523 0.0318 Jupiter 29528-07-17 17:02 G 12506138.14 12506138.21 12506138.29 0.0490 0.0463 Jupiter 29529-08-17 16:19 G 12506533.95 12506534.18 12506534.41 0.0496 0.0046 Jupiter 29530-09-18 20:24 G 12506931.23 12506931.35 12506931.49 0.0507 0.0416 Saturn 29533-08-01 20:53 G 12507979.13 12507979.37 12507979.61 0.0284 0.0072 Jupiter 29535-02-09 20:38 G 12508536.14 12508536.36 12508536.59 0.0533 0.0161 Jupiter 29536-03-17 00:43 G 12508937.38 12508937.53 12508937.69 0.0521 0.0388 Jupiter 29540-07-22 00:00 G 12510525.39 12510525.50 12510525.64 0.0491 0.0410 Jupiter 29541-08-22 01:55 G 12510921.35 12510921.58 12510921.81 0.0497 0.0020 Jupiter 29542-09-23 11:31 G 12511318.91 12511318.98 12511319.06 0.0509 0.0480 Saturn 29547-01-30 14:38 G 12512908.86 12512909.11 12512909.35 0.0277 0.0028 Jupiter 29547-02-15 03:50 G 12512924.43 12512924.66 12512924.89 0.0531 0.0076 Jupiter 29548-03-22 00:43 G 12513325.43 12513325.53 12513325.65 0.0519 0.0456 Uranus 29551-07-26 14:09 G 12514546.88 12514547.09 12514547.31 0.0140 0.0075 Jupiter 29552-07-26 06:14 G 12514912.60 12514912.76 12514912.92 0.0491 0.0353 Uranus 29552-07-30 06:14 G 12514916.50 12514916.76 12514917.01 0.0139 0.0002 Uranus 29553-08-03 21:21 G 12515286.19 12515286.39 12515286.62 0.0139 0.0070 Jupiter 29553-08-26 11:45 G 12515308.76 12515308.99 12515309.22 0.0499 0.0086 Jupiter 29559-02-20 08:38 G 12517312.62 12517312.86 12517313.09 0.0530 0.0012 Saturn 29562-07-26 23:02 G 12518565.25 12518565.46 12518565.69 0.0282 0.0132 Jupiter 29564-07-30 15:21 G 12519299.96 12519300.14 12519300.33 0.0492 0.0294 Neptune 29564-11-25 07:55 G 12519417.79 12519417.83 12519417.92 0.0090 0.0087 Jupiter 29565-08-31 01:12 G 12519696.32 12519696.55 12519696.77 0.0501 0.0155 Neptune 29565-11-27 20:38 G 12519785.26 12519785.36 12519785.53 0.0090 0.0076 Neptune 29566-11-30 09:50 G 12520152.75 12520152.91 12520153.12 0.0090 0.0064

Neptune 29567-12-02 23:17 G 12520520.27 12520520.47 12520520.69 0.0090 0.0052 Neptune 29568-12-04 12:29 G 12520887.80 12520888.02 12520888.26 0.0090 0.0040 Neptune 29569-12-07 01:41 G 12521255.33 12521255.57 12521255.82 0.0090 0.0028 Jupiter 29570-01-19 05:31 G 12521298.64 12521298.73 12521298.84 0.0536 0.0482 Neptune 29570-12-09 14:53 G 12521622.87 12521623.12 12521623.38 0.0090 0.0016 Jupiter 29571-02-25 05:45 G 12521700.51 12521700.74 12521700.97 0.0528 0.0086 Neptune 29571-12-12 04:05 G 12521990.41 12521990.67 12521990.93 0.0090 0.0004 Neptune 29572-12-13 16:48 G 12522357.95 12522358.20 12522358.47 0.0090 0.0009 Neptune 29573-12-16 05:45 G 12522725.50 12522725.74 12522726.01 0.0090 0.0021 Neptune 29574-12-18 18:29 G 12523093.05 12523093.27 12523093.53 0.0090 0.0033 Neptune 29575-12-21 07:55 G 12523460.61 12523460.83 12523461.06 0.0090 0.0044 Saturn 29576-01-25 05:17 G 12523495.52 12523495.72 12523495.93 0.0279 0.0153 Jupiter 29576-08-04 00:43 G 12523687.33 12523687.53 12523687.74 0.0493 0.0235 Neptune 29576-12-22 20:53 G 12523828.17 12523828.37 12523828.57 0.0090 0.0056 Saturn 29577-02-06 03:36 G 12523873.57 12523873.65 12523873.75 0.0276 0.0255 Jupiter 29577-09-04 14:53 G 12524083.92 12524084.12 12524084.33 0.0502 0.0222 Neptune 29577-12-25 09:21 G 12524195.74 12524195.89 12524196.08 0.0090 0.0068 Neptune 29578-12-27 22:19 G 12524563.34 12524563.43 12524563.57 0.0090 0.0080 Jupiter 29582-01-24 10:33 G 12525686.80 12525686.94 12525687.10 0.0535 0.0406 Jupiter 29583-03-02 06:29 G 12526088.55 12526088.77 12526088.99 0.0526 0.0166 Mars 29584-06-05 06:00 G 12526549.56 12526549.75 12526549.94 0.1619 0.0279 Jupiter 29588-08-08 08:53 G 12528074.66 12528074.87 12528075.09 0.0494 0.0176 Jupiter 29589-09-09 02:09 G 12528471.41 12528471.59 12528471.79 0.0503 0.0287 Saturn 29592-08-02 18:14 G 12529530.05 12529530.26 12529530.49 0.0284 0.0113 Jupiter 29594-01-29 16:05 G 12530074.99 12530075.17 12530075.35 0.0535 0.0329 Uranus 29595-01-21 13:55 G 12530432.01 12530432.08 12530432.14 0.0138 0.0133 Jupiter 29595-03-07 08:09 G 12530476.64 12530476.84 12530477.05 0.0525 0.0242 Uranus 29596-01-26 05:02 G 12530801.49 12530801.71 12530801.95 0.0139 0.0062 Uranus 29597-01-29 21:21 G 12531171.14 12531171.39 12531171.65 0.0139 0.0010 Uranus 29598-02-03 14:09 G 12531540.89 12531541.09 12531541.29 0.0140 0.0083

Jupiter 29600-08-12 17:31 G 12532462.01 12532462.23 12532462.46 0.0495 0.0111 Jupiter 29601-09-13 15:36 G 12532858.99 12532859.15 12532859.32 0.0505 0.0352 Saturn 29606-01-31 16:05 G 12534459.93 12534460.17 12534460.41 0.0277 0.0073 Jupiter 29606-02-04 00:00 G 12534463.30 12534463.50 12534463.71 0.0534 0.0246 Jupiter 29607-03-12 11:02 G 12534864.78 12534864.96 12534865.15 0.0523 0.0318 Jupiter 29611-07-18 03:36 G 12536453.58 12536453.65 12536453.73 0.0490 0.0464 Jupiter 29612-08-17 02:09 G 12536849.36 12536849.59 12536849.82 0.0496 0.0046 Jupiter 29613-09-18 05:31 G 12537246.61 12537246.73 12537246.87 0.0507 0.0418 Jupiter 29618-02-09 06:57 G 12538851.57 12538851.79 12538852.01 0.0533 0.0160 Jupiter 29619-03-17 11:02 G 12539252.82 12539252.96 12539253.13 0.0521 0.0391 Saturn 29621-07-27 18:57 G 12540116.07 12540116.29 12540116.53 0.0282 0.0094 Jupiter 29623-07-22 12:00 G 12540840.88 12540841.00 12540841.13 0.0491 0.0409 Jupiter 29624-08-21 14:09 G 12541236.85 12541237.09 12541237.32 0.0497 0.0024 Jupiter 29625-09-22 23:31 G 12541634.42 12541634.48 12541634.56 0.0509 0.0483 Jupiter 29630-02-14 06:43 G 12543239.55 12543239.78 12543240.01 0.0531 0.0082 Jupiter 29631-03-22 04:05 G 12543640.56 12543640.67 12543640.79 0.0519 0.0454 Saturn 29635-01-26 05:02 G 12545046.48 12545046.71 12545046.93 0.0279 0.0110 Jupiter 29635-07-26 20:09 G 12545228.19 12545228.34 12545228.51 0.0492 0.0355 Uranus 29635-07-26 23:02 G 12545228.26 12545228.46 12545228.69 0.0140 0.0073 \* Uranus 29636-07-30 15:21 G 12545597.89 12545598.14 12545598.40 0.0139 0.0003 Jupiter 29636-08-26 02:24 G 12545624.37 12545624.60 12545624.83 0.0499 0.0087 Uranus 29637-08-04 06:57 G 12545967.57 12545967.79 12545968.01 0.0139 0.0072 Jupiter 29642-02-19 09:07 G 12547627.64 12547627.88 12547628.11 0.0530 0.0010 Jupiter 29643-03-27 00:43 G 12548028.52 12548028.53 12548028.54 0.0518 0.0516 Pluto 29644-01-25 20:38 G 12548333.26 12548333.36 12548333.52 0.0065 0.0056 Pluto 29645-01-26 09:50 G 12548699.68 12548699.91 12548700.16 0.0065 0.0027 Neptune 29647-05-29 06:43 G 12549552.70 12549552.78 12549552.91 0.0088 0.0080 Jupiter 29647-07-31 04:05 G 12549615.49 12549615.67 12549615.86 0.0492 0.0297 Neptune 29648-05-30 17:17 G 12549920.08 12549920.22 12549920.40 0.0088 0.0069 Jupiter 29648-08-30 12:43 G 12550011.81 12550012.03 12550012.25 0.0500 0.0152

Neptune 29649-06-02 03:36 G 12550287.48 12550287.65 12550287.87 0.0088 0.0058 Neptune 29650-06-04 14:09 G 12550654.89 12550655.09 12550655.33 0.0088 0.0047 Saturn 29650-07-22 08:24 G 12550702.82 12550702.85 12550702.90 0.0280 0.0275 Neptune 29651-06-07 00:57 G 12551022.31 12551022.54 12551022.78 0.0088 0.0035 Saturn 29651-08-04 14:24 G 12551080.90 12551081.10 12551081.31 0.0284 0.0151 Neptune 29652-06-08 11:02 G 12551389.72 12551389.96 12551390.22 0.0088 0.0024 Jupiter 29653-01-18 09:50 G 12551613.83 12551613.91 12551614.01 0.0536 0.0488 Neptune 29653-06-10 21:21 G 12551757.15 12551757.39 12551757.66 0.0088 0.0013 Jupiter 29654-02-24 12:00 G 12552015.77 12552016.00 12552016.23 0.0529 0.0082 Neptune 29654-06-13 07:55 G 12552124.57 12552124.83 12552125.09 0.0088 0.0001 Neptune 29655-06-15 18:29 G 12552492.01 12552492.27 12552492.53 0.0088 0.0010 Neptune 29656-06-17 04:19 G 12552859.45 12552859.68 12552859.95 0.0088 0.0022 Neptune 29657-06-19 14:53 G 12553226.90 12553227.12 12553227.37 0.0088 0.0033 Neptune 29658-06-22 01:26 G 12553594.35 12553594.56 12553594.79 0.0088 0.0044 Neptune 29659-06-24 12:00 G 12553961.81 12553962.00 12553962.21 0.0088 0.0055 Jupiter 29659-08-04 12:14 G 12554002.80 12554003.01 12554003.21 0.0493 0.0237 Neptune 29660-06-25 22:19 G 12554329.27 12554329.43 12554329.61 0.0088 0.0066 Jupiter 29660-09-04 00:14 G 12554399.30 12554399.51 12554399.72 0.0501 0.0220 Neptune 29661-06-28 08:53 G 12554696.75 12554696.87 12554696.99 0.0088 0.0077 Jupiter 29665-01-23 18:14 G 12556002.12 12556002.26 12556002.42 0.0536 0.0411 Saturn 29665-02-01 16:05 G 12556010.95 12556011.17 12556011.39 0.0277 0.0116 Jupiter 29666-03-01 16:33 G 12556403.97 12556404.19 12556404.41 0.0527 0.0165 Jupiter 29671-08-08 19:41 G 12558390.11 12558390.32 12558390.54 0.0494 0.0175 Jupiter 29672-09-08 12:14 G 12558786.83 12558787.01 12558787.21 0.0503 0.0287 Jupiter 29677-01-29 02:38 G 12560390.43 12560390.61 12560390.80 0.0535 0.0330 Jupiter 29678-03-06 19:26 G 12560792.11 12560792.31 12560792.52 0.0525 0.0243 Uranus 29679-01-21 22:19 G 12561113.37 12561113.43 12561113.53 0.0138 0.0131 Uranus 29680-01-26 13:41 G 12561482.85 12561483.07 12561483.31 0.0139 0.0060 Saturn 29680-07-28 14:53 G 12561666.89 12561667.12 12561667.37 0.0282 0.0056 Uranus 29681-01-30 06:00 G 12561852.50 12561852.75 12561853.01 0.0139 0.0012

Uranus 29682-02-03 22:05 G 12562222.23 12562222.42 12562222.64 0.0140 0.0086 Jupiter 29683-08-13 06:14 G 12562777.53 12562777.76 12562777.99 0.0495 0.0109 Jupiter 29684-09-13 04:19 G 12563174.52 12563174.68 12563174.85 0.0505 0.0355 Jupiter 29689-02-03 05:02 G 12564778.51 12564778.71 12564778.92 0.0534 0.0252 Jupiter 29690-03-11 14:38 G 12565179.93 12565180.11 12565180.31 0.0523 0.0315 Saturn 29694-01-27 03:21 G 12566597.40 12566597.64 12566597.88 0.0279 0.0068 Jupiter 29694-07-17 16:48 G 12566769.14 12566769.20 12566769.28 0.0491 0.0467 Jupiter 29695-08-17 17:02 G 12567164.97 12567165.21 12567165.44 0.0496 0.0046 Jupiter 29696-09-17 20:09 G 12567562.22 12567562.34 12567562.48 0.0507 0.0420 Jupiter 29701-02-09 08:38 G 12569166.64 12569166.86 12569167.08 0.0532 0.0169 Jupiter 29702-03-17 13:12 G 12569567.89 12569568.05 12569568.21 0.0521 0.0385 Jupiter 29706-07-23 00:43 G 12571156.41 12571156.53 12571156.66 0.0491 0.0413 Jupiter 29707-08-23 02:09 G 12571552.36 12571552.59 12571552.83 0.0497 0.0019 Jupiter 29708-09-23 09:50 G 12571949.84 12571949.91 12571949.99 0.0508 0.0480 Saturn 29709-07-24 05:17 G 12572253.59 12572253.72 12572253.85 0.0280 0.0236 Saturn 29710-08-06 11:17 G 12572631.79 12572631.97 12572632.15 0.0284 0.0190 Jupiter 29713-02-14 12:14 G 12573554.78 12573555.01 12573555.24 0.0532 0.0088 Jupiter 29714-03-22 12:14 G 12573955.90 12573956.01 12573956.13 0.0520 0.0453 Jupiter 29718-07-27 08:09 G 12575543.69 12575543.84 12575544.01 0.0491 0.0356 Uranus 29719-07-28 07:41 G 12575909.61 12575909.82 12575910.04 0.0140 0.0071 Jupiter 29719-08-27 12:29 G 12575939.79 12575940.02 12575940.25 0.0498 0.0085 Uranus 29720-07-31 23:45 G 12576279.24 12576279.49 12576279.75 0.0139 0.0003 Uranus 29721-08-05 15:21 G 12576648.93 12576649.14 12576649.36 0.0139 0.0074 Saturn 29723-01-22 12:43 G 12577183.94 12577184.03 12577184.13 0.0281 0.0257 Saturn 29724-02-04 15:07 G 12577561.93 12577562.13 12577562.33 0.0277 0.0158 Jupiter 29725-02-19 18:00 G 12577943.02 12577943.25 12577943.49 0.0530 0.0010 Jupiter 29726-03-27 12:00 G 12578343.99 12578344.00 12578344.02 0.0518 0.0517 Neptune 29729-11-28 05:45 G 12579685.64 12579685.74 12579685.84 0.0090 0.0082 Jupiter 29730-07-31 15:07 G 12579930.96 12579931.13 12579931.33 0.0492 0.0298 Neptune 29730-11-30 18:00 G 12580053.11 12580053.25 12580053.43 0.0090 0.0071

Jupiter 29731-08-31 22:48 G 12580327.23 12580327.45 12580327.67 0.0500 0.0152 Neptune 29731-12-03 06:57 G 12580420.62 12580420.79 12580421.01 0.0090 0.0059 Pluto 29732-07-28 02:24 G 12580658.46 12580658.60 12580658.81 0.0080 0.0060 Neptune 29732-12-04 20:09 G 12580788.14 12580788.34 12580788.58 0.0090 0.0047 Neptune 29733-12-07 09:07 G 12581155.66 12581155.88 12581156.14 0.0090 0.0035 Neptune 29734-12-09 22:19 G 12581523.19 12581523.43 12581523.69 0.0090 0.0023 Neptune 29735-12-12 11:45 G 12581890.73 12581890.99 12581891.24 0.0090 0.0010 Jupiter 29736-01-19 20:24 G 12581929.26 12581929.35 12581929.45 0.0536 0.0489 Neptune 29736-12-14 00:43 G 12582258.28 12582258.53 12582258.79 0.0090 0.0003 Jupiter 29737-02-24 23:17 G 12582331.24 12582331.47 12582331.70 0.0529 0.0083 Neptune 29737-12-16 13:26 G 12582625.81 12582626.06 12582626.32 0.0090 0.0015 Neptune 29738-12-19 02:24 G 12582993.37 12582993.60 12582993.86 0.0090 0.0027 Saturn 29739-07-31 12:00 G 12583217.75 12583218.00 12583218.24 0.0282 0.0016 Neptune 29739-12-21 15:21 G 12583360.92 12583361.14 12583361.39 0.0090 0.0039 Neptune 29740-12-23 04:19 G 12583728.48 12583728.68 12583728.90 0.0090 0.0051 Neptune 29741-12-25 17:17 G 12584096.05 12584096.22 12584096.41 0.0090 0.0063 Jupiter 29742-08-05 00:29 G 12584318.32 12584318.52 12584318.73 0.0493 0.0236 Neptune 29742-12-28 06:00 G 12584463.63 12584463.75 12584463.91 0.0090 0.0075 Jupiter 29743-09-05 12:43 G 12584714.83 12584715.03 12584715.24 0.0501 0.0222 Neptune 29743-12-30 18:43 G 12584831.25 12584831.28 12584831.38 0.0090 0.0087 Jupiter 29748-01-25 00:57 G 12586317.40 12586317.54 12586317.69 0.0535 0.0417 Jupiter 29749-03-01 21:21 G 12586719.17 12586719.39 12586719.61 0.0527 0.0159 Saturn 29753-01-29 01:41 G 12588148.33 12588148.57 12588148.82 0.0280 0.0026 Jupiter 29754-08-09 09:21 G 12588705.68 12588705.89 12588706.11 0.0494 0.0177 Jupiter 29755-09-10 02:38 G 12589102.42 12589102.61 12589102.80 0.0503 0.0288 Jupiter 29760-01-30 05:31 G 12590705.56 12590705.73 12590705.92 0.0534 0.0338 Jupiter 29761-03-06 21:07 G 12591107.17 12591107.38 12591107.59 0.0525 0.0236 Uranus 29763-01-23 08:53 G 12591794.79 12591794.87 12591794.98 0.0138 0.0127 Uranus 29764-01-28 00:00 G 12592164.28 12592164.50 12592164.75 0.0139 0.0057 Uranus 29765-01-31 16:05 G 12592533.92 12592534.17 12592534.43 0.0139 0.0016

Uranus 29766-02-05 08:09 G 12592903.66 12592903.84 12592904.05 0.0140 0.0089 Jupiter 29766-08-13 18:00 G 12593093.03 12593093.25 12593093.48 0.0495 0.0114 Jupiter 29767-09-14 14:53 G 12593489.95 12593490.12 12593490.28 0.0504 0.0351 Saturn 29768-07-25 03:07 G 12593804.46 12593804.63 12593804.81 0.0280 0.0195 Saturn 29769-08-07 09:07 G 12594182.75 12594182.88 12594183.03 0.0284 0.0232 Jupiter 29772-02-04 09:07 G 12595093.68 12595093.88 12595094.09 0.0534 0.0259 Jupiter 29773-03-11 21:21 G 12595495.21 12595495.39 12595495.58 0.0524 0.0310 Jupiter 29777-07-18 04:48 G 12597084.64 12597084.70 12597084.77 0.0491 0.0468 Jupiter 29778-08-18 03:07 G 12597480.40 12597480.63 12597480.87 0.0496 0.0048 Jupiter 29779-09-19 04:05 G 12597877.55 12597877.67 12597877.81 0.0506 0.0416 Saturn 29782-01-23 12:14 G 12598734.87 12598735.01 12598735.18 0.0281 0.0214 29782-12-05 01:12 G 12599050.37 12599050.55 12599050.74 0.1913 0.0778 Mars Saturn 29783-02-05 14:38 G 12599112.96 12599113.11 12599113.29 0.0277 0.0202 Jupiter 29784-02-09 15:36 G 12599481.93 12599482.15 12599482.38 0.0533 0.0174 Jupiter 29785-03-16 23:02 G 12599883.31 12599883.46 12599883.62 0.0522 0.0384 Mars 29789-06-05 09:36 G 12601424.73 12601424.90 12601425.08 0.1626 0.0615 Jupiter 29789-07-22 11:17 G 12601471.86 12601471.97 12601472.10 0.0491 0.0415 Jupiter 29790-08-22 12:00 G 12601867.77 12601868.00 12601868.23 0.0497 0.0018 Jupiter 29791-09-23 18:29 G 12602265.20 12602265.27 12602265.35 0.0508 0.0480 Jupiter 29796-02-14 22:33 G 12603870.21 12603870.44 12603870.67 0.0532 0.0089 Jupiter 29797-03-21 23:02 G 12604271.35 12604271.46 12604271.58 0.0520 0.0454 Saturn 29798-08-01 11:31 G 12604768.74 12604768.98 12604769.22 0.0282 0.0028 Jupiter 29801-07-27 19:41 G 12605859.17 12605859.32 12605859.49 0.0491 0.0357 Jupiter 29802-08-28 00:00 G 12606255.27 12606255.50 12606255.73 0.0498 0.0086 Uranus 29803-07-29 14:38 G 12606590.90 12606591.11 12606591.33 0.0140 0.0070 Uranus 29804-08-02 06:57 G 12606960.53 12606960.79 12606961.04 0.0139 0.0003 Uranus 29805-08-06 22:19 G 12607330.22 12607330.43 12607330.65 0.0139 0.0075 Jupiter 29808-02-20 23:17 G 12608258.24 12608258.47 12608258.70 0.0530 0.0009 Jupiter 29809-03-27 16:19 G 12608659.15 12608659.18 12608659.21 0.0518 0.0512 Neptune 29811-05-30 17:17 G 12609453.18 12609453.22 12609453.27 0.0088 0.0086 Saturn 29812-02-01 00:43 G 12609699.29 12609699.53 12609699.78 0.0280 0.0018 Neptune 29812-06-01 03:50 G 12609820.53 12609820.66 12609820.80 0.0088 0.0075 Neptune 29813-06-03 14:09 G 12610187.93 12610188.09 12610188.28 0.0088 0.0064 Jupiter 29813-08-01 02:38 G 12610246.44 12610246.61 12610246.80 0.0492 0.0303 Neptune 29814-06-06 00:29 G 12610555.34 12610555.52 12610555.75 0.0088 0.0053 Jupiter 29814-09-01 11:45 G 12610642.77 12610642.99 12610643.21 0.0500 0.0151 Neptune 29815-06-08 11:17 G 12610922.75 12610922.97 12610923.20 0.0088 0.0041 Neptune 29816-06-09 21:36 G 12611290.16 12611290.40 12611290.65 0.0088 0.0030 Neptune 29817-06-12 07:41 G 12611657.58 12611657.82 12611658.09 0.0088 0.0019 Neptune 29818-06-14 18:29 G 12612025.02 12612025.27 12612025.53 0.0088 0.0007 Jupiter 29819-01-20 00:00 G 12612244.42 12612244.50 12612244.59 0.0536 0.0497 Neptune 29819-06-17 04:48 G 12612392.44 12612392.70 12612392.96 0.0088 0.0005 Jupiter 29820-02-26 00:43 G 12612646.30 12612646.53 12612646.76 0.0528 0.0074 Neptune 29820-06-18 15:07 G 12612759.88 12612760.13 12612760.39 0.0088 0.0016 Neptune 29821-06-21 01:12 G 12613127.32 12613127.55 12613127.81 0.0088 0.0028 Neptune 29822-06-23 11:45 G 12613494.77 12613494.99 12613495.23 0.0088 0.0039 Neptune 29823-06-25 22:05 G 12613862.23 12613862.42 12613862.65 0.0088 0.0051 Neptune 29824-06-27 08:24 G 12614229.69 12614229.85 12614230.06 0.0088 0.0062 Neptune 29825-06-29 19:12 G 12614597.18 12614597.30 12614597.46 0.0088 0.0073 Jupiter 29825-08-05 10:48 G 12614633.75 12614633.95 12614634.16 0.0493 0.0242 Neptune 29826-07-02 05:45 G 12614964.68 12614964.74 12614964.82 0.0088 0.0084 Jupiter 29826-09-05 22:33 G 12615030.23 12615030.44 12615030.65 0.0501 0.0217 Saturn 29827-07-28 03:50 G 12615355.46 12615355.66 12615355.87 0.0280 0.0150 Saturn 29828-08-09 09:50 G 12615733.87 12615733.91 12615733.97 0.0284 0.0278 Jupiter 29831-01-25 03:07 G 12616632.50 12616632.63 12616632.78 0.0535 0.0426 Jupiter 29832-03-02 01:26 G 12617034.34 12617034.56 12617034.79 0.0527 0.0153 Jupiter 29837-08-09 19:12 G 12619021.09 12619021.30 12619021.52 0.0494 0.0180 Jupiter 29838-09-10 10:05 G 12619417.74 12619417.92 12619418.12 0.0502 0.0284 Saturn 29841-01-25 13:12 G 12620285.86 12620286.05 12620286.25 0.0281 0.0168 Saturn 29842-02-07 15:21 G 12620664.05 12620664.14 12620664.26 0.0277 0.0247

Jupiter 29843-01-30 09:36 G 12621020.73 12621020.90 12621021.08 0.0535 0.0345 Jupiter 29844-03-07 04:33 G 12621422.48 12621422.69 12621422.90 0.0526 0.0233 Uranus 29847-01-24 19:55 G 12622476.23 12622476.33 12622476.45 0.0138 0.0124 Uranus 29848-01-29 11:02 G 12622845.73 12622845.96 12622846.20 0.0139 0.0053 Uranus 29849-02-02 02:53 G 12623215.38 12623215.62 12623215.88 0.0139 0.0020 Jupiter 29849-08-14 02:53 G 12623408.39 12623408.62 12623408.84 0.0494 0.0116 Uranus 29850-02-06 19:26 G 12623585.12 12623585.31 12623585.50 0.0139 0.0093 Jupiter 29850-09-14 22:19 G 12623805.27 12623805.43 12623805.60 0.0504 0.0349 Jupiter 29855-02-04 17:17 G 12625409.02 12625409.22 12625409.43 0.0534 0.0262 Jupiter 29856-03-12 06:43 G 12625810.59 12625810.78 12625810.97 0.0524 0.0310 Saturn 29857-08-03 13:55 G 12626319.85 12626320.08 12626320.32 0.0282 0.0077 Jupiter 29860-07-18 14:38 G 12627400.06 12627400.11 12627400.18 0.0490 0.0471 Jupiter 29861-08-18 13:12 G 12627795.82 12627796.05 12627796.28 0.0496 0.0049 Jupiter 29862-09-19 13:55 G 12628192.95 12628193.08 12628193.22 0.0506 0.0416 Jupiter 29867-02-09 20:53 G 12629797.16 12629797.37 12629797.60 0.0533 0.0182 Jupiter 29868-03-17 02:38 G 12630198.45 12630198.61 12630198.77 0.0522 0.0378 Mars 29868-06-08 11:31 G 12630281.83 12630281.98 12630282.12 0.1623 0.1005 Saturn 29871-02-02 02:09 G 12631250.36 12631250.59 12631250.83 0.0280 0.0064 Jupiter 29872-07-22 20:24 G 12631787.23 12631787.35 12631787.47 0.0491 0.0421 Jupiter 29873-08-22 22:33 G 12632183.21 12632183.44 12632183.67 0.0497 0.0014 Jupiter 29874-09-24 05:45 G 12632580.67 12632580.74 12632580.82 0.0508 0.0479 Jupiter 29879-02-14 23:45 G 12634185.26 12634185.49 12634185.72 0.0531 0.0099 Jupiter 29880-03-21 23:31 G 12634586.37 12634586.48 12634586.60 0.0520 0.0446 Jupiter 29884-07-27 03:36 G 12636174.50 12636174.65 12636174.81 0.0492 0.0365 Jupiter 29885-08-27 08:24 G 12636570.62 12636570.85 12636571.08 0.0498 0.0079 Saturn 29886-07-29 07:55 G 12636906.60 12636906.83 12636907.06 0.0280 0.0101 Uranus 29887-07-29 23:45 G 12637272.27 12637272.49 12637272.71 0.0140 0.0068 Uranus 29888-08-02 15:50 G 12637641.90 12637642.16 12637642.41 0.0139 0.0005 Uranus 29889-08-07 07:12 G 12638011.59 12638011.80 12638012.01 0.0139 0.0077 Jupiter 29891-02-20 00:43 G 12638573.30 12638573.53 12638573.77 0.0531 0.0021

Pluto 29892-01-30 11:31 G 12638917.72 12638917.98 12638918.24 0.0065 0.0008 Jupiter 29892-03-26 20:24 G 12638974.32 12638974.35 12638974.40 0.0519 0.0509 Neptune 29893-11-28 13:55 G 12639586.08 12639586.08 12639586.12 0.0090 0.0089 Neptune 29894-12-01 02:38 G 12639953.51 12639953.61 12639953.77 0.0090 0.0078 Neptune 29895-12-03 15:36 G 12640321.00 12640321.15 12640321.35 0.0090 0.0066 Jupiter 29896-07-31 11:45 G 12640561.80 12640561.99 12640562.17 0.0492 0.0305 Neptune 29896-12-05 04:33 G 12640688.51 12640688.69 12640688.92 0.0090 0.0054 Jupiter 29897-08-31 18:29 G 12640958.05 12640958.27 12640958.50 0.0499 0.0146 Neptune 29897-12-07 17:45 G 12641056.02 12641056.24 12641056.48 0.0090 0.0041 Neptune 29898-12-10 06:43 G 12641423.55 12641423.78 12641424.04 0.0090 0.0029 Neptune 29899-12-12 19:55 G 12641791.09 12641791.33 12641791.60 0.0090 0.0017 Saturn 29900-01-27 16:33 G 12641836.97 12641837.19 12641837.41 0.0281 0.0119 Neptune 29900-12-15 09:07 G 12642158.62 12642158.88 12642159.14 0.0090 0.0004 Neptune 29901-12-17 22:19 G 12642526.18 12642526.43 12642526.69 0.0090 0.0009 Jupiter 29902-01-20 00:43 G 12642559.46 12642559.53 12642559.61 0.0536 0.0506 Neptune 29902-12-20 11:31 G 12642893.73 12642893.98 12642894.23 0.0090 0.0021 Jupiter 29903-02-26 04:33 G 12642961.45 12642961.69 12642961.92 0.0529 0.0068 Neptune 29903-12-23 00:14 G 12643261.28 12643261.51 12643261.76 0.0090 0.0034 Neptune 29904-12-24 13:12 G 12643628.84 12643629.05 12643629.29 0.0090 0.0046 Neptune 29905-12-27 02:09 G 12643996.40 12643996.59 12643996.79 0.0090 0.0058 Neptune 29906-12-29 15:21 G 12644363.98 12644364.14 12644364.30 0.0090 0.0070 Neptune 29908-01-01 03:36 G 12644731.58 12644731.65 12644731.78 0.0090 0.0083 Jupiter 29908-08-05 18:29 G 12644949.07 12644949.27 12644949.47 0.0493 0.0246 Jupiter 29909-09-06 04:33 G 12645345.48 12645345.69 12645345.90 0.0501 0.0213 Jupiter 29914-01-25 08:24 G 12646947.72 12646947.85 12646948.00 0.0536 0.0431 Jupiter 29915-03-03 08:24 G 12647349.63 12647349.85 12647350.08 0.0528 0.0150 Saturn 29916-08-05 20:38 G 12647871.14 12647871.36 12647871.58 0.0282 0.0130 Jupiter 29920-08-10 03:07 G 12649336.41 12649336.63 12649336.85 0.0493 0.0183 Jupiter 29921-09-10 17:45 G 12649733.06 12649733.24 12649733.44 0.0502 0.0282 Jupiter 29926-01-30 14:38 G 12651335.94 12651336.11 12651336.29 0.0535 0.0354

Jupiter 29927-03-08 07:41 G 12651737.61 12651737.82 12651738.03 0.0526 0.0224 Saturn 29930-02-04 05:45 G 12652801.52 12652801.74 12652801.97 0.0279 0.0113 Uranus 29931-01-26 06:43 G 12653157.68 12653157.78 12653157.93 0.0138 0.0120 Uranus 29932-01-30 22:19 G 12653527.20 12653527.43 12653527.67 0.0139 0.0049 Jupiter 29932-08-14 10:33 G 12653723.71 12653723.94 12653724.17 0.0495 0.0122 Uranus 29933-02-03 14:09 G 12653896.84 12653897.09 12653897.35 0.0139 0.0024 Jupiter 29933-09-15 06:57 G 12654120.63 12654120.79 12654120.96 0.0504 0.0345 Uranus 29934-02-08 06:43 G 12654266.61 12654266.78 12654266.97 0.0140 0.0097 Jupiter 29938-02-04 18:29 G 12655724.07 12655724.27 12655724.47 0.0534 0.0272 Jupiter 29939-03-13 06:14 G 12656125.57 12656125.76 12656125.95 0.0524 0.0300 Jupiter 29943-07-19 20:09 G 12657715.30 12657715.34 12657715.39 0.0491 0.0479 Jupiter 29944-08-18 19:12 G 12658111.07 12658111.30 12658111.53 0.0496 0.0058 Saturn 29945-07-31 15:07 G 12658457.89 12658458.13 12658458.38 0.0280 0.0048 Jupiter 29945-09-19 19:26 G 12658508.17 12658508.31 12658508.44 0.0506 0.0408 Jupiter 29950-02-09 19:26 G 12660112.09 12660112.31 12660112.53 0.0533 0.0192 Jupiter 29951-03-18 03:50 G 12660513.50 12660513.66 12660513.82 0.0523 0.0371 Jupiter 29955-07-24 03:50 G 12662102.55 12662102.66 12662102.78 0.0491 0.0423 Jupiter 29956-08-23 04:33 G 12662498.45 12662498.69 12662498.92 0.0497 0.0012 Jupiter 29957-09-24 08:24 G 12662895.78 12662895.85 12662895.95 0.0507 0.0473 Saturn 29959-01-29 23:02 G 12663388.23 12663388.46 12663388.70 0.0281 0.0066 Jupiter 29962-02-14 23:31 G 12664500.25 12664500.48 12664500.71 0.0532 0.0108 Jupiter 29963-03-23 02:53 G 12664901.51 12664901.62 12664901.75 0.0521 0.0442 Jupiter 29967-07-28 10:05 G 12666489.77 12666489.92 12666490.08 0.0491 0.0368 Jupiter 29968-08-27 12:57 G 12666885.81 12666886.04 12666886.27 0.0498 0.0074 Uranus 29970-07-26 16:19 G 12667584.17 12667584.18 12667584.22 0.0140 0.0139 Uranus 29971-07-31 08:53 G 12667953.66 12667953.87 12667954.11 0.0140 0.0066 Uranus 29972-08-04 01:12 G 12668323.30 12668323.55 12668323.81 0.0139 0.0008 Uranus 29973-08-08 16:19 G 12668692.99 12668693.18 12668693.40 0.0139 0.0080 Jupiter 29974-02-20 04:48 G 12668888.47 12668888.70 12668888.93 0.0531 0.0023 Saturn 29974-07-26 04:33 G 12669044.56 12669044.69 12669044.83 0.0279 0.0231

Jupiter 29975-03-28 02:09 G 12669289.55 12669289.59 12669289.64 0.0519 0.0506 Saturn 29975-08-08 06:29 G 12669422.60 12669422.77 12669422.97 0.0282 0.0190 Neptune 29976-06-01 14:24 G 12669721.03 12669721.10 12669721.21 0.0088 0.0082 Neptune 29977-06-04 00:43 G 12670088.41 12670088.53 12670088.72 0.0088 0.0071 Neptune 29978-06-06 11:45 G 12670455.81 12670455.99 12670456.19 0.0088 0.0059 Neptune 29979-06-08 22:05 G 12670823.22 12670823.42 12670823.66 0.0088 0.0048 Jupiter 29979-08-01 17:45 G 12670877.06 12670877.24 12670877.42 0.0492 0.0309 Neptune 29980-06-10 08:38 G 12671190.64 12671190.86 12671191.11 0.0088 0.0036 Pluto 29980-08-02 05:45 G 12671243.58 12671243.74 12671243.93 0.0079 0.0057 Jupiter 29980-09-01 00:00 G 12671273.28 12671273.50 12671273.72 0.0499 0.0143 Neptune 29981-06-12 19:26 G 12671558.07 12671558.31 12671558.56 0.0088 0.0024 Neptune 29982-06-15 05:31 G 12671925.49 12671925.73 12671926.00 0.0088 0.0013 Neptune 29983-06-17 16:05 G 12672292.92 12672293.17 12672293.43 0.0088 0.0002 Neptune 29984-06-19 02:24 G 12672660.35 12672660.60 12672660.86 0.0088 0.0011 Jupiter 29985-01-19 04:48 G 12672874.64 12672874.70 12672874.76 0.0536 0.0515 Neptune 29985-06-21 12:29 G 12673027.79 12673028.02 12673028.29 0.0088 0.0023 Jupiter 29986-02-25 07:12 G 12673276.56 12673276.80 12673277.03 0.0529 0.0058 Neptune 29986-06-23 23:02 G 12673395.23 12673395.46 12673395.71 0.0088 0.0034 Neptune 29987-06-26 09:07 G 12673762.68 12673762.88 12673763.12 0.0088 0.0046 Saturn 29988-01-24 06:14 G 12673974.67 12673974.76 12673974.86 0.0283 0.0260 Neptune 29988-06-27 19:55 G 12674130.14 12674130.33 12674130.53 0.0088 0.0057 Saturn 29989-02-05 12:57 G 12674352.84 12674353.04 12674353.23 0.0279 0.0166 Neptune 29989-06-30 06:00 G 12674497.61 12674497.75 12674497.93 0.0088 0.0069 Neptune 29990-07-02 16:33 G 12674865.11 12674865.19 12674865.31 0.0088 0.0080 Jupiter 29991-08-05 23:02 G 12675264.26 12675264.46 12675264.66 0.0493 0.0253 Jupiter 29992-09-05 10:33 G 12675660.73 12675660.94 12675661.15 0.0501 0.0207 29994-06-06 10:48 G 12676299.91 12676299.95 12676299.98 0.1633 0.1598 Mars Jupiter 29997-01-24 09:36 G 12677262.77 12677262.90 12677263.03 0.0535 0.0440 Jupiter 29998-03-02 07:26 G 12677664.58 12677664.81 12677665.03 0.0527 0.0139

## 31ST MILLENNIUM CE

## This is a list of transits of Earth in the 31st millennium CE.

TIME

FROM	MAX-	С	START	MAX	END	SUNRAD	DEPTH	S
	TRANSIT							

Jupiter 30003-08-10 06:57 G 12679651.58 12679651.79 12679652.01 0.0494 0.0192 Saturn 30004-08-02 02:24 G 12680009.35 12680009.60 12680009.84 0.0281 0.0012 Jupiter 30004-09-09 21:21 G 12680048.20 12680048.39 12680048.59 0.0502 0.0273 Jupiter 30009-01-29 10:05 G 12681650.75 12681650.92 12681651.09 0.0535 0.0365 Jupiter 30010-03-07 05:17 G 12682052.51 12682052.72 12682052.94 0.0526 0.0215 Uranus 30015-01-26 17:02 G 12683839.08 12683839.21 12683839.35 0.0138 0.0117 Jupiter 30015-08-14 15:36 G 12684038.92 12684039.15 12684039.37 0.0494 0.0127 Uranus 30016-01-31 08:09 G 12684208.61 12684208.84 12684209.09 0.0139 0.0046 Jupiter 30016-09-14 09:36 G 12684435.73 12684435.90 12684436.07 0.0503 0.0338 Uranus 30017-02-04 00:29 G 12684578.27 12684578.52 12684578.77 0.0139 0.0027 Saturn 30018-01-31 08:24 G 12684939.60 12684939.85 12684940.10 0.0281 0.0010 Uranus 30018-02-08 16:48 G 12684948.04 12684948.20 12684948.39 0.0140 0.0101 Jupiter 30021-02-03 14:24 G 12686038.90 12686039.10 12686039.30 0.0534 0.0283 Jupiter 30022-03-12 05:45 G 12686440.55 12686440.74 12686440.94 0.0525 0.0293 Jupiter 30026-07-19 01:41 G 12688030.54 12688030.57 12688030.61 0.0490 0.0483 Jupiter 30027-08-18 22:48 G 12688426.22 12688426.45 12688426.68 0.0495 0.0063 Jupiter 30028-09-18 20:38 G 12688823.22 12688823.36 12688823.50 0.0505 0.0402 Jupiter 30033-02-08 20:24 G 12690427.14 12690427.35 12690427.57 0.0534 0.0200 Saturn 30033-07-27 17:17 G 12690596.03 12690596.22 12690596.41 0.0279 0.0171 Jupiter 30034-03-17 06:43 G 12690828.62 12690828.78 12690828.95 0.0523 0.0367

Saturn 30034-08-09 19:55 G 12690974.23 12690974.33 12690974.45 0.0283 0.0252 Jupiter 30038-07-23 08:24 G 12692417.73 12692417.85 12692417.96 0.0491 0.0428 Jupiter 30039-08-23 07:55 G 12692813.60 12692813.83 12692814.07 0.0496 0.0004 Jupiter 30040-09-23 11:31 G 12693210.90 12693210.98 12693211.07 0.0507 0.0467 Jupiter 30045-02-14 01:12 G 12694815.33 12694815.55 12694815.78 0.0532 0.0118 Jupiter 30046-03-22 04:05 G 12695216.55 12695216.67 12695216.80 0.0521 0.0433 Saturn 30047-01-25 17:31 G 12695526.06 12695526.23 12695526.40 0.0282 0.0201 Saturn 30048-02-07 23:02 G 12695904.32 12695904.46 12695904.61 0.0279 0.0223 Jupiter 30050-07-27 12:29 G 12696804.87 12696805.02 12696805.17 0.0491 0.0376 Jupiter 30051-08-27 16:05 G 12697200.94 12697201.17 12697201.41 0.0498 0.0067 Uranus 30054-07-27 02:53 G 12698265.58 12698265.62 12698265.69 0.0140 0.0136 Uranus 30055-07-31 19:26 G 12698635.10 12698635.31 12698635.56 0.0140 0.0063 Uranus 30056-08-04 11:45 G 12699004.74 12699004.99 12699005.24 0.0139 0.0011 Jupiter 30057-02-19 03:21 G 12699203.41 12699203.64 12699203.88 0.0531 0.0036 Uranus 30057-08-09 02:38 G 12699374.42 12699374.61 12699374.83 0.0139 0.0083 Jupiter 30058-03-26 23:45 G 12699604.44 12699604.49 12699604.57 0.0519 0.0497 Neptune 30058-12-01 12:14 G 12699853.95 12699854.01 12699854.12 0.0090 0.0085 Neptune 30059-12-04 01:26 G 12700221.42 12700221.56 12700221.72 0.0090 0.0072 Neptune 30060-12-05 14:09 G 12700588.91 12700589.09 12700589.29 0.0090 0.0060 Neptune 30061-12-08 02:53 G 12700956.42 12700956.62 12700956.85 0.0090 0.0048 Jupiter 30062-07-31 19:26 G 12701192.14 12701192.31 12701192.50 0.0492 0.0318 Neptune 30062-12-10 16:19 G 12701323.94 12701324.18 12701324.42 0.0090 0.0035 Saturn 30063-08-04 15:21 G 12701560.91 12701561.14 12701561.39 0.0281 0.0073 Jupiter 30063-09-01 02:09 G 12701588.37 12701588.59 12701588.82 0.0499 0.0133 Neptune 30063-12-13 04:48 G 12701691.46 12701691.70 12701691.96 0.0090 0.0023 Neptune 30064-12-14 17:45 G 12702059.00 12702059.24 12702059.51 0.0090 0.0011 Neptune 30065-12-17 07:12 G 12702426.54 12702426.80 12702427.05 0.0090 0.0003 Mars 30066-12-06 05:31 G 12702780.72 12702780.73 12702780.75 0.1905 0.1894 Neptune 30066-12-19 19:55 G 12702794.09 12702794.33 12702794.60 0.0090 0.0016 Neptune 30067-12-22 09:07 G 12703161.64 12703161.88 12703162.14 0.0090 0.0028 Jupiter 30068-01-18 22:05 G 12703189.38 12703189.42 12703189.47 0.0536 0.0525 Neptune 30068-12-23 21:50 G 12703529.20 12703529.41 12703529.66 0.0090 0.0041 Jupiter 30069-02-24 01:41 G 12703591.34 12703591.57 12703591.80 0.0530 0.0046 Neptune 30069-12-26 11:02 G 12703896.77 12703896.96 12703897.18 0.0090 0.0053 Neptune 30070-12-29 00:14 G 12704264.34 12704264.51 12704264.69 0.0090 0.0065 Neptune 30071-12-31 12:43 G 12704631.93 12704632.03 12704632.18 0.0090 0.0078 Neptune 30073-01-02 01:55 G 12704999.58 12704999.58 12704999.60 0.0090 0.0089 30073-06-08 13:26 G 12705156.87 12705157.06 12705157.25 0.1630 0.0070 Mars Jupiter 30074-08-05 03:50 G 12705579.46 12705579.66 12705579.86 0.0492 0.0257 Jupiter 30075-09-05 12:43 G 12705975.82 12705976.03 12705976.25 0.0500 0.0201 Saturn 30077-02-01 20:38 G 12706491.11 12706491.36 12706491.60 0.0280 0.0050 Jupiter 30080-01-24 01:55 G 12707577.47 12707577.58 12707577.71 0.0536 0.0452 Jupiter 30081-03-01 03:21 G 12707979.41 12707979.64 12707979.86 0.0529 0.0129 Jupiter 30086-08-09 10:05 G 12709966.71 12709966.92 12709967.14 0.0493 0.0197 Jupiter 30087-09-09 22:19 G 12710363.23 12710363.43 12710363.63 0.0501 0.0265 Jupiter 30092-01-29 08:24 G 12711965.69 12711965.85 12711966.02 0.0535 0.0374 Saturn 30092-07-29 08:09 G 12712147.63 12712147.84 12712148.08 0.0279 0.0109 Jupiter 30093-03-06 06:00 G 12712367.54 12712367.75 12712367.96 0.0527 0.0208 Jupiter 30098-08-13 18:00 G 12714354.02 12714354.25 12714354.47 0.0494 0.0133 Uranus 30099-01-27 01:12 G 12714520.43 12714520.55 12714520.71 0.0138 0.0115 Jupiter 30099-09-14 10:33 G 12714750.77 12714750.94 12714751.12 0.0503 0.0331 Uranus 30100-01-31 16:48 G 12714889.97 12714890.20 12714890.45 0.0139 0.0044 Uranus 30101-02-05 09:07 G 12715259.63 12715259.88 12715260.13 0.0139 0.0029 Uranus 30102-02-10 01:41 G 12715629.41 12715629.57 12715629.75 0.0140 0.0103 Jupiter 30104-02-04 15:21 G 12716353.94 12716354.14 12716354.33 0.0534 0.0293 Jupiter 30105-03-12 06:29 G 12716755.58 12716755.77 12716755.97 0.0525 0.0283 Saturn 30106-01-28 06:57 G 12717077.58 12717077.79 12717078.00 0.0282 0.0139 Jupiter 30109-07-19 02:24 G 12718345.59 12718345.60 12718345.62 0.0491 0.0489 Jupiter 30110-08-19 00:14 G 12718741.28 12718741.51 12718741.74 0.0495 0.0071 Jupiter 30111-09-19 22:48 G 12719138.31 12719138.45 12719138.59 0.0505 0.0395

Jupiter 30116-02-09 18:57 G 12720742.08 12720742.29 12720742.51 0.0533 0.0211 Jupiter 30117-03-17 04:33 G 12721143.53 12721143.69 12721143.87 0.0523 0.0357 Jupiter 30121-07-23 09:07 G 12722732.78 12722732.88 12722732.99 0.0491 0.0436 Saturn 30122-08-07 05:45 G 12723112.54 12723112.74 12723112.96 0.0281 0.0136 Jupiter 30122-08-23 09:21 G 12723128.65 12723128.89 12723129.12 0.0496 0.0007 Jupiter 30123-09-24 11:45 G 12723525.90 12723525.99 12723526.09 0.0506 0.0459 Jupiter 30128-02-14 17:45 G 12725130.02 12725130.24 12725130.47 0.0532 0.0131 Jupiter 30129-03-21 23:17 G 12725531.35 12725531.47 12725531.62 0.0522 0.0426 Jupiter 30133-07-27 17:02 G 12727120.07 12727120.21 12727120.36 0.0491 0.0379 Jupiter 30134-08-27 18:57 G 12727516.06 12727516.29 12727516.52 0.0497 0.0062 Saturn 30136-02-05 10:19 G 12728042.71 12728042.93 12728043.16 0.0280 0.0112 Uranus 30138-07-28 12:43 G 12728946.97 12728947.03 12728947.12 0.0140 0.0134 Pluto 30139-02-02 16:05 G 12729135.92 12729136.17 12729136.44 0.0065 0.0003 Uranus 30139-08-02 05:17 G 12729316.50 12729316.72 12729316.96 0.0140 0.0060 Jupiter 30140-02-19 20:09 G 12729518.11 12729518.34 12729518.58 0.0532 0.0047 Uranus 30140-08-05 21:21 G 12729686.14 12729686.39 12729686.64 0.0139 0.0014 Jupiter 30141-03-26 21:07 G 12729919.31 12729919.38 12729919.46 0.0520 0.0491 Neptune 30141-06-04 12:14 G 12729988.90 12729989.01 12729989.14 0.0088 0.0077 Uranus 30141-08-10 12:14 G 12730055.82 12730056.01 12730056.22 0.0139 0.0086 Neptune 30142-06-06 22:19 G 12730356.29 12730356.43 12730356.63 0.0088 0.0066 Neptune 30143-06-09 09:07 G 12730723.70 12730723.88 12730724.10 0.0088 0.0054 Neptune 30144-06-10 20:09 G 12731091.12 12731091.34 12731091.57 0.0088 0.0042 Neptune 30145-06-13 06:14 G 12731458.54 12731458.76 12731459.02 0.0088 0.0031 Jupiter 30145-07-31 23:17 G 12731507.30 12731507.47 12731507.65 0.0491 0.0323 Neptune 30146-06-15 17:02 G 12731825.97 12731826.21 12731826.47 0.0088 0.0019 Jupiter 30146-09-01 03:07 G 12731903.41 12731903.63 12731903.86 0.0498 0.0126 Neptune 30147-06-18 03:36 G 12732193.40 12732193.65 12732193.91 0.0088 0.0007 Neptune 30148-06-19 14:09 G 12732560.83 12732561.09 12732561.35 0.0088 0.0005 Neptune 30149-06-22 00:29 G 12732928.27 12732928.52 12732928.78 0.0088 0.0017 Neptune 30150-06-24 10:48 G 12733295.71 12733295.95 12733296.20 0.0088 0.0029 Jupiter 30151-01-18 18:14 G 12733504.25 12733504.26 12733504.28 0.0536 0.0535 Neptune 30151-06-26 21:07 G 12733663.16 12733663.38 12733663.62 0.0088 0.0041 Saturn 30151-08-01 23:31 G 12733699.24 12733699.48 12733699.73 0.0280 0.0045 Jupiter 30152-02-25 00:14 G 12733906.28 12733906.51 12733906.74 0.0530 0.0038 Neptune 30152-06-28 07:12 G 12734030.62 12734030.80 12734031.03 0.0088 0.0053 Neptune 30153-06-30 18:00 G 12734398.08 12734398.25 12734398.43 0.0088 0.0064 Neptune 30154-07-03 04:05 G 12734765.57 12734765.67 12734765.82 0.0088 0.0076 Neptune 30155-07-05 15:07 G 12735133.11 12735133.13 12735133.16 0.0088 0.0087 Jupiter 30157-08-05 06:00 G 12735894.55 12735894.75 12735894.95 0.0492 0.0263 Jupiter 30158-09-05 13:26 G 12736290.85 12736291.06 12736291.28 0.0500 0.0194 Jupiter 30163-01-24 02:09 G 12737892.48 12737892.59 12737892.72 0.0536 0.0461 Jupiter 30164-03-01 03:50 G 12738294.44 12738294.66 12738294.89 0.0529 0.0120 Saturn 30165-01-29 22:05 G 12738629.19 12738629.42 12738629.66 0.0281 0.0076 Jupiter 30169-08-09 10:48 G 12740281.75 12740281.95 12740282.17 0.0493 0.0204 Jupiter 30170-09-09 23:17 G 12740678.27 12740678.47 12740678.67 0.0501 0.0258 Jupiter 30175-01-29 07:41 G 12742280.66 12742280.82 12742280.99 0.0535 0.0382 Jupiter 30176-03-06 04:33 G 12742682.47 12742682.69 12742682.90 0.0527 0.0199 Saturn 30180-07-26 19:12 G 12744286.15 12744286.30 12744286.45 0.0278 0.0221 Saturn 30181-08-08 20:38 G 12744664.19 12744664.36 12744664.54 0.0282 0.0198 Jupiter 30181-08-13 19:12 G 12744669.08 12744669.30 12744669.53 0.0494 0.0140 Jupiter 30182-09-14 11:17 G 12745065.80 12745065.97 12745066.15 0.0503 0.0325 Uranus 30183-01-28 08:38 G 12745201.73 12745201.86 12745202.01 0.0138 0.0113 Uranus 30184-02-01 23:45 G 12745571.26 12745571.49 12745571.75 0.0139 0.0043 Uranus 30185-02-05 16:05 G 12745940.93 12745941.17 12745941.43 0.0139 0.0031 Uranus 30186-02-10 09:07 G 12746310.71 12746310.88 12746311.05 0.0140 0.0104 Jupiter 30187-02-03 06:43 G 12746668.60 12746668.78 12746668.98 0.0535 0.0305 Jupiter 30188-03-11 00:14 G 12747070.31 12747070.51 12747070.71 0.0526 0.0274 Jupiter 30193-08-18 04:19 G 12749056.45 12749056.68 12749056.91 0.0495 0.0075 Saturn 30194-01-24 17:45 G 12749216.15 12749216.24 12749216.36 0.0283 0.0255 Jupiter 30194-09-18 23:45 G 12749453.36 12749453.49 12749453.65 0.0504 0.0391

Saturn 30195-02-07 00:29 G 12749594.34 12749594.52 12749594.72 0.0279 0.0174 Jupiter 30199-02-08 10:19 G 12751056.72 12751056.93 12751057.14 0.0534 0.0222 Jupiter 30200-03-16 23:17 G 12751458.30 12751458.47 12751458.65 0.0524 0.0350 Jupiter 30204-07-23 13:55 G 12753047.97 12753048.08 12753048.18 0.0491 0.0440 Jupiter 30205-08-23 11:45 G 12753443.75 12753443.99 12753444.22 0.0495 0.0012 Jupiter 30206-09-24 11:02 G 12753840.87 12753840.96 12753841.07 0.0506 0.0452 Saturn 30210-08-04 13:55 G 12755250.83 12755251.08 12755251.32 0.0280 0.0016 Jupiter 30211-02-14 15:07 G 12755444.90 12755445.13 12755445.35 0.0533 0.0140 Jupiter 30212-03-21 23:45 G 12755846.35 12755846.49 12755846.63 0.0523 0.0420 Jupiter 30216-07-27 20:09 G 12757435.20 12757435.34 12757435.49 0.0491 0.0384 Jupiter 30217-08-27 20:09 G 12757831.11 12757831.34 12757831.58 0.0497 0.0056 Uranus 30222-07-29 20:53 G 12759628.31 12759628.37 12759628.47 0.0140 0.0132 Jupiter 30223-02-19 21:21 G 12759833.16 12759833.39 12759833.62 0.0532 0.0055 Uranus 30223-08-03 13:41 G 12759997.85 12759998.07 12759998.31 0.0140 0.0058 Neptune 30223-12-05 11:31 G 12760121.87 12760121.98 12760122.11 0.0090 0.0079 Saturn 30224-02-02 12:57 G 12760180.80 12760181.04 12760181.29 0.0281 0.0013 Jupiter 30224-03-26 22:33 G 12760234.37 12760234.44 12760234.53 0.0520 0.0486 Uranus 30224-08-07 06:00 G 12760367.49 12760367.75 12760368.00 0.0139 0.0016 Neptune 30224-12-07 00:00 G 12760489.35 12760489.50 12760489.69 0.0090 0.0067 Uranus 30225-08-11 20:53 G 12760737.18 12760737.37 12760737.57 0.0139 0.0088 Neptune 30225-12-09 12:43 G 12760856.85 12760857.03 12760857.26 0.0090 0.0055 Neptune 30226-12-12 01:55 G 12761224.36 12761224.58 12761224.82 0.0090 0.0042 Pluto 30227-08-06 11:45 G 12761461.80 12761461.99 12761462.21 0.0079 0.0047 Neptune 30227-12-14 14:53 G 12761591.88 12761592.12 12761592.37 0.0090 0.0029 Jupiter 30228-08-01 00:14 G 12761822.34 12761822.51 12761822.69 0.0491 0.0329 Neptune 30228-12-16 03:36 G 12761959.41 12761959.65 12761959.92 0.0090 0.0017 Jupiter 30229-09-01 04:19 G 12762218.46 12762218.68 12762218.91 0.0498 0.0121 Neptune 30229-12-18 16:48 G 12762326.95 12762327.20 12762327.46 0.0090 0.0004 Neptune 30230-12-21 05:45 G 12762694.49 12762694.74 12762695.00 0.0090 0.0010 Neptune 30231-12-23 18:29 G 12763062.03 12763062.27 12763062.53 0.0090 0.0022

Neptune 30232-12-25 07:55 G 12763429.59 12763429.83 12763430.07 0.0090 0.0035 Neptune 30233-12-27 20:38 G 12763797.16 12763797.36 12763797.59 0.0090 0.0048 Neptune 30234-12-30 09:36 G 12764164.73 12764164.90 12764165.11 0.0090 0.0061 Jupiter 30235-02-25 00:14 G 12764221.27 12764221.51 12764221.74 0.0530 0.0031 Neptune 30236-01-01 22:33 G 12764532.31 12764532.44 12764532.61 0.0090 0.0073 Neptune 30237-01-03 11:17 G 12764899.92 12764899.97 12764900.08 0.0090 0.0086 Saturn 30239-07-30 06:29 G 12765837.58 12765837.77 12765837.97 0.0279 0.0165 Jupiter 30240-08-05 08:09 G 12766209.65 12766209.84 12766210.04 0.0492 0.0268 Saturn 30240-08-11 09:07 G 12766215.79 12766215.88 12766215.99 0.0282 0.0258 Jupiter 30241-09-05 15:21 G 12766605.92 12766606.14 12766606.35 0.0499 0.0188 Jupiter 30246-01-23 18:29 G 12768207.17 12768207.27 12768207.39 0.0536 0.0471 Jupiter 30247-03-01 21:07 G 12768609.15 12768609.38 12768609.60 0.0529 0.0110 Jupiter 30252-08-09 16:48 G 12770596.99 12770597.20 12770597.41 0.0493 0.0206 Saturn 30253-01-27 08:24 G 12770767.68 12770767.85 12770768.04 0.0283 0.0193 Jupiter 30253-09-10 03:07 G 12770993.44 12770993.63 12770993.84 0.0501 0.0255 Saturn 30254-02-09 14:09 G 12771145.97 12771146.09 12771146.23 0.0279 0.0233 Jupiter 30258-01-28 22:33 G 12772595.28 12772595.44 12772595.60 0.0535 0.0394 Jupiter 30259-03-06 21:36 G 12772997.19 12772997.40 12772997.63 0.0528 0.0190 Jupiter 30264-08-13 23:45 G 12774984.27 12774984.49 12774984.71 0.0493 0.0144 Jupiter 30265-09-14 12:57 G 12775380.86 12775381.04 12775381.22 0.0502 0.0318 Uranus 30267-01-29 16:05 G 12775883.03 12775883.17 12775883.33 0.0138 0.0112 Uranus 30268-02-03 07:26 G 12776252.58 12776252.81 12776253.06 0.0139 0.0041 Uranus 30269-02-06 23:31 G 12776622.24 12776622.48 12776622.74 0.0139 0.0032 Saturn 30269-08-06 01:41 G 12776802.34 12776802.57 12776802.81 0.0281 0.0075 Jupiter 30270-02-03 03:50 G 12776983.48 12776983.66 12776983.85 0.0535 0.0315 Uranus 30270-02-11 16:05 G 12776992.03 12776992.17 12776992.36 0.0139 0.0106 Jupiter 30271-03-12 00:00 G 12777385.30 12777385.50 12777385.70 0.0526 0.0268 Jupiter 30276-08-18 07:12 G 12779371.57 12779371.80 12779372.03 0.0494 0.0081 Jupiter 30277-09-19 00:57 G 12779768.39 12779768.54 12779768.69 0.0504 0.0384 30278-06-09 13:55 G 12780031.92 12780032.08 12780032.23 0.1638 0.0938 Mars

Jupiter 30282-02-08 11:31 G 12781371.77 12781371.98 12781372.20 0.0534 0.0231 Saturn 30283-02-04 02:38 G 12781732.37 12781732.61 12781732.85 0.0280 0.0048 Jupiter 30283-03-17 02:09 G 12781773.42 12781773.59 12781773.77 0.0524 0.0344 Jupiter 30287-07-23 16:19 G 12783363.09 12783363.18 12783363.28 0.0490 0.0444 Jupiter 30288-08-22 13:55 G 12783758.85 12783759.08 12783759.32 0.0495 0.0017 Jupiter 30289-09-23 13:12 G 12784155.95 12784156.05 12784156.16 0.0506 0.0448 Jupiter 30294-02-13 16:48 G 12785759.98 12785760.20 12785760.43 0.0533 0.0146 Jupiter 30295-03-22 01:12 G 12786161.42 12786161.55 12786161.70 0.0523 0.0416 Saturn 30298-07-31 15:07 G 12787388.91 12787389.13 12787389.36 0.0279 0.0113 Jupiter 30299-07-27 23:45 G 12787750.35 12787750.49 12787750.63 0.0491 0.0388 Jupiter 30300-08-28 00:14 G 12788146.27 12788146.51 12788146.74 0.0497 0.0051 Neptune 30305-06-05 23:45 G 12789889.44 12789889.49 12789889.59 0.0088 0.0084 Jupiter 30306-02-19 15:07 G 12790147.90 12790148.13 12790148.36 0.0532 0.0065 Neptune 30306-06-08 10:19 G 12790256.80 12790256.93 12790257.10 0.0088 0.0072 Uranus 30306-07-31 03:36 G 12790309.58 12790309.65 12790309.75 0.0140 0.0131 Jupiter 30307-03-27 18:43 G 12790549.20 12790549.28 12790549.37 0.0521 0.0481 Neptune 30307-06-10 21:07 G 12790624.20 12790624.38 12790624.58 0.0088 0.0060 Uranus 30307-08-04 20:38 G 12790679.13 12790679.36 12790679.59 0.0140 0.0057 Neptune 30308-06-12 07:41 G 12790991.61 12790991.82 12790992.04 0.0088 0.0048 Uranus 30308-08-08 12:43 G 12791048.78 12791049.03 12791049.28 0.0139 0.0017 Neptune 30309-06-14 18:00 G 12791359.03 12791359.25 12791359.50 0.0088 0.0037 Uranus 30309-08-13 03:50 G 12791418.48 12791418.66 12791418.86 0.0139 0.0089 Neptune 30310-06-17 04:33 G 12791726.46 12791726.69 12791726.95 0.0088 0.0025 Neptune 30311-06-19 15:07 G 12792093.89 12792094.13 12792094.40 0.0088 0.0013 Jupiter 30311-08-02 08:09 G 12792137.67 12792137.84 12792138.01 0.0491 0.0330 Saturn 30312-01-30 20:24 G 12792319.14 12792319.35 12792319.57 0.0282 0.0133 Neptune 30312-06-21 01:55 G 12792461.33 12792461.58 12792461.84 0.0088 0.0002 Jupiter 30312-09-01 11:02 G 12792533.74 12792533.96 12792534.19 0.0498 0.0119 Neptune 30313-06-23 12:14 G 12792828.76 12792829.01 12792829.27 0.0088 0.0012 Neptune 30314-06-25 22:33 G 12793196.20 12793196.44 12793196.70 0.0088 0.0024

Neptune 30315-06-28 08:53 G 12793563.65 12793563.87 12793564.12 0.0088 0.0036 Neptune 30316-06-29 19:12 G 12793931.10 12793931.30 12793931.53 0.0088 0.0048 Neptune 30317-07-02 05:17 G 12794298.56 12794298.72 12794298.94 0.0088 0.0060 Jupiter 30318-02-24 17:17 G 12794535.99 12794536.22 12794536.46 0.0531 0.0020 Neptune 30318-07-04 15:36 G 12794666.03 12794666.15 12794666.33 0.0088 0.0072 Neptune 30319-07-07 02:24 G 12795033.54 12795033.60 12795033.70 0.0088 0.0083 Jupiter 30323-08-06 14:53 G 12796524.93 12796525.12 12796525.32 0.0492 0.0273 Jupiter 30324-09-05 19:55 G 12796921.12 12796921.33 12796921.55 0.0499 0.0183 Saturn 30328-08-08 09:36 G 12798353.69 12798353.90 12798354.13 0.0281 0.0129 Jupiter 30329-01-23 16:05 G 12798522.07 12798522.17 12798522.27 0.0536 0.0481 Jupiter 30330-03-01 21:07 G 12798924.15 12798924.38 12798924.61 0.0530 0.0102 Jupiter 30335-08-10 21:50 G 12800912.20 12800912.41 12800912.63 0.0492 0.0210 Jupiter 30336-09-10 06:14 G 12801308.56 12801308.76 12801308.97 0.0500 0.0250 Jupiter 30341-01-29 00:29 G 12802910.37 12802910.52 12802910.68 0.0536 0.0402 Saturn 30342-02-06 13:12 G 12803283.83 12803284.05 12803284.28 0.0280 0.0104 Jupiter 30342-03-07 01:55 G 12803312.36 12803312.58 12803312.80 0.0528 0.0185 Jupiter 30347-08-15 03:50 G 12805299.44 12805299.66 12805299.89 0.0493 0.0148 Jupiter 30348-09-14 16:48 G 12805696.02 12805696.20 12805696.38 0.0502 0.0315 Uranus 30351-01-31 01:12 G 12806564.40 12806564.55 12806564.70 0.0138 0.0110 Uranus 30352-02-04 16:19 G 12806933.95 12806934.18 12806934.44 0.0139 0.0039 Jupiter 30353-02-03 07:26 G 12807298.62 12807298.81 12807299.00 0.0535 0.0318 Uranus 30353-02-08 08:24 G 12807303.62 12807303.85 12807304.11 0.0139 0.0035 Uranus 30354-02-13 01:26 G 12807673.41 12807673.56 12807673.73 0.0139 0.0108 Jupiter 30354-03-12 04:05 G 12807700.47 12807700.67 12807700.87 0.0527 0.0265 Mars 30357-06-12 16:48 G 12808889.03 12808889.20 12808889.37 0.1634 0.0754 Saturn 30357-08-02 20:09 G 12808940.11 12808940.34 12808940.58 0.0279 0.0064 Jupiter 30359-08-19 13:12 G 12809686.82 12809687.05 12809687.28 0.0494 0.0082 Jupiter 30360-09-19 06:43 G 12810083.63 12810083.78 12810083.93 0.0503 0.0382 Jupiter 30365-02-08 07:41 G 12811686.61 12811686.82 12811687.03 0.0534 0.0240 Jupiter 30366-03-16 23:02 G 12812088.28 12812088.46 12812088.64 0.0525 0.0338

Jupiter 30370-07-24 01:26 G 12813678.47 12813678.56 12813678.66 0.0491 0.0447 Saturn 30371-02-01 05:45 G 12813870.51 12813870.74 12813870.98 0.0282 0.0077 Jupiter 30371-08-23 23:31 G 12814074.25 12814074.48 12814074.72 0.0495 0.0018 Jupiter 30372-09-23 20:53 G 12814471.27 12814471.37 12814471.48 0.0505 0.0447 Jupiter 30377-02-13 11:02 G 12816074.74 12816074.96 12816075.19 0.0533 0.0156 Jupiter 30378-03-21 22:05 G 12816476.28 12816476.42 12816476.57 0.0524 0.0411 Jupiter 30382-07-28 08:38 G 12818065.73 12818065.86 12818066.00 0.0491 0.0392 Jupiter 30383-08-28 07:41 G 12818461.59 12818461.82 12818462.05 0.0496 0.0048 Jupiter 30384-09-28 08:53 G 12818858.87 12818858.87 12818858.88 0.0506 0.0506 Pluto 30386-02-06 01:55 G 12819354.32 12819354.58 12819354.84 0.0065 0.0001 Saturn 30386-07-28 13:41 G 12819526.96 12819527.07 12819527.20 0.0278 0.0241 Saturn 30387-08-10 14:09 G 12819904.90 12819905.09 12819905.28 0.0282 0.0177 Neptune 30387-12-05 20:38 G 12820022.32 12820022.36 12820022.46 0.0090 0.0087 Neptune 30388-12-07 09:50 G 12820389.79 12820389.91 12820390.08 0.0090 0.0074 Jupiter 30389-02-18 15:50 G 12820462.93 12820463.16 12820463.39 0.0533 0.0073 Neptune 30389-12-09 23:02 G 12820757.28 12820757.46 12820757.66 0.0090 0.0061 Jupiter 30390-03-26 22:19 G 12820864.35 12820864.43 12820864.53 0.0522 0.0478 Uranus 30390-07-31 10:48 G 12820990.86 12820990.95 12820991.04 0.0140 0.0131 Neptune 30390-12-12 11:31 G 12821124.79 12821124.98 12821125.22 0.0090 0.0049 Uranus 30391-08-05 03:36 G 12821360.42 12821360.65 12821360.88 0.0140 0.0056 Neptune 30391-12-15 00:29 G 12821492.30 12821492.52 12821492.78 0.0090 0.0036 Uranus 30392-08-08 19:41 G 12821730.07 12821730.32 12821730.58 0.0139 0.0018 Neptune 30392-12-16 13:26 G 12821859.83 12821860.06 12821860.33 0.0090 0.0023 Uranus 30393-08-13 11:02 G 12822099.78 12822099.96 12822100.16 0.0139 0.0090 Neptune 30393-12-19 02:38 G 12822227.36 12822227.61 12822227.88 0.0090 0.0010 Jupiter 30394-08-01 15:21 G 12822452.98 12822453.14 12822453.32 0.0491 0.0335 Neptune 30394-12-21 15:36 G 12822594.89 12822595.15 12822595.41 0.0090 0.0004 Jupiter 30395-09-01 17:02 G 12822848.98 12822849.21 12822849.43 0.0497 0.0115 Neptune 30395-12-24 04:19 G 12822962.44 12822962.68 12822962.94 0.0090 0.0017 Neptune 30396-12-25 17:17 G 12823329.99 12823330.22 12823330.47 0.0090 0.0029

Neptune 30397-12-28 06:00 G 12823697.55 12823697.75 12823698.00 0.0090 0.0043 Neptune 30398-12-30 19:26 G 12824065.12 12824065.31 12824065.52 0.0090 0.0055 Neptune 30400-01-02 08:09 G 12824432.69 12824432.84 12824433.03 0.0090 0.0068 Saturn 30400-01-26 12:43 G 12824456.98 12824457.03 12824457.10 0.0283 0.0273 Neptune 30401-01-03 21:21 G 12824800.30 12824800.39 12824800.52 0.0090 0.0081 Saturn 30401-02-07 20:53 G 12824835.16 12824835.37 12824835.57 0.0279 0.0157 Jupiter 30401-02-23 22:33 G 12824851.21 12824851.44 12824851.68 0.0532 0.0018 Jupiter 30406-08-05 21:21 G 12826840.20 12826840.39 12826840.58 0.0492 0.0275 Jupiter 30407-09-06 01:55 G 12827236.36 12827236.58 12827236.79 0.0499 0.0182 Jupiter 30412-01-23 21:36 G 12828837.31 12828837.40 12828837.51 0.0536 0.0485 Jupiter 30413-03-01 03:21 G 12829239.41 12829239.64 12829239.87 0.0530 0.0100 Saturn 30416-08-03 21:36 G 12830491.15 12830491.40 12830491.64 0.0280 0.0020 Jupiter 30418-08-10 06:00 G 12831227.54 12831227.75 12831227.96 0.0492 0.0211 Jupiter 30419-09-10 14:24 G 12831623.91 12831624.10 12831624.31 0.0500 0.0250 Jupiter 30424-01-28 23:31 G 12833225.34 12833225.48 12833225.64 0.0535 0.0410 Jupiter 30425-03-06 00:29 G 12833627.30 12833627.52 12833627.74 0.0529 0.0178 Mars 30429-12-11 23:02 G 12835369.31 12835369.46 12835369.60 0.1903 0.1300 Saturn 30430-02-02 11:02 G 12835421.72 12835421.96 12835422.21 0.0282 0.0027 Jupiter 30430-08-14 15:21 G 12835614.92 12835615.14 12835615.37 0.0493 0.0149 Jupiter 30431-09-15 03:36 G 12836011.47 12836011.65 12836011.84 0.0501 0.0316 Uranus 30435-01-31 10:33 G 12837245.81 12837245.94 12837246.13 0.0138 0.0108 Jupiter 30436-02-03 04:05 G 12837613.49 12837613.67 12837613.86 0.0535 0.0329 Uranus 30436-02-05 02:53 G 12837615.37 12837615.62 12837615.86 0.0139 0.0035 Uranus 30437-02-08 18:43 G 12837985.05 12837985.28 12837985.54 0.0139 0.0038 Jupiter 30437-03-11 01:26 G 12838015.36 12838015.56 12838015.76 0.0527 0.0258 Uranus 30438-02-13 11:17 G 12838354.84 12838354.97 12838355.14 0.0139 0.0112 Jupiter 30442-08-18 23:31 G 12840002.25 12840002.48 12840002.71 0.0494 0.0085 Jupiter 30443-09-19 14:38 G 12840398.96 12840399.11 12840399.26 0.0503 0.0380 Saturn 30445-07-29 13:41 G 12841077.90 12841078.07 12841078.24 0.0278 0.0199 Saturn 30446-08-11 14:24 G 12841455.95 12841456.10 12841456.25 0.0282 0.0220

Jupiter 30448-02-08 09:21 G 12842001.68 12842001.89 12842002.09 0.0535 0.0248 Jupiter 30449-03-16 03:21 G 12842403.47 12842403.64 12842403.82 0.0526 0.0335 Jupiter 30453-07-23 11:17 G 12843993.89 12843993.97 12843994.07 0.0491 0.0450 Jupiter 30454-08-23 07:41 G 12844389.59 12844389.82 12844390.06 0.0495 0.0022 Jupiter 30455-09-24 03:07 G 12844786.53 12844786.63 12844786.74 0.0504 0.0444 Saturn 30459-01-27 18:00 G 12846008.10 12846008.25 12846008.40 0.0283 0.0222 Saturn 30460-02-10 01:26 G 12846386.40 12846386.56 12846386.73 0.0279 0.0205 Jupiter 30460-02-13 17:17 G 12846390.00 12846390.22 12846390.44 0.0534 0.0161 Jupiter 30461-03-21 06:43 G 12846791.64 12846791.78 12846791.93 0.0524 0.0410 Jupiter 30465-07-27 17:17 G 12848381.08 12848381.22 12848381.36 0.0491 0.0393 Jupiter 30466-08-27 15:50 G 12848776.93 12848777.16 12848777.39 0.0496 0.0047 Jupiter 30467-09-28 16:33 G 12849174.19 12849174.19 12849174.19 0.0506 0.0506 Neptune 30470-06-07 22:05 G 12850157.34 12850157.42 12850157.56 0.0088 0.0079 Neptune 30471-06-10 08:38 G 12850524.72 12850524.86 12850525.05 0.0088 0.0067 Jupiter 30472-02-19 00:00 G 12850778.27 12850778.50 12850778.74 0.0533 0.0074 Neptune 30472-06-11 19:26 G 12850892.13 12850892.31 12850892.53 0.0088 0.0055 Jupiter 30473-03-26 07:12 G 12851179.71 12851179.80 12851179.89 0.0522 0.0479 Neptune 30473-06-14 05:45 G 12851259.54 12851259.74 12851259.99 0.0088 0.0043 Neptune 30474-06-16 16:19 G 12851626.96 12851627.18 12851627.44 0.0088 0.0031 Uranus 30474-07-31 19:12 G 12851672.21 12851672.30 12851672.41 0.0140 0.0128 Pluto 30474-08-08 23:02 G 12851680.27 12851680.46 12851680.66 0.0079 0.0050 Neptune 30475-06-19 03:36 G 12851994.40 12851994.65 12851994.90 0.0088 0.0018 Uranus 30475-08-05 12:14 G 12852041.78 12852042.01 12852042.24 0.0140 0.0054 Saturn 30475-08-05 19:26 G 12852042.07 12852042.31 12852042.56 0.0280 0.0021 \* Neptune 30476-06-20 13:55 G 12852361.83 12852362.08 12852362.34 0.0088 0.0006 Uranus 30476-08-09 04:19 G 12852411.43 12852411.68 12852411.93 0.0139 0.0019 Neptune 30477-06-23 00:29 G 12852729.27 12852729.52 12852729.78 0.0088 0.0007 Jupiter 30477-08-01 01:26 G 12852768.40 12852768.56 12852768.74 0.0491 0.0335 Uranus 30477-08-13 19:41 G 12852781.14 12852781.32 12852781.52 0.0139 0.0092 Neptune 30478-06-25 10:48 G 12853096.71 12853096.95 12853097.21 0.0088 0.0019

Jupiter 30478-09-01 03:07 G 12853164.40 12853164.63 12853164.86 0.0497 0.0116 Neptune 30479-06-27 21:21 G 12853464.16 12853464.39 12853464.64 0.0088 0.0031 Neptune 30480-06-29 07:41 G 12853831.61 12853831.82 12853832.06 0.0088 0.0043 Neptune 30481-07-01 18:00 G 12854199.06 12854199.25 12854199.46 0.0088 0.0055 Neptune 30482-07-04 04:19 G 12854566.54 12854566.68 12854566.86 0.0088 0.0067 Neptune 30483-07-06 14:38 G 12854934.02 12854934.11 12854934.24 0.0088 0.0079 Jupiter 30484-02-23 23:31 G 12855166.25 12855166.48 12855166.71 0.0531 0.0008 Saturn 30489-02-03 13:12 G 12856972.80 12856973.05 12856973.29 0.0282 0.0021 Jupiter 30489-08-05 10:05 G 12857155.73 12857155.92 12857156.11 0.0492 0.0276 Jupiter 30490-09-05 15:07 G 12857551.92 12857552.13 12857552.35 0.0498 0.0183 Jupiter 30495-01-22 21:21 G 12859152.31 12859152.39 12859152.49 0.0536 0.0494 Jupiter 30496-02-29 02:09 G 12859554.36 12859554.59 12859554.82 0.0530 0.0092 Jupiter 30501-08-10 17:45 G 12861543.04 12861543.24 12861543.46 0.0492 0.0216 Jupiter 30502-09-11 01:12 G 12861939.35 12861939.55 12861939.76 0.0499 0.0247 Saturn 30504-07-31 11:02 G 12862628.76 12862628.96 12862629.16 0.0278 0.0160 Saturn 30505-08-13 12:00 G 12863006.91 12863007.00 12863007.09 0.0282 0.0260 Jupiter 30507-01-29 02:24 G 12863540.47 12863540.60 12863540.76 0.0536 0.0418 Jupiter 30508-03-06 05:17 G 12863942.51 12863942.72 12863942.95 0.0529 0.0174 Jupiter 30513-08-15 01:55 G 12865930.36 12865930.58 12865930.80 0.0493 0.0151 Jupiter 30514-09-15 12:14 G 12866326.83 12866327.01 12866327.19 0.0501 0.0314 Saturn 30518-01-29 19:26 G 12867559.12 12867559.31 12867559.50 0.0283 0.0176 Uranus 30519-02-01 20:38 G 12867927.21 12867927.36 12867927.55 0.0138 0.0104 Jupiter 30519-02-03 10:48 G 12867928.77 12867928.95 12867929.13 0.0536 0.0335 Saturn 30519-02-12 02:24 G 12867937.50 12867937.60 12867937.71 0.0279 0.0250 Uranus 30520-02-06 12:43 G 12868296.79 12868297.03 12868297.28 0.0139 0.0032 Jupiter 30520-03-11 10:33 G 12868330.74 12868330.94 12868331.15 0.0528 0.0257 Uranus 30521-02-10 04:48 G 12868666.46 12868666.70 12868666.95 0.0139 0.0041 Uranus 30522-02-14 21:36 G 12869036.27 12869036.40 12869036.56 0.0139 0.0115 Jupiter 30525-08-19 09:07 G 12870317.65 12870317.88 12870318.11 0.0494 0.0086 Jupiter 30526-09-19 23:45 G 12870714.34 12870714.49 12870714.65 0.0502 0.0380

Jupiter 30531-02-08 18:57 G 12872317.09 12872317.29 12872317.50 0.0535 0.0249 Jupiter 30532-03-16 13:55 G 12872718.90 12872719.08 12872719.26 0.0526 0.0336 Saturn 30534-08-07 15:07 G 12873592.89 12873593.13 12873593.37 0.0280 0.0057 Jupiter 30536-07-23 22:33 G 12874309.36 12874309.44 12874309.54 0.0491 0.0451 Jupiter 30537-08-23 19:26 G 12874705.08 12874705.31 12874705.55 0.0495 0.0021 Jupiter 30538-09-24 14:53 G 12875102.02 12875102.12 12875102.23 0.0504 0.0447 Jupiter 30543-02-13 20:53 G 12876705.15 12876705.37 12876705.60 0.0534 0.0170 Jupiter 30544-03-21 09:36 G 12877106.75 12877106.90 12877107.04 0.0524 0.0405 Saturn 30548-02-06 12:43 G 12878523.79 12878524.03 12878524.27 0.0282 0.0064 Jupiter 30548-07-28 06:14 G 12878696.63 12878696.76 12878696.90 0.0491 0.0397 Jupiter 30549-08-28 06:14 G 12879092.52 12879092.76 12879092.99 0.0496 0.0048 Neptune 30552-12-07 20:09 G 12880290.25 12880290.34 12880290.47 0.0090 0.0081 Neptune 30553-12-10 09:07 G 12880657.73 12880657.88 12880658.07 0.0090 0.0068 Neptune 30554-12-12 22:19 G 12881025.23 12881025.43 12881025.64 0.0090 0.0055 Jupiter 30555-02-19 00:43 G 12881093.30 12881093.53 12881093.76 0.0533 0.0083 Neptune 30555-12-15 11:02 G 12881392.74 12881392.96 12881393.20 0.0090 0.0042 Jupiter 30556-03-26 08:24 G 12881494.76 12881494.85 12881494.95 0.0523 0.0476 Neptune 30556-12-17 00:14 G 12881760.27 12881760.51 12881760.76 0.0090 0.0029 Neptune 30557-12-19 12:57 G 12882127.79 12882128.04 12882128.30 0.0090 0.0016 Uranus 30558-08-02 05:02 G 12882353.62 12882353.71 12882353.84 0.0140 0.0126 Neptune 30558-12-22 01:55 G 12882495.32 12882495.58 12882495.84 0.0090 0.0003 Uranus 30559-08-06 21:50 G 12882723.19 12882723.41 12882723.66 0.0140 0.0052 Neptune 30559-12-24 14:38 G 12882862.86 12882863.11 12882863.37 0.0090 0.0011 Jupiter 30560-08-01 14:09 G 12883083.93 12883084.09 12883084.26 0.0491 0.0340 Uranus 30560-08-10 14:24 G 12883092.85 12883093.10 12883093.35 0.0139 0.0022 Neptune 30560-12-26 03:21 G 12883230.40 12883230.64 12883230.90 0.0090 0.0024 Uranus 30561-08-15 05:31 G 12883462.56 12883462.73 12883462.93 0.0139 0.0095 Jupiter 30561-09-01 15:21 G 12883479.92 12883480.14 12883480.37 0.0497 0.0114 Neptune 30561-12-28 16:19 G 12883597.95 12883598.18 12883598.42 0.0090 0.0037 30562-06-12 17:02 G 12883764.02 12883764.21 12883764.40 0.1642 0.0263 Mars

Neptune 30562-12-31 05:02 G 12883965.51 12883965.71 12883965.94 0.0090 0.0050 Saturn 30563-08-02 06:29 G 12884179.56 12884179.77 12884180.00 0.0278 0.0123 Neptune 30564-01-02 18:00 G 12884333.08 12884333.25 12884333.45 0.0090 0.0063 Neptune 30565-01-04 06:57 G 12884700.67 12884700.79 12884700.95 0.0090 0.0076 Neptune 30566-01-06 19:41 G 12885068.31 12885068.32 12885068.40 0.0090 0.0089 Jupiter 30567-02-24 04:48 G 12885481.47 12885481.70 12885481.93 0.0532 0.0002 Jupiter 30572-08-05 21:50 G 12887471.22 12887471.41 12887471.61 0.0492 0.0278 Jupiter 30573-09-06 01:26 G 12887867.35 12887867.56 12887867.78 0.0498 0.0181 Saturn 30577-01-30 18:57 G 12889110.08 12889110.29 12889110.51 0.0283 0.0132 Jupiter 30578-01-23 04:05 G 12889467.60 12889467.67 12889467.76 0.0536 0.0500 Jupiter 30579-03-01 11:02 G 12889869.73 12889869.96 12889870.19 0.0531 0.0090 Jupiter 30584-08-10 05:02 G 12891858.50 12891858.71 12891858.92 0.0492 0.0216 Jupiter 30585-09-10 11:31 G 12892254.78 12892254.98 12892255.18 0.0499 0.0247 Jupiter 30590-01-28 12:43 G 12893855.90 12893856.03 12893856.19 0.0536 0.0420 Jupiter 30591-03-06 16:33 G 12894257.97 12894258.19 12894258.41 0.0529 0.0174 Saturn 30593-08-08 10:19 G 12895143.70 12895143.93 12895144.16 0.0280 0.0095 Jupiter 30596-08-14 14:24 G 12896245.88 12896246.10 12896246.32 0.0493 0.0150 Jupiter 30597-09-15 00:57 G 12896642.37 12896642.54 12896642.72 0.0501 0.0317 Jupiter 30602-02-03 17:17 G 12898244.04 12898244.22 12898244.40 0.0535 0.0342 Uranus 30603-02-03 06:14 G 12898608.59 12898608.76 12898608.93 0.0138 0.0102 Jupiter 30603-03-12 14:53 G 12898645.92 12898646.12 12898646.33 0.0527 0.0251 Uranus 30604-02-07 21:50 G 12898978.17 12898978.41 12898978.67 0.0139 0.0030 Uranus 30605-02-11 14:09 G 12899347.85 12899348.09 12899348.33 0.0139 0.0043 Uranus 30606-02-16 06:29 G 12899717.65 12899717.77 12899717.92 0.0140 0.0118 Saturn 30607-02-08 10:05 G 12900074.71 12900074.92 12900075.16 0.0282 0.0107 Jupiter 30608-08-19 23:31 G 12900633.26 12900633.48 12900633.71 0.0494 0.0088 Jupiter 30609-09-20 14:38 G 12901029.97 12901030.11 12901030.27 0.0502 0.0383 Jupiter 30614-02-08 21:50 G 12902632.21 12902632.41 12902632.62 0.0534 0.0259 Jupiter 30615-03-17 15:21 G 12903033.97 12903034.14 12903034.33 0.0526 0.0330 Jupiter 30619-07-25 11:02 G 12904624.88 12904624.96 12904625.05 0.0491 0.0456

Jupiter 30620-08-24 08:24 G 12905020.61 12905020.85 12905021.08 0.0495 0.0023 Jupiter 30621-09-25 02:38 G 12905417.51 12905417.61 12905417.72 0.0504 0.0444 Saturn 30622-08-04 01:41 G 12905730.34 12905730.57 12905730.81 0.0278 0.0085 Jupiter 30626-02-14 01:55 G 12907020.36 12907020.58 12907020.80 0.0534 0.0176 Jupiter 30627-03-22 16:48 G 12907422.05 12907422.20 12907422.35 0.0525 0.0403 Jupiter 30631-07-29 18:57 G 12909012.16 12909012.29 12909012.43 0.0491 0.0399 Jupiter 30632-08-28 17:31 G 12909408.00 12909408.23 12909408.46 0.0495 0.0045 Pluto 30633-02-09 14:24 G 12909572.85 12909573.10 12909573.36 0.0065 0.0010 Neptune 30634-06-09 10:05 G 12910057.90 12910057.92 12910058.01 0.0088 0.0086 Neptune 30635-06-11 21:07 G 12910425.25 12910425.38 12910425.53 0.0088 0.0073 Saturn 30636-02-02 17:31 G 12910661.00 12910661.23 12910661.46 0.0283 0.0089 Neptune 30636-06-13 07:41 G 12910792.64 12910792.82 12910793.01 0.0088 0.0061 Neptune 30637-06-15 17:45 G 12911160.05 12911160.24 12911160.47 0.0088 0.0049 Jupiter 30638-02-19 08:53 G 12911408.64 12911408.87 12911409.10 0.0533 0.0087 Neptune 30638-06-18 04:33 G 12911527.47 12911527.69 12911527.93 0.0088 0.0037 Jupiter 30639-03-27 19:26 G 12911810.21 12911810.31 12911810.40 0.0523 0.0476 Neptune 30639-06-20 15:07 G 12911894.88 12911895.13 12911895.38 0.0088 0.0024 Neptune 30640-06-22 01:41 G 12912262.32 12912262.57 12912262.83 0.0088 0.0012 Mars 30641-06-15 19:55 G 12912621.24 12912621.33 12912621.41 0.1639 0.1448 Neptune 30641-06-24 12:14 G 12912629.75 12912630.01 12912630.27 0.0088 0.0000 Neptune 30642-06-26 22:48 G 12912997.20 12912997.45 12912997.71 0.0088 0.0013 Uranus 30642-08-03 15:50 G 12913035.06 12913035.16 12913035.30 0.0140 0.0123 Neptune 30643-06-29 09:07 G 12913364.65 12913364.88 12913365.14 0.0088 0.0026 Jupiter 30643-08-03 01:55 G 12913399.42 12913399.58 12913399.75 0.0491 0.0341 Uranus 30643-08-08 08:53 G 12913404.64 12913404.87 12913405.11 0.0140 0.0048 Neptune 30644-06-30 19:26 G 12913732.10 12913732.31 12913732.56 0.0088 0.0038 Uranus 30644-08-12 00:43 G 12913774.29 12913774.53 12913774.79 0.0139 0.0027 Jupiter 30644-09-02 02:09 G 12913795.37 12913795.59 12913795.82 0.0496 0.0113 Neptune 30645-07-03 06:14 G 12914099.56 12914099.76 12914099.98 0.0088 0.0050 Uranus 30645-08-16 16:19 G 12914144.00 12914144.18 12914144.36 0.0139 0.0098

Neptune 30646-07-05 16:33 G 12914467.02 12914467.19 12914467.38 0.0088 0.0062 Neptune 30647-07-08 03:21 G 12914834.50 12914834.64 12914834.77 0.0088 0.0074 Neptune 30648-07-09 13:41 G 12915202.03 12915202.07 12915202.11 0.0088 0.0086 Jupiter 30650-02-24 16:05 G 12915796.93 12915797.17 12915797.40 0.0532 0.0008 Saturn 30651-07-29 09:21 G 12916316.89 12916316.89 12916316.92 0.0276 0.0275 Saturn 30652-08-10 05:45 G 12916694.53 12916694.74 12916694.96 0.0280 0.0133 Jupiter 30655-08-07 10:33 G 12917786.75 12917786.94 12917787.14 0.0492 0.0279 Jupiter 30656-09-06 14:09 G 12918182.87 12918183.09 12918183.31 0.0498 0.0182 Jupiter 30661-01-23 12:29 G 12919782.96 12919783.02 12919783.11 0.0535 0.0507 Jupiter 30662-03-01 17:02 G 12920184.98 12920185.21 12920185.44 0.0530 0.0082 Saturn 30666-02-09 08:09 G 12921625.63 12921625.84 12921626.05 0.0282 0.0148 Jupiter 30667-08-11 18:14 G 12922174.05 12922174.26 12922174.47 0.0493 0.0219 Jupiter 30668-09-11 02:09 G 12922570.39 12922570.59 12922570.79 0.0499 0.0248 Jupiter 30673-01-28 17:45 G 12924171.11 12924171.24 12924171.39 0.0535 0.0428 Jupiter 30674-03-06 18:57 G 12924573.07 12924573.29 12924573.52 0.0529 0.0166 Jupiter 30679-08-16 02:38 G 12926561.39 12926561.61 12926561.83 0.0493 0.0155 Jupiter 30680-09-15 12:57 G 12926957.86 12926958.04 12926958.22 0.0500 0.0313 Saturn 30681-08-04 22:33 G 12927281.20 12927281.44 12927281.68 0.0278 0.0046 Jupiter 30685-02-02 21:21 G 12928559.22 12928559.39 12928559.58 0.0535 0.0349 Jupiter 30686-03-11 20:53 G 12928961.16 12928961.37 12928961.58 0.0528 0.0247 Uranus 30687-02-03 13:12 G 12929289.89 12929290.05 12929290.24 0.0138 0.0101 Uranus 30688-02-08 05:02 G 12929659.47 12929659.71 12929659.97 0.0139 0.0029 Uranus 30689-02-11 21:07 G 12930029.15 12930029.38 12930029.63 0.0139 0.0045 Uranus 30690-02-16 13:55 G 12930398.96 12930399.08 12930399.22 0.0140 0.0119 Jupiter 30691-08-20 11:17 G 12930948.74 12930948.97 12930949.20 0.0494 0.0090 Jupiter 30692-09-20 00:29 G 12931345.37 12931345.52 12931345.68 0.0502 0.0379 Saturn 30695-02-03 15:50 G 12932211.92 12932212.16 12932212.41 0.0283 0.0046 Jupiter 30697-02-08 04:19 G 12932947.48 12932947.68 12932947.89 0.0535 0.0264 Jupiter 30698-03-17 00:57 G 12933349.36 12933349.54 12933349.72 0.0527 0.0328 Jupiter 30702-07-25 22:48 G 12934940.38 12934940.45 12934940.54 0.0491 0.0458

Jupiter 30703-08-25 18:57 G 12935336.06 12935336.29 12935336.53 0.0494 0.0024 Jupiter 30704-09-25 12:14 G 12935732.91 12935733.01 12935733.12 0.0503 0.0444 Jupiter 30709-02-14 12:29 G 12937335.80 12937336.02 12937336.24 0.0534 0.0178 Jupiter 30710-03-23 03:50 G 12937737.52 12937737.66 12937737.81 0.0525 0.0404 Saturn 30710-07-31 07:12 G 12937867.68 12937867.80 12937867.94 0.0276 0.0235 Saturn 30711-08-13 03:21 G 12938245.45 12938245.64 12938245.83 0.0280 0.0174 30713-12-14 06:43 G 12939099.58 12939099.78 12939099.97 0.1894 0.0319 Mars Jupiter 30714-07-30 06:57 G 12939327.66 12939327.79 12939327.93 0.0491 0.0401 Jupiter 30715-08-30 05:31 G 12939723.50 12939723.73 12939723.96 0.0495 0.0045 Neptune 30716-12-09 06:00 G 12940190.72 12940190.75 12940190.81 0.0090 0.0088 Neptune 30717-12-11 18:57 G 12940558.16 12940558.29 12940558.44 0.0090 0.0075 Neptune 30718-12-14 07:55 G 12940925.66 12940925.83 12940926.03 0.0090 0.0062 Neptune 30719-12-16 21:07 G 12941293.17 12941293.38 12941293.61 0.0090 0.0049 Pluto 30720-08-11 13:55 G 12941531.99 12941532.08 12941532.19 0.0080 0.0073 Neptune 30720-12-18 10:05 G 12941660.69 12941660.92 12941661.16 0.0090 0.0036 Jupiter 30721-02-19 15:50 G 12941723.93 12941724.16 12941724.39 0.0533 0.0095 Neptune 30721-12-20 23:02 G 12942028.22 12942028.46 12942028.72 0.0090 0.0022 Jupiter 30722-03-28 00:29 G 12942125.42 12942125.52 12942125.62 0.0523 0.0470 Neptune 30722-12-23 12:00 G 12942395.75 12942396.00 12942396.26 0.0090 0.0009 Neptune 30723-12-26 00:57 G 12942763.29 12942763.54 12942763.80 0.0090 0.0005 Saturn 30724-01-29 17:31 G 12942798.12 12942798.23 12942798.35 0.0286 0.0250 Neptune 30724-12-27 13:55 G 12943130.83 12943131.08 12943131.34 0.0090 0.0018 Saturn 30725-02-11 06:29 G 12943176.59 12943176.77 12943176.95 0.0282 0.0191 Neptune 30725-12-30 02:38 G 12943498.37 12943498.61 12943498.85 0.0090 0.0031 Jupiter 30726-08-03 13:12 G 12943714.89 12943715.05 12943715.22 0.0492 0.0347 Uranus 30726-08-05 02:24 G 12943716.48 12943716.60 12943716.73 0.0140 0.0120 Neptune 30727-01-01 15:07 G 12943865.93 12943866.13 12943866.38 0.0090 0.0045 Uranus 30727-08-09 18:57 G 12944086.05 12944086.29 12944086.53 0.0140 0.0045 Jupiter 30727-09-03 15:21 G 12944110.91 12944111.14 12944111.36 0.0497 0.0111 Neptune 30728-01-04 04:05 G 12944233.49 12944233.67 12944233.89 0.0090 0.0058 Uranus 30728-08-13 11:02 G 12944455.72 12944455.96 12944456.21 0.0139 0.0029 Neptune 30729-01-05 17:02 G 12944601.07 12944601.21 12944601.39 0.0090 0.0071 Uranus 30729-08-18 02:09 G 12944825.43 12944825.59 12944825.77 0.0139 0.0101 Neptune 30730-01-08 05:45 G 12944968.68 12944968.74 12944968.86 0.0090 0.0084 Jupiter 30733-02-24 19:12 G 12946112.07 12946112.30 12946112.53 0.0532 0.0008 Jupiter 30738-08-07 21:07 G 12948102.19 12948102.38 12948102.57 0.0492 0.0286 Jupiter 30739-09-08 01:12 G 12948498.34 12948498.55 12948498.77 0.0498 0.0177 Saturn 30740-08-06 21:21 G 12948832.14 12948832.39 12948832.63 0.0278 0.0004 Jupiter 30744-01-24 15:50 G 12950098.10 12950098.16 12950098.23 0.0535 0.0513 Jupiter 30745-03-01 21:07 G 12950500.15 12950500.38 12950500.61 0.0531 0.0076 Jupiter 30750-08-12 05:31 G 12952489.52 12952489.73 12952489.94 0.0492 0.0221 Jupiter 30751-09-12 11:17 G 12952885.78 12952885.97 12952886.18 0.0499 0.0245 Saturn 30754-02-05 16:05 G 12953762.93 12953763.17 12953763.42 0.0283 0.0003 Jupiter 30756-01-29 22:05 G 12954486.29 12954486.42 12954486.56 0.0536 0.0435 Jupiter 30757-03-07 01:41 G 12954888.35 12954888.57 12954888.80 0.0530 0.0162 Jupiter 30762-08-16 12:43 G 12956876.81 12956877.03 12956877.25 0.0493 0.0158 Jupiter 30763-09-16 21:36 G 12957273.22 12957273.40 12957273.58 0.0500 0.0311 30767-06-13 14:53 G 12958639.02 12958639.12 12958639.22 0.1651 0.1398 Mars Jupiter 30768-02-04 06:00 G 12958874.58 12958874.75 12958874.93 0.0535 0.0353 Jupiter 30769-03-12 06:29 G 12959276.57 12959276.77 12959276.98 0.0528 0.0246 Saturn 30769-08-01 08:24 G 12959418.68 12959418.85 12959419.03 0.0276 0.0190 Saturn 30770-08-14 04:19 G 12959796.54 12959796.68 12959796.84 0.0280 0.0221 Uranus 30771-02-04 20:09 G 12959971.17 12959971.34 12959971.52 0.0138 0.0100 Uranus 30772-02-09 11:31 G 12960340.73 12960340.98 12960341.23 0.0139 0.0028 Uranus 30773-02-13 03:36 G 12960710.41 12960710.65 12960710.89 0.0139 0.0046 Uranus 30774-02-17 19:55 G 12961080.21 12961080.33 12961080.47 0.0140 0.0120 Jupiter 30774-08-20 21:50 G 12961264.18 12961264.41 12961264.64 0.0494 0.0091 Jupiter 30775-09-21 10:48 G 12961660.81 12961660.95 12961661.11 0.0502 0.0380 Jupiter 30780-02-09 11:45 G 12963262.79 12963262.99 12963263.19 0.0534 0.0272 Jupiter 30781-03-17 05:45 G 12963664.56 12963664.74 12963664.93 0.0526 0.0321

Saturn 30783-01-30 18:00 G 12964349.08 12964349.25 12964349.42 0.0286 0.0204 Saturn 30784-02-13 06:43 G 12964727.66 12964727.78 12964727.92 0.0282 0.0237 Jupiter 30785-07-25 07:12 G 12965255.74 12965255.80 12965255.88 0.0491 0.0466 Jupiter 30786-08-25 05:45 G 12965651.50 12965651.74 12965651.97 0.0495 0.0030 Jupiter 30787-09-26 00:14 G 12966048.40 12966048.51 12966048.62 0.0504 0.0442 Jupiter 30792-02-14 15:50 G 12967650.95 12967651.16 12967651.38 0.0533 0.0188 Jupiter 30793-03-22 05:31 G 12968052.58 12968052.73 12968052.88 0.0525 0.0396 Jupiter 30797-07-29 15:07 G 12969643.01 12969643.13 12969643.26 0.0491 0.0409 Jupiter 30798-08-29 14:38 G 12970038.88 12970039.11 12970039.34 0.0496 0.0039 Neptune 30799-06-12 09:07 G 12970325.80 12970325.88 12970326.00 0.0088 0.0080 Saturn 30799-08-08 23:45 G 12970383.25 12970383.49 12970383.73 0.0278 0.0044 Jupiter 30799-09-30 12:29 G 12970436.01 12970436.02 12970436.04 0.0505 0.0503 Neptune 30800-06-13 19:26 G 12970693.17 12970693.31 12970693.50 0.0088 0.0068 Neptune 30801-06-16 06:00 G 12971060.58 12971060.75 12971060.98 0.0088 0.0056 Neptune 30802-06-18 16:48 G 12971427.99 12971428.20 12971428.43 0.0088 0.0043 Neptune 30803-06-21 03:07 G 12971795.41 12971795.63 12971795.89 0.0088 0.0031 Jupiter 30804-02-19 17:45 G 12972039.01 12972039.24 12972039.47 0.0533 0.0103 Neptune 30804-06-22 13:41 G 12972162.83 12972163.07 12972163.33 0.0088 0.0018 Jupiter 30805-03-27 04:19 G 12972440.58 12972440.68 12972440.79 0.0524 0.0466 Neptune 30805-06-25 00:14 G 12972530.26 12972530.51 12972530.78 0.0088 0.0006 Neptune 30806-06-27 10:48 G 12972897.70 12972897.95 12972898.21 0.0088 0.0008 Neptune 30807-06-29 21:07 G 12973265.14 12973265.38 12973265.64 0.0088 0.0020 Neptune 30808-07-01 07:41 G 12973632.60 12973632.82 12973633.07 0.0088 0.0033 Neptune 30809-07-03 18:14 G 12974000.05 12974000.26 12974000.49 0.0088 0.0045 Jupiter 30809-08-02 23:17 G 12974030.31 12974030.47 12974030.63 0.0491 0.0349 Neptune 30810-07-06 04:33 G 12974367.52 12974367.69 12974367.91 0.0088 0.0058 Uranus 30810-08-05 10:19 G 12974397.82 12974397.93 12974398.09 0.0140 0.0118 Jupiter 30810-09-03 00:00 G 12974426.27 12974426.50 12974426.73 0.0496 0.0107 Neptune 30811-07-08 14:53 G 12974734.99 12974735.12 12974735.30 0.0088 0.0070 Uranus 30811-08-10 03:21 G 12974767.41 12974767.64 12974767.89 0.0140 0.0044

Neptune 30812-07-10 01:26 G 12975102.49 12975102.56 12975102.67 0.0088 0.0082 Uranus 30812-08-13 19:41 G 12975137.07 12975137.32 12975137.57 0.0139 0.0031 Saturn 30813-02-06 18:29 G 12975314.02 12975314.27 12975314.51 0.0283 0.0048 Uranus 30813-08-18 10:48 G 12975506.78 12975506.95 12975507.12 0.0139 0.0103 Jupiter 30816-02-24 22:33 G 12976427.21 12976427.44 12976427.67 0.0532 0.0015 Jupiter 30821-08-07 06:14 G 12978417.57 12978417.76 12978417.95 0.0492 0.0288 Jupiter 30822-09-07 08:38 G 12978813.64 12978813.86 12978814.08 0.0497 0.0174 Jupiter 30827-01-23 21:36 G 12980413.35 12980413.40 12980413.46 0.0536 0.0520 Jupiter 30828-03-01 04:19 G 12980815.45 12980815.68 12980815.91 0.0531 0.0072 Saturn 30828-08-02 12:57 G 12980969.84 12980970.04 12980970.26 0.0276 0.0140 Saturn 30829-08-15 09:21 G 12981347.84 12981347.89 12981347.95 0.0280 0.0271 Jupiter 30833-08-11 14:09 G 12982804.89 12982805.09 12982805.30 0.0492 0.0225 Jupiter 30834-09-11 19:55 G 12983201.13 12983201.33 12983201.54 0.0499 0.0242 Jupiter 30839-01-29 04:48 G 12984801.57 12984801.70 12984801.83 0.0535 0.0443 Jupiter 30840-03-06 06:43 G 12985203.56 12985203.78 12985204.01 0.0529 0.0153 Saturn 30842-01-31 21:07 G 12985900.18 12985900.38 12985900.60 0.0286 0.0155 Jupiter 30845-08-15 20:09 G 12987192.13 12987192.34 12987192.57 0.0493 0.0165 30846-06-15 19:55 G 12987496.15 12987496.33 12987496.51 0.1647 0.0418 Mars Jupiter 30846-09-16 06:43 G 12987588.60 12987588.78 12987588.97 0.0500 0.0307 Jupiter 30851-02-03 09:36 G 12989189.73 12989189.90 12989190.07 0.0535 0.0362 Jupiter 30852-03-11 07:26 G 12989591.61 12989591.81 12989592.03 0.0528 0.0236 Uranus 30855-02-05 02:53 G 12990652.45 12990652.62 12990652.80 0.0138 0.0098 Uranus 30856-02-09 18:14 G 12991022.01 12991022.26 12991022.51 0.0139 0.0027 Uranus 30857-02-13 09:36 G 12991391.68 12991391.90 12991392.16 0.0139 0.0047 Jupiter 30857-08-20 04:33 G 12991579.47 12991579.69 12991579.92 0.0494 0.0100 Uranus 30858-02-18 02:09 G 12991761.48 12991761.59 12991761.74 0.0140 0.0121 Saturn 30858-08-10 06:00 G 12991934.52 12991934.75 12991934.98 0.0278 0.0096 Jupiter 30858-09-20 17:45 G 12991976.09 12991976.24 12991976.39 0.0502 0.0373 Jupiter 30863-02-08 10:48 G 12993577.75 12993577.95 12993578.15 0.0534 0.0282 Jupiter 30864-03-16 06:43 G 12993979.60 12993979.78 12993979.97 0.0527 0.0314

Jupiter 30868-07-24 15:50 G 12995571.10 12995571.16 12995571.24 0.0491 0.0469 Jupiter 30869-08-24 13:12 G 12995966.82 12995967.05 12995967.28 0.0494 0.0032 Jupiter 30870-09-25 05:17 G 12996363.62 12996363.72 12996363.84 0.0503 0.0437 Saturn 30872-02-09 00:14 G 12996865.28 12996865.51 12996865.74 0.0283 0.0100 Jupiter 30875-02-13 15:36 G 12997965.93 12997966.15 12997966.37 0.0534 0.0197 Jupiter 30876-03-21 08:09 G 12998367.69 12998367.84 12998368.00 0.0526 0.0391 30879-02-11 18:14 G 12999425.12 12999425.26 12999425.43 0.0065 0.0052 Pluto Pluto 30880-02-13 07:41 G 12999791.59 12999791.82 12999792.05 0.0065 0.0032 Jupiter 30880-07-28 22:48 G 12999958.33 12999958.45 12999958.58 0.0491 0.0413 Jupiter 30881-08-28 20:53 G 13000354.14 13000354.37 13000354.60 0.0495 0.0034 Neptune 30881-12-11 05:17 G 13000458.62 13000458.72 13000458.82 0.0090 0.0082 Jupiter 30882-09-29 16:33 G 13000751.16 13000751.19 13000751.23 0.0504 0.0499 Neptune 30882-12-13 18:00 G 13000826.10 13000826.25 13000826.42 0.0090 0.0069 Neptune 30883-12-16 06:43 G 13001193.59 13001193.78 13001194.00 0.0090 0.0056 Neptune 30884-12-17 19:41 G 13001561.11 13001561.32 13001561.56 0.0090 0.0043 Neptune 30885-12-20 08:53 G 13001928.63 13001928.87 13001929.12 0.0090 0.0029 Neptune 30886-12-22 21:50 G 13002296.16 13002296.41 13002296.67 0.0090 0.0016 Jupiter 30887-02-18 21:50 G 13002354.19 13002354.41 13002354.64 0.0533 0.0109 Saturn 30887-08-04 21:50 G 13002521.18 13002521.41 13002521.64 0.0276 0.0085 Neptune 30887-12-25 10:48 G 13002663.70 13002663.95 13002664.21 0.0090 0.0003 Jupiter 30888-03-26 10:19 G 13002755.82 13002755.93 13002756.04 0.0524 0.0463 Neptune 30888-12-26 23:31 G 13003031.23 13003031.48 13003031.74 0.0090 0.0012 Neptune 30889-12-29 12:29 G 13003398.78 13003399.02 13003399.27 0.0090 0.0025 Neptune 30891-01-01 00:57 G 13003766.33 13003766.54 13003766.79 0.0090 0.0039 Neptune 30892-01-03 13:55 G 13004133.89 13004134.08 13004134.31 0.0090 0.0052 Jupiter 30892-08-02 06:14 G 13004345.60 13004345.76 13004345.92 0.0491 0.0354 Neptune 30893-01-05 03:07 G 13004501.45 13004501.63 13004501.81 0.0090 0.0065 Jupiter 30893-09-02 06:14 G 13004741.53 13004741.76 13004741.99 0.0496 0.0103 Neptune 30894-01-07 15:21 G 13004869.04 13004869.14 13004869.29 0.0090 0.0079 Uranus 30894-08-05 17:31 G 13005079.11 13005079.23 13005079.38 0.0140 0.0118

Uranus 30895-08-10 10:19 G 13005448.70 13005448.93 13005449.18 0.0140 0.0043 Uranus 30896-08-14 02:38 G 13005818.37 13005818.61 13005818.86 0.0139 0.0032 Uranus 30897-08-18 18:00 G 13006188.08 13006188.25 13006188.41 0.0139 0.0104 Jupiter 30899-02-24 02:38 G 13006742.38 13006742.61 13006742.85 0.0532 0.0026 Saturn 30901-02-03 04:05 G 13007451.44 13007451.67 13007451.90 0.0285 0.0101 Jupiter 30904-08-07 10:48 G 13008732.76 13008732.95 13008733.14 0.0492 0.0296 Jupiter 30905-09-07 14:53 G 13009128.90 13009129.12 13009129.34 0.0498 0.0168 Jupiter 30910-01-24 00:29 G 13010728.49 13010728.52 13010728.57 0.0535 0.0527 Jupiter 30911-03-02 05:02 G 13011130.48 13011130.71 13011130.94 0.0531 0.0062 Saturn 30916-07-30 22:19 G 13013108.35 13013108.43 13013108.54 0.0274 0.0252 Jupiter 30916-08-11 18:29 G 13013120.07 13013120.27 13013120.48 0.0492 0.0233 Saturn 30917-08-12 15:36 G 13013485.95 13013486.15 13013486.36 0.0278 0.0153 Jupiter 30917-09-12 00:29 G 13013516.32 13013516.52 13013516.73 0.0499 0.0235 Jupiter 30922-01-29 01:12 G 13015116.43 13015116.55 13015116.68 0.0535 0.0453 Jupiter 30923-03-07 04:19 G 13015518.45 13015518.68 13015518.90 0.0530 0.0144 Jupiter 30928-08-16 02:38 G 13017507.40 13017507.61 13017507.83 0.0493 0.0168 Jupiter 30929-09-16 11:17 G 13017903.78 13017903.97 13017904.15 0.0500 0.0302 Saturn 30931-02-11 08:53 G 13018416.66 13018416.87 13018417.07 0.0283 0.0156 Jupiter 30934-02-03 05:17 G 13019504.56 13019504.72 13019504.90 0.0535 0.0374 Jupiter 30935-03-12 06:29 G 13019906.56 13019906.77 13019906.98 0.0529 0.0228 Uranus 30939-02-06 11:31 G 13021333.81 13021333.98 13021334.17 0.0138 0.0096 Uranus 30940-02-11 02:38 G 13021703.37 13021703.61 13021703.87 0.0139 0.0025 Jupiter 30940-08-20 09:36 G 13021894.67 13021894.90 13021895.13 0.0493 0.0105 Uranus 30941-02-14 18:29 G 13022073.04 13022073.27 13022073.51 0.0139 0.0049 Jupiter 30941-09-20 20:24 G 13022291.20 13022291.35 13022291.52 0.0501 0.0367 Uranus 30942-02-19 11:17 G 13022442.85 13022442.97 13022443.09 0.0139 0.0123 Jupiter 30946-02-08 11:45 G 13023892.80 13023892.99 13023893.19 0.0535 0.0291 Saturn 30946-08-07 09:50 G 13024072.66 13024072.91 13024073.15 0.0277 0.0027 Jupiter 30947-03-17 09:50 G 13024294.72 13024294.91 13024295.10 0.0527 0.0308 Jupiter 30951-07-25 21:07 G 13025886.32 13025886.38 13025886.44 0.0491 0.0473

Jupiter 30952-08-24 17:31 G 13026282.00 13026282.23 13026282.47 0.0494 0.0039 Jupiter 30953-09-25 08:53 G 13026678.76 13026678.87 13026678.99 0.0503 0.0432 Jupiter 30958-02-13 18:14 G 13028281.05 13028281.26 13028281.48 0.0534 0.0207 Jupiter 30959-03-22 10:19 G 13028682.77 13028682.93 13028683.09 0.0525 0.0382 Saturn 30960-02-05 15:07 G 13029002.88 13029003.13 13029003.37 0.0285 0.0041 Neptune 30963-06-12 20:38 G 13030226.34 13030226.36 13030226.40 0.0088 0.0087 Jupiter 30963-07-30 00:57 G 13030273.42 13030273.54 13030273.66 0.0491 0.0421 Neptune 30964-06-14 06:57 G 13030593.69 13030593.79 13030593.95 0.0088 0.0075 Jupiter 30964-08-29 00:00 G 13030669.27 13030669.50 13030669.73 0.0495 0.0027 Neptune 30965-06-16 18:00 G 13030961.08 13030961.25 13030961.44 0.0088 0.0062 Jupiter 30965-09-29 20:38 G 13031066.33 13031066.36 13031066.42 0.0505 0.0494 Neptune 30966-06-19 04:19 G 13031328.49 13031328.68 13031328.91 0.0088 0.0050 Neptune 30967-06-21 14:53 G 13031695.90 13031696.12 13031696.36 0.0088 0.0037 Pluto 30967-08-15 12:00 G 13031750.78 13031751.00 13031751.25 0.0079 0.0032 Neptune 30968-06-23 01:26 G 13032063.32 13032063.56 13032063.82 0.0088 0.0024 Neptune 30969-06-25 12:00 G 13032430.75 13032431.00 13032431.26 0.0088 0.0012 Jupiter 30970-02-18 22:05 G 13032669.19 13032669.42 13032669.65 0.0533 0.0119 Neptune 30970-06-27 22:33 G 13032798.18 13032798.44 13032798.70 0.0088 0.0001 Jupiter 30971-03-27 08:53 G 13033070.76 13033070.87 13033070.99 0.0524 0.0454 Neptune 30971-06-30 09:07 G 13033165.63 13033165.88 13033166.13 0.0088 0.0014 Neptune 30972-07-01 19:12 G 13033533.07 13033533.30 13033533.56 0.0088 0.0027 Neptune 30973-07-04 05:45 G 13033900.53 13033900.74 13033900.99 0.0088 0.0040 Neptune 30974-07-06 16:33 G 13034267.99 13034268.19 13034268.40 0.0088 0.0052 Neptune 30975-07-09 02:38 G 13034635.46 13034635.61 13034635.81 0.0088 0.0065 Saturn 30975-08-02 10:33 G 13034659.77 13034659.94 13034660.12 0.0275 0.0194 Jupiter 30975-08-03 07:55 G 13034660.68 13034660.83 13034660.99 0.0492 0.0362 Neptune 30976-07-10 13:41 G 13035002.96 13035003.07 13035003.20 0.0088 0.0077 Saturn 30976-08-14 04:33 G 13035037.54 13035037.69 13035037.85 0.0279 0.0213 Jupiter 30976-09-02 09:07 G 13035056.65 13035056.88 13035057.11 0.0496 0.0095 Uranus 30978-08-07 00:57 G 13035760.42 13035760.54 13035760.70 0.0140 0.0116

Uranus 30979-08-11 18:14 G 13036130.02 13036130.26 13036130.50 0.0140 0.0041 Uranus 30980-08-15 10:05 G 13036499.69 13036499.92 13036500.18 0.0139 0.0034 Uranus 30981-08-20 01:12 G 13036869.40 13036869.55 13036869.72 0.0139 0.0106 Jupiter 30982-02-23 21:21 G 13037057.16 13037057.39 13037057.63 0.0532 0.0036 Jupiter 30983-04-01 04:48 G 13037458.69 13037458.70 13037458.71 0.0522 0.0522 Jupiter 30987-08-07 16:19 G 13039047.99 13039048.18 13039048.36 0.0492 0.0300 Jupiter 30988-09-06 18:29 G 13039444.06 13039444.27 13039444.50 0.0497 0.0163 Saturn 30989-01-30 05:17 G 13039589.58 13039589.72 13039589.87 0.0287 0.0232 Saturn 30990-02-12 19:55 G 13039968.19 13039968.33 13039968.50 0.0283 0.0216 Jupiter 30994-03-01 00:00 G 13041445.27 13041445.50 13041445.73 0.0531 0.0051 Mars 30997-12-14 17:31 G 13042830.04 13042830.23 13042830.43 0.1885 0.0485 Jupiter 30999-08-11 22:33 G 13043435.24 13043435.44 13043435.65 0.0492 0.0239 Jupiter 31000-09-12 02:38 G 13043831.41 13043831.61 13043831.82 0.0498 0.0228

## 32ND MILLENNIUM CE

## This is a list of transits of Earth in the 32nd millennium CE.

FROM MAX- C START MAX END SUNRAD DEPTH S
TRANSIT

 Jupiter
 31005-01-28 23:02 G
 13045431.35
 13045431.46
 13045431.58
 0.0536
 0.0464

 Saturn
 31005-08-10 00:14 G
 13045624.27
 13045624.51
 13045624.75
 0.0277
 0.0035

 Jupiter
 31006-03-07 04:19 G
 13045833.46
 13045833.68
 13045833.91
 0.0530
 0.0136

 Jupiter
 31011-08-17 05:45 G
 13047822.52
 13047822.74
 13047822.96
 0.0492
 0.0175

 Jupiter
 31012-09-16 12:57 G
 13048218.86
 13048219.04
 13048219.23
 0.0499
 0.0296

 Jupiter
 31017-02-03 06:57 G
 13049819.62
 13049819.79
 13049819.95
 0.0535
 0.0383

Jupiter 31018-03-12 07:41 G 13050221.61 13050221.82 13050222.03 0.0529 0.0219 Saturn 31019-02-08 04:19 G 13050554.44 13050554.68 13050554.93 0.0284 0.0021 Uranus 31023-02-07 20:53 G 13052015.19 13052015.37 13052015.56 0.0138 0.0093 Jupiter 31023-08-21 10:48 G 13052209.72 13052209.95 13052210.17 0.0493 0.0113 Uranus 31024-02-12 12:00 G 13052384.76 13052385.00 13052385.26 0.0139 0.0022 Jupiter 31024-09-20 22:33 G 13052606.28 13052606.44 13052606.60 0.0501 0.0361 Uranus 31025-02-16 03:50 G 13052754.43 13052754.66 13052754.91 0.0139 0.0052 Uranus 31026-02-20 20:53 G 13053124.26 13053124.37 13053124.48 0.0139 0.0126 Jupiter 31029-02-08 11:31 G 13054207.79 13054207.98 13054208.17 0.0535 0.0300 Jupiter 31030-03-17 08:24 G 13054609.66 13054609.85 13054610.04 0.0527 0.0299 Jupiter 31034-07-25 21:36 G 13056201.36 13056201.40 13056201.45 0.0491 0.0481 Saturn 31034-08-04 23:45 G 13056211.28 13056211.49 13056211.70 0.0275 0.0135 Saturn 31035-08-17 18:57 G 13056589.25 13056589.29 13056589.33 0.0279 0.0274 Jupiter 31035-08-25 18:43 G 13056597.05 13056597.28 13056597.52 0.0494 0.0046 Jupiter 31036-09-25 09:50 G 13056993.80 13056993.91 13056994.05 0.0502 0.0426 Jupiter 31041-02-13 11:02 G 13058595.74 13058595.96 13058596.17 0.0534 0.0218 Jupiter 31042-03-22 04:48 G 13058997.54 13058997.70 13058997.86 0.0526 0.0374 Neptune 31045-12-12 15:21 G 13060359.14 13060359.14 13060359.14 0.0090 0.0089 Jupiter 31046-07-30 05:45 G 13060588.62 13060588.74 13060588.85 0.0491 0.0425 Neptune 31046-12-15 03:21 G 13060726.54 13060726.64 13060726.80 0.0090 0.0077 Jupiter 31047-08-30 03:50 G 13060984.43 13060984.66 13060984.89 0.0495 0.0023 Neptune 31047-12-17 16:48 G 13061094.02 13061094.20 13061094.39 0.0090 0.0063 Saturn 31048-02-02 20:53 G 13061141.17 13061141.37 13061141.57 0.0286 0.0166 Jupiter 31048-09-29 21:50 G 13061381.36 13061381.41 13061381.47 0.0504 0.0488 Neptune 31048-12-19 05:02 G 13061461.52 13061461.71 13061461.95 0.0090 0.0050 Saturn 31049-02-15 10:33 G 13061519.90 13061519.94 13061519.98 0.0282 0.0278 Neptune 31049-12-21 18:29 G 13061829.04 13061829.27 13061829.51 0.0090 0.0036 Neptune 31050-12-24 07:26 G 13062196.57 13062196.81 13062197.07 0.0090 0.0022 31051-06-16 17:02 G 13062371.04 13062371.21 13062371.38 0.1656 0.0739 Mars Neptune 31051-12-26 20:24 G 13062564.10 13062564.35 13062564.61 0.0090 0.0009

Neptune 31052-12-28 09:36 G 13062931.64 13062931.90 13062932.16 0.0090 0.0005 Jupiter 31053-02-18 13:55 G 13062983.86 13062984.08 13062984.31 0.0534 0.0132 Neptune 31053-12-30 22:19 G 13063299.19 13063299.43 13063299.69 0.0090 0.0019 Jupiter 31054-03-27 04:19 G 13063385.56 13063385.68 13063385.80 0.0525 0.0447 Neptune 31055-01-02 11:17 G 13063666.74 13063666.97 13063667.22 0.0090 0.0033 Neptune 31056-01-05 00:14 G 13064034.29 13064034.51 13064034.74 0.0090 0.0046 Neptune 31057-01-06 12:43 G 13064401.86 13064402.03 13064402.24 0.0090 0.0060 Neptune 31058-01-09 01:55 G 13064769.44 13064769.58 13064769.73 0.0090 0.0073 Jupiter 31058-08-03 12:14 G 13064975.86 13064976.01 13064976.16 0.0491 0.0367 Neptune 31059-01-11 14:09 G 13065137.05 13065137.09 13065137.18 0.0090 0.0087 Jupiter 31059-09-03 11:02 G 13065371.73 13065371.96 13065372.19 0.0495 0.0088 Uranus 31062-08-08 11:02 G 13066441.82 13066441.96 13066442.11 0.0140 0.0114 Uranus 31063-08-13 03:21 G 13066811.41 13066811.64 13066811.90 0.0140 0.0039 Saturn 31064-08-11 15:07 G 13067175.91 13067176.13 13067176.37 0.0278 0.0099 Uranus 31064-08-16 19:41 G 13067181.08 13067181.32 13067181.57 0.0139 0.0036 Jupiter 31065-02-23 18:43 G 13067372.05 13067372.28 13067372.51 0.0533 0.0046 Uranus 31065-08-21 10:19 G 13067550.80 13067550.93 13067551.11 0.0139 0.0109 Jupiter 31066-04-01 04:48 G 13067773.68 13067773.70 13067773.74 0.0523 0.0517 Jupiter 31070-08-07 18:43 G 13069363.10 13069363.28 13069363.46 0.0491 0.0307 Jupiter 31071-09-07 19:41 G 13069759.10 13069759.32 13069759.54 0.0497 0.0155 Jupiter 31077-03-01 00:29 G 13071760.29 13071760.52 13071760.76 0.0532 0.0043 Saturn 31078-02-09 19:41 G 13072106.09 13072106.32 13072106.56 0.0284 0.0085 Jupiter 31082-08-11 22:33 G 13073750.25 13073750.44 13073750.65 0.0492 0.0246 Jupiter 31083-09-12 03:07 G 13074146.43 13074146.63 13074146.85 0.0498 0.0222 Jupiter 31088-01-28 23:02 G 13075746.35 13075746.46 13075746.57 0.0535 0.0471 Jupiter 31089-03-06 03:07 G 13076148.40 13076148.63 13076148.86 0.0530 0.0127 Saturn 31093-08-06 13:12 G 13077762.82 13077763.05 13077763.29 0.0276 0.0077 Jupiter 31094-08-16 06:29 G 13078137.55 13078137.77 13078137.99 0.0493 0.0182 Jupiter 31095-09-16 13:41 G 13078533.88 13078534.07 13078534.26 0.0499 0.0289 Jupiter 31100-02-02 22:19 G 13080134.28 13080134.43 13080134.59 0.0535 0.0395

Jupiter 31101-03-12 00:14 G 13080536.30 13080536.51 13080536.73 0.0529 0.0208 Jupiter 31106-08-21 14:53 G 13082524.90 13082525.12 13082525.35 0.0493 0.0117 Saturn 31107-02-05 12:57 G 13082692.82 13082693.04 13082693.28 0.0286 0.0101 Uranus 31107-02-09 06:43 G 13082696.59 13082696.78 13082696.98 0.0138 0.0091 Jupiter 31107-09-22 00:57 G 13082921.38 13082921.54 13082921.70 0.0500 0.0356 Uranus 31108-02-13 21:50 G 13083066.17 13083066.41 13083066.67 0.0139 0.0019 Uranus 31109-02-17 13:55 G 13083435.85 13083436.08 13083436.32 0.0139 0.0055 Uranus 31110-02-22 06:29 G 13083805.70 13083805.77 13083805.89 0.0139 0.0130 Jupiter 31112-02-09 01:41 G 13084522.39 13084522.57 13084522.77 0.0535 0.0314 Jupiter 31113-03-17 00:57 G 13084924.35 13084924.54 13084924.74 0.0528 0.0289 Jupiter 31117-07-26 02:09 G 13086516.56 13086516.59 13086516.62 0.0491 0.0487 Jupiter 31118-08-25 21:50 G 13086912.18 13086912.41 13086912.64 0.0493 0.0052 Jupiter 31119-09-26 10:19 G 13087308.80 13087308.93 13087309.06 0.0501 0.0418 Saturn 31122-08-02 12:57 G 13088349.94 13088350.04 13088350.16 0.0274 0.0245 Saturn 31123-08-15 05:31 G 13088727.53 13088727.73 13088727.93 0.0278 0.0160 Jupiter 31124-02-14 06:43 G 13088910.57 13088910.78 13088910.99 0.0535 0.0230 Jupiter 31125-03-22 03:07 G 13089312.47 13089312.63 13089312.80 0.0527 0.0367 Pluto 31126-02-16 12:57 G 13089643.82 13089644.04 13089644.31 0.0065 0.0025 Pluto 31127-02-18 02:38 G 13090010.51 13090010.61 13090010.72 0.0065 0.0060 Neptune 31128-06-15 18:14 G 13090494.20 13090494.26 13090494.38 0.0088 0.0082 Neptune 31129-06-18 05:17 G 13090861.58 13090861.72 13090861.90 0.0088 0.0069 Jupiter 31129-07-30 08:38 G 13090903.75 13090903.86 13090903.97 0.0491 0.0430 31130-06-19 22:19 G 13091228.29 13091228.43 13091228.57 0.1652 0.1106 Mars Neptune 31130-06-20 16:05 G 13091228.98 13091229.17 13091229.37 0.0088 0.0056 Jupiter 31130-08-30 05:17 G 13091299.49 13091299.72 13091299.95 0.0494 0.0016 Neptune 31131-06-23 02:09 G 13091596.39 13091596.59 13091596.84 0.0088 0.0044 Jupiter 31131-09-30 21:50 G 13091696.35 13091696.41 13091696.48 0.0503 0.0481 Neptune 31132-06-24 12:57 G 13091963.81 13091964.04 13091964.30 0.0088 0.0031 Neptune 31133-06-26 23:31 G 13092331.23 13092331.48 13092331.74 0.0088 0.0018 Neptune 31134-06-29 10:05 G 13092698.67 13092698.92 13092699.18 0.0088 0.0005

Neptune 31135-07-01 20:24 G 13093066.10 13093066.35 13093066.61 0.0088 0.0008 Jupiter 31136-02-19 13:55 G 13093298.86 13093299.08 13093299.31 0.0534 0.0142 Neptune 31136-07-03 06:57 G 13093433.54 13093433.79 13093434.04 0.0088 0.0021 Saturn 31137-02-12 11:45 G 13093657.79 13093657.99 13093658.21 0.0283 0.0150 Jupiter 31137-03-27 05:17 G 13093700.60 13093700.72 13093700.85 0.0525 0.0441 Neptune 31137-07-05 17:17 G 13093800.99 13093801.22 13093801.46 0.0088 0.0034 Neptune 31138-07-08 03:21 G 13094168.44 13094168.64 13094168.88 0.0088 0.0047 Neptune 31139-07-10 13:55 G 13094535.91 13094536.08 13094536.29 0.0088 0.0060 Neptune 31140-07-12 00:43 G 13094903.40 13094903.53 13094903.69 0.0088 0.0072 Neptune 31141-07-14 11:02 G 13095270.92 13095270.96 13095271.05 0.0088 0.0085 Jupiter 31141-08-03 12:29 G 13095290.88 13095291.02 13095291.18 0.0491 0.0374 Jupiter 31142-09-03 11:31 G 13095686.75 13095686.98 13095687.21 0.0495 0.0081 Uranus 31146-08-09 22:05 G 13097123.26 13097123.42 13097123.57 0.0140 0.0110 Uranus 31147-08-14 14:24 G 13097492.86 13097493.10 13097493.35 0.0140 0.0035 Jupiter 31148-02-24 18:29 G 13097687.04 13097687.27 13097687.50 0.0533 0.0053 Uranus 31148-08-18 06:29 G 13097862.53 13097862.77 13097863.02 0.0139 0.0039 Jupiter 31149-04-01 04:19 G 13098088.64 13098088.68 13098088.73 0.0523 0.0511 Uranus 31149-08-22 21:21 G 13098232.25 13098232.39 13098232.55 0.0139 0.0112 Saturn 31152-08-09 01:12 G 13099314.31 13099314.55 13099314.80 0.0276 0.0020 Jupiter 31153-08-07 19:41 G 13099678.15 13099678.32 13099678.51 0.0492 0.0313 Jupiter 31154-09-07 20:53 G 13100074.15 13100074.37 13100074.60 0.0497 0.0151 Jupiter 31160-02-29 16:33 G 13102074.96 13102075.19 13102075.42 0.0532 0.0029 Jupiter 31165-08-12 04:05 G 13104065.48 13104065.67 13104065.88 0.0492 0.0250 Saturn 31166-02-07 05:02 G 13104244.47 13104244.71 13104244.96 0.0285 0.0035 Jupiter 31166-09-12 07:26 G 13104461.61 13104461.81 13104462.02 0.0497 0.0218 Jupiter 31171-01-28 13:26 G 13106060.96 13106061.06 13106061.16 0.0535 0.0484 Jupiter 31172-03-05 18:29 G 13106463.05 13106463.27 13106463.50 0.0531 0.0116 Jupiter 31177-08-16 10:48 G 13108452.74 13108452.95 13108453.17 0.0492 0.0188 Jupiter 31178-09-16 15:50 G 13108848.98 13108849.16 13108849.36 0.0498 0.0284 Saturn 31181-08-04 00:14 G 13109901.34 13109901.51 13109901.69 0.0275 0.0189

Saturn 31182-08-16 17:45 G 13110279.10 13110279.24 13110279.40 0.0279 0.0219 Jupiter 31183-02-02 18:00 G 13110449.10 13110449.25 13110449.40 0.0535 0.0407 Jupiter 31184-03-10 22:05 G 13110851.20 13110851.42 13110851.63 0.0530 0.0199 Jupiter 31189-08-20 17:45 G 13112840.02 13112840.24 13112840.47 0.0493 0.0123 Jupiter 31190-09-21 01:41 G 13113236.41 13113236.57 13113236.74 0.0500 0.0350 Uranus 31191-02-09 15:07 G 13113377.94 13113378.13 13113378.33 0.0138 0.0089 Uranus 31192-02-14 06:29 G 13113747.52 13113747.77 13113748.03 0.0139 0.0016 Uranus 31193-02-17 22:33 G 13114117.22 13114117.44 13114117.68 0.0139 0.0058 Uranus 31194-02-22 15:36 G 13114487.08 13114487.15 13114487.24 0.0140 0.0132 Saturn 31195-02-01 12:00 G 13114830.86 13114831.00 13114831.14 0.0286 0.0235 Jupiter 31195-02-08 01:41 G 13114837.39 13114837.57 13114837.76 0.0535 0.0323 Saturn 31196-02-15 02:53 G 13115209.46 13115209.62 13115209.78 0.0282 0.0213 Jupiter 31196-03-16 02:24 G 13115239.41 13115239.60 13115239.81 0.0529 0.0284 Jupiter 31201-08-24 23:17 G 13117227.24 13117227.47 13117227.70 0.0493 0.0058 Jupiter 31202-09-25 11:31 G 13117623.85 13117623.98 13117624.11 0.0501 0.0414 Jupiter 31207-02-13 07:41 G 13119225.61 13119225.82 13119226.03 0.0535 0.0236 Jupiter 31208-03-21 04:19 G 13119627.51 13119627.68 13119627.85 0.0527 0.0361 Neptune 31210-12-15 13:12 G 13120626.98 13120627.05 13120627.16 0.0090 0.0084 Saturn 31211-08-11 10:19 G 13120865.69 13120865.93 13120866.17 0.0277 0.0034 Neptune 31211-12-18 01:41 G 13120994.43 13120994.57 13120994.75 0.0090 0.0071 Jupiter 31212-07-29 11:17 G 13121218.86 13121218.97 13121219.07 0.0491 0.0436 Neptune 31212-12-19 14:38 G 13121361.92 13121362.11 13121362.32 0.0090 0.0057 Jupiter 31213-08-29 08:09 G 13121614.60 13121614.84 13121615.07 0.0494 0.0015 Neptune 31213-12-22 03:21 G 13121729.43 13121729.64 13121729.89 0.0090 0.0044 Pluto 31214-08-19 16:19 G 13121969.95 13121970.18 13121970.42 0.0079 0.0029 Jupiter 31214-09-30 00:14 G 13122011.45 13122011.51 13122011.58 0.0503 0.0479 Neptune 31214-12-24 16:19 G 13122096.95 13122097.18 13122097.43 0.0090 0.0029 Neptune 31215-12-27 05:17 G 13122464.48 13122464.72 13122464.99 0.0090 0.0016 Neptune 31216-12-28 18:29 G 13122832.01 13122832.27 13122832.53 0.0090 0.0002 Neptune 31217-12-31 07:26 G 13123199.56 13123199.81 13123200.07 0.0090 0.0012

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Jupiter 31267-03-11 00:57 G 13141166.33 13141166.54 13141166.76 0.0530 0.0196 Saturn 31270-08-12 16:19 G 13142416.94 13142417.18 13142417.41 0.0277 0.0085 Jupiter 31272-08-19 22:33 G 13143155.22 13143155.44 13143155.67 0.0493 0.0126 Jupiter 31273-09-20 06:43 G 13143551.61 13143551.78 13143551.95 0.0500 0.0348 Uranus 31275-02-09 22:48 G 13144059.27 13144059.45 13144059.66 0.0138 0.0087 Uranus 31276-02-14 14:24 G 13144428.85 13144429.10 13144429.36 0.0139 0.0015 Uranus 31277-02-18 06:43 G 13144798.55 13144798.78 13144799.01 0.0139 0.0059 Jupiter 31278-02-06 21:36 G 13145152.22 13145152.40 13145152.58 0.0535 0.0335 Uranus 31278-02-22 23:31 G 13145168.43 13145168.48 13145168.57 0.0140 0.0134 Jupiter 31279-03-15 22:05 G 13145554.22 13145554.42 13145554.62 0.0529 0.0274 31281-12-16 07:26 G 13146560.66 13146560.81 13146560.97 0.1876 0.1138 Mars Saturn 31284-02-11 06:29 G 13147347.54 13147347.77 13147348.00 0.0284 0.0089 Jupiter 31284-08-24 07:55 G 13147542.60 13147542.83 13147543.07 0.0493 0.0060 Jupiter 31285-09-24 19:12 G 13147939.17 13147939.30 13147939.43 0.0501 0.0413 Jupiter 31290-02-12 01:26 G 13149540.35 13149540.56 13149540.77 0.0534 0.0249 Jupiter 31291-03-20 22:48 G 13149942.28 13149942.45 13149942.62 0.0528 0.0353 Neptune 31293-06-17 15:50 G 13150762.04 13150762.16 13150762.29 0.0088 0.0076 Neptune 31294-06-20 02:09 G 13151129.44 13151129.59 13151129.79 0.0088 0.0064 Neptune 31295-06-22 12:57 G 13151496.85 13151497.04 13151497.27 0.0088 0.0051 Jupiter 31295-07-29 18:57 G 13151534.20 13151534.29 13151534.40 0.0491 0.0443 Neptune 31296-06-23 23:45 G 13151864.27 13151864.49 13151864.74 0.0088 0.0038 Jupiter 31296-08-28 15:36 G 13151929.92 13151930.15 13151930.39 0.0494 0.0007 Neptune 31297-06-26 10:19 G 13152231.70 13152231.93 13152232.20 0.0088 0.0025 Jupiter 31297-09-29 05:31 G 13152326.66 13152326.73 13152326.81 0.0502 0.0474 Neptune 31298-06-28 20:53 G 13152599.12 13152599.37 13152599.64 0.0088 0.0012 Neptune 31299-07-01 07:41 G 13152966.56 13152966.82 13152967.08 0.0088 0.0002 Saturn 31299-08-07 12:29 G 13153003.79 13153004.02 13153004.26 0.0275 0.0090 Neptune 31300-07-03 18:00 G 13153334.00 13153334.25 13153334.51 0.0088 0.0015 Neptune 31301-07-06 04:19 G 13153701.45 13153701.68 13153701.93 0.0088 0.0028 Jupiter 31302-02-18 06:00 G 13153928.53 13153928.75 13153928.97 0.0534 0.0163

Neptune 31302-07-08 14:53 G 13154068.90 13154069.12 13154069.35 0.0088 0.0041 Jupiter 31303-03-27 00:57 G 13154330.41 13154330.54 13154330.67 0.0526 0.0429 Neptune 31303-07-11 01:12 G 13154436.36 13154436.55 13154436.76 0.0088 0.0054 Neptune 31304-07-12 11:31 G 13154803.84 13154803.98 13154804.17 0.0088 0.0067 Neptune 31305-07-14 21:50 G 13155171.33 13155171.41 13155171.54 0.0088 0.0080 Jupiter 31307-08-04 02:24 G 13155921.46 13155921.60 13155921.75 0.0491 0.0382 Jupiter 31308-09-02 23:45 G 13156317.26 13156317.49 13156317.72 0.0495 0.0075 Saturn 31313-02-05 12:57 G 13157933.81 13157934.04 13157934.26 0.0286 0.0112 Jupiter 31314-02-23 13:41 G 13158316.83 13158317.07 13158317.30 0.0534 0.0074 Uranus 31314-08-11 20:24 G 13158486.19 13158486.35 13158486.53 0.0140 0.0102 Jupiter 31315-04-01 04:05 G 13158718.61 13158718.67 13158718.74 0.0525 0.0504 Uranus 31315-08-16 12:57 G 13158855.80 13158856.04 13158856.30 0.0140 0.0028 Uranus 31316-08-20 04:48 G 13159225.47 13159225.70 13159225.95 0.0139 0.0047 Uranus 31317-08-24 19:41 G 13159595.21 13159595.32 13159595.47 0.0139 0.0120 Jupiter 31319-08-08 07:55 G 13160308.66 13160308.83 13160309.01 0.0491 0.0322 Jupiter 31320-09-07 06:57 G 13160704.57 13160704.79 13160705.02 0.0496 0.0142 Jupiter 31326-02-28 19:41 G 13162705.09 13162705.32 13162705.55 0.0533 0.0016 Saturn 31328-08-02 02:38 G 13163590.59 13163590.61 13163590.65 0.0274 0.0271 Saturn 31329-08-14 18:00 G 13163968.05 13163968.25 13163968.48 0.0277 0.0131 Jupiter 31331-08-12 16:05 G 13164695.97 13164696.17 13164696.37 0.0492 0.0258 Jupiter 31332-09-11 17:45 G 13165092.03 13165092.24 13165092.45 0.0497 0.0211 31335-06-19 18:14 G 13166103.07 13166103.26 13166103.45 0.1661 0.0088 Mars Jupiter 31337-01-27 12:57 G 13166690.97 13166691.04 13166691.12 0.0535 0.0504 Jupiter 31338-03-05 18:43 G 13167093.05 13167093.28 13167093.51 0.0531 0.0099 Saturn 31343-02-13 14:09 G 13168898.88 13168899.09 13168899.30 0.0284 0.0144 Jupiter 31343-08-17 00:43 G 13169083.32 13169083.53 13169083.75 0.0492 0.0195 Jupiter 31344-09-16 05:31 G 13169479.54 13169479.73 13169479.92 0.0498 0.0280 Jupiter 31349-02-01 17:31 G 13171079.09 13171079.23 13171079.37 0.0535 0.0424 Jupiter 31350-03-10 21:07 G 13171481.16 13171481.38 13171481.60 0.0530 0.0186 Jupiter 31355-08-21 08:24 G 13173470.63 13173470.85 13173471.08 0.0493 0.0131

Jupiter 31356-09-20 15:07 G 13173866.96 13173867.13 13173867.30 0.0499 0.0344 Saturn 31358-08-09 13:41 G 13174554.83 13174555.07 13174555.32 0.0276 0.0046 Uranus 31359-02-11 05:17 G 13174740.54 13174740.72 13174740.93 0.0138 0.0087 Uranus 31360-02-15 21:07 G 13175110.13 13175110.38 13175110.63 0.0139 0.0014 Jupiter 31361-02-06 21:50 G 13175467.24 13175467.41 13175467.59 0.0535 0.0345 Uranus 31361-02-19 13:12 G 13175479.83 13175480.05 13175480.29 0.0139 0.0060 Uranus 31362-02-24 05:45 G 13175849.69 13175849.74 13175849.83 0.0140 0.0135 Jupiter 31362-03-16 00:14 G 13175869.31 13175869.51 13175869.72 0.0529 0.0269 Jupiter 31367-08-25 16:19 G 13177857.95 13177858.18 13177858.41 0.0493 0.0063 Jupiter 31368-09-25 01:41 G 13178254.44 13178254.57 13178254.70 0.0500 0.0410 Saturn 31372-02-07 19:41 G 13179485.08 13179485.32 13179485.56 0.0285 0.0058 Jupiter 31373-02-12 05:45 G 13179855.53 13179855.74 13179855.94 0.0535 0.0257 Pluto 31373-02-19 12:29 G 13179862.77 13179863.02 13179863.28 0.0065 0.0014 Jupiter 31374-03-21 05:45 G 13180257.57 13180257.74 13180257.91 0.0528 0.0351 Neptune 31375-12-18 11:17 G 13180894.86 13180894.97 13180895.11 0.0090 0.0078 Neptune 31376-12-19 23:45 G 13181262.34 13181262.49 13181262.70 0.0090 0.0065 Neptune 31377-12-22 12:29 G 13181629.83 13181630.02 13181630.26 0.0090 0.0051 Jupiter 31378-07-30 03:21 G 13181849.55 13181849.64 13181849.74 0.0491 0.0445 Neptune 31378-12-25 01:26 G 13181997.34 13181997.56 13181997.81 0.0090 0.0037 Jupiter 31379-08-29 23:02 G 13182245.23 13182245.46 13182245.69 0.0494 0.0005 Neptune 31379-12-27 14:09 G 13182364.85 13182365.09 13182365.35 0.0090 0.0023 Jupiter 31380-09-29 12:14 G 13182641.94 13182642.01 13182642.09 0.0502 0.0474 Neptune 31380-12-29 03:21 G 13182732.38 13182732.64 13182732.90 0.0090 0.0009 Neptune 31381-12-31 16:19 G 13183099.92 13183100.18 13183100.44 0.0090 0.0006 Neptune 31383-01-03 04:48 G 13183467.46 13183467.70 13183467.97 0.0090 0.0020 Neptune 31384-01-05 18:00 G 13183835.02 13183835.25 13183835.50 0.0090 0.0034 Neptune 31385-01-07 06:43 G 13184202.58 13184202.78 13184203.02 0.0090 0.0048 Jupiter 31385-02-17 13:26 G 13184243.84 13184244.06 13184244.28 0.0535 0.0167 Neptune 31386-01-09 19:41 G 13184570.15 13184570.32 13184570.53 0.0090 0.0062 Jupiter 31386-03-26 08:38 G 13184645.73 13184645.86 13184646.00 0.0526 0.0430

Neptune 31387-01-12 08:09 G 13184937.73 13184937.84 13184938.01 0.0090 0.0076 Saturn 31387-08-04 01:55 G 13185141.45 13185141.58 13185141.71 0.0274 0.0230 Neptune 31388-01-14 21:36 G 13185305.38 13185305.40 13185305.44 0.0090 0.0089 Saturn 31388-08-15 17:31 G 13185519.04 13185519.23 13185519.42 0.0277 0.0172 Jupiter 31390-08-03 11:17 G 13186236.83 13186236.97 13186237.12 0.0491 0.0385 Jupiter 31391-09-03 09:07 G 13186632.65 13186632.88 13186633.11 0.0495 0.0074 Jupiter 31397-02-22 14:24 G 13188631.87 13188632.10 13188632.34 0.0533 0.0083 Jupiter 31398-03-31 04:48 G 13189033.63 13189033.70 13189033.76 0.0525 0.0499 Uranus 31398-08-12 05:31 G 13189167.57 13189167.73 13189167.92 0.0140 0.0100 Uranus 31399-08-16 22:33 G 13189537.20 13189537.44 13189537.70 0.0140 0.0025 Uranus 31400-08-21 14:38 G 13189906.87 13189907.11 13189907.35 0.0139 0.0050 Saturn 31401-02-01 23:31 G 13190071.40 13190071.48 13190071.60 0.0288 0.0263 Uranus 31401-08-26 05:31 G 13190276.64 13190276.73 13190276.87 0.0139 0.0123 Saturn 31402-02-15 17:45 G 13190450.07 13190450.24 13190450.43 0.0284 0.0194 Jupiter 31402-08-08 19:12 G 13190624.14 13190624.30 13190624.48 0.0492 0.0327 Jupiter 31403-09-08 19:26 G 13191020.09 13191020.31 13191020.54 0.0496 0.0142 Jupiter 31409-02-28 18:14 G 13193020.03 13193020.26 13193020.50 0.0533 0.0007 Jupiter 31414-08-13 03:21 G 13195011.45 13195011.64 13195011.84 0.0492 0.0263 Jupiter 31415-09-13 04:48 G 13195407.49 13195407.70 13195407.92 0.0497 0.0209 Saturn 31417-08-11 11:45 G 13196105.74 13196105.99 13196106.23 0.0276 0.0006 Jupiter 31420-01-28 15:07 G 13197006.07 13197006.13 13197006.20 0.0535 0.0512 Jupiter 31421-03-05 22:05 G 13197408.19 13197408.42 13197408.65 0.0532 0.0093 Jupiter 31426-08-17 11:17 G 13199398.76 13199398.97 13199399.19 0.0492 0.0198 Jupiter 31427-09-17 14:24 G 13199794.91 13199795.10 13199795.29 0.0498 0.0277 Saturn 31431-02-09 22:33 G 13201036.20 13201036.44 13201036.69 0.0285 0.0008 Jupiter 31432-02-02 22:33 G 13201394.30 13201394.44 13201394.58 0.0536 0.0432 Jupiter 31433-03-11 04:33 G 13201796.48 13201796.69 13201796.92 0.0531 0.0183 Jupiter 31438-08-21 18:00 G 13203786.03 13203786.25 13203786.48 0.0492 0.0133 Jupiter 31439-09-22 00:00 G 13204182.33 13204182.50 13204182.66 0.0499 0.0344 Uranus 31443-02-12 14:09 G 13205421.90 13205422.09 13205422.30 0.0138 0.0084

Jupiter 31444-02-08 06:29 G 13205782.60 13205782.77 13205782.96 0.0535 0.0349 Uranus 31444-02-17 05:45 G 13205791.49 13205791.74 13205792.00 0.0138 0.0011 Uranus 31445-02-20 21:50 G 13206161.19 13206161.41 13206161.64 0.0139 0.0062 Jupiter 31445-03-16 10:05 G 13206184.72 13206184.92 13206185.12 0.0530 0.0269 Uranus 31446-02-25 14:24 G 13206531.06 13206531.10 13206531.16 0.0139 0.0137 Saturn 31446-08-05 22:33 G 13206692.27 13206692.44 13206692.62 0.0274 0.0192 Saturn 31447-08-18 14:09 G 13207069.93 13207070.09 13207070.25 0.0278 0.0211 Jupiter 31450-08-26 03:21 G 13208173.41 13208173.64 13208173.87 0.0493 0.0064 Jupiter 31451-09-26 12:57 G 13208569.91 13208570.04 13208570.17 0.0500 0.0411 Jupiter 31456-02-13 10:05 G 13210170.73 13210170.92 13210171.13 0.0534 0.0267 Jupiter 31457-03-21 08:24 G 13210572.68 13210572.85 13210573.03 0.0528 0.0345 Neptune 31457-06-19 01:26 G 13210662.51 13210662.56 13210662.66 0.0088 0.0084 Neptune 31458-06-21 12:14 G 13211029.88 13211030.01 13211030.18 0.0088 0.0071 Neptune 31459-06-23 22:48 G 13211397.28 13211397.45 13211397.66 0.0088 0.0058 Saturn 31460-02-04 00:43 G 13211622.37 13211622.53 13211622.69 0.0288 0.0215 Neptune 31460-06-25 09:36 G 13211764.70 13211764.90 13211765.14 0.0088 0.0045 Pluto 31460-08-21 19:26 G 13211822.13 13211822.31 13211822.52 0.0079 0.0052 Saturn 31461-02-16 18:43 G 13212001.15 13212001.28 13212001.41 0.0284 0.0240 Neptune 31461-06-27 20:09 G 13212132.11 13212132.34 13212132.60 0.0088 0.0032 Jupiter 31461-07-30 14:38 G 13212165.03 13212165.11 13212165.21 0.0492 0.0452 Neptune 31462-06-30 07:12 G 13212499.55 13212499.80 13212500.05 0.0088 0.0018 Jupiter 31462-08-30 12:43 G 13212560.80 13212561.03 13212561.27 0.0494 0.0010 Neptune 31463-07-02 17:45 G 13212866.98 13212867.24 13212867.50 0.0088 0.0005 Jupiter 31463-10-01 02:24 G 13212957.54 13212957.60 13212957.68 0.0502 0.0476 Neptune 31464-07-04 04:05 G 13213234.42 13213234.67 13213234.93 0.0088 0.0009 Neptune 31465-07-06 14:24 G 13213601.86 13213602.10 13213602.36 0.0088 0.0022 Neptune 31466-07-09 00:57 G 13213969.31 13213969.54 13213969.78 0.0088 0.0035 Neptune 31467-07-11 11:31 G 13214336.77 13214336.98 13214337.20 0.0088 0.0048 Jupiter 31468-02-18 14:38 G 13214558.90 13214559.11 13214559.34 0.0534 0.0178 Neptune 31468-07-12 21:50 G 13214704.23 13214704.41 13214704.60 0.0088 0.0061 Jupiter 31469-03-26 09:21 G 13214960.76 13214960.89 13214961.03 0.0527 0.0423 Neptune 31469-07-15 08:09 G 13215071.72 13215071.84 13215071.99 0.0088 0.0074 Neptune 31470-07-17 18:43 G 13215439.26 13215439.28 13215439.32 0.0088 0.0087 Jupiter 31473-08-03 23:17 G 13216552.34 13216552.47 13216552.61 0.0492 0.0392 Jupiter 31474-09-03 21:36 G 13216948.17 13216948.40 13216948.63 0.0495 0.0070 Saturn 31476-08-12 07:55 G 13217656.59 13217656.83 13217657.08 0.0276 0.0034 Jupiter 31480-02-23 18:43 G 13218947.05 13218947.28 13218947.52 0.0534 0.0091 Jupiter 31481-03-31 11:02 G 13219348.89 13219348.96 13219349.04 0.0525 0.0497 Uranus 31482-08-13 13:41 G 13219848.91 13219849.07 13219849.27 0.0140 0.0099 Uranus 31483-08-18 06:57 G 13220218.54 13220218.79 13220219.04 0.0140 0.0023 Uranus 31484-08-21 23:17 G 13220588.24 13220588.47 13220588.71 0.0139 0.0052 Jupiter 31485-08-08 07:26 G 13220939.64 13220939.81 13220939.99 0.0492 0.0329 Uranus 31485-08-26 14:24 G 13220958.01 13220958.10 13220958.23 0.0139 0.0125 Jupiter 31486-09-08 06:43 G 13221335.55 13221335.78 13221336.00 0.0495 0.0139 Saturn 31490-02-10 22:05 G 13222587.18 13222587.42 13222587.67 0.0285 0.0038 Jupiter 31492-02-29 01:55 G 13223335.35 13223335.58 13223335.81 0.0533 0.0001 Jupiter 31497-08-12 14:38 G 13225326.92 13225327.11 13225327.31 0.0492 0.0265 Jupiter 31498-09-12 15:07 G 13225722.92 13225723.13 13225723.34 0.0496 0.0208 Jupiter 31503-01-29 00:57 G 13227321.49 13227321.54 13227321.61 0.0535 0.0517 Jupiter 31504-03-06 08:53 G 13227723.64 13227723.87 13227724.10 0.0532 0.0093 Saturn 31505-08-07 18:00 G 13228243.06 13228243.25 13228243.46 0.0274 0.0155 Saturn 31506-08-20 09:21 G 13228620.79 13228620.89 13228621.00 0.0278 0.0249 Jupiter 31509-08-17 23:31 G 13229714.27 13229714.48 13229714.69 0.0492 0.0199 Jupiter 31510-09-18 02:53 G 13230110.43 13230110.62 13230110.81 0.0498 0.0279 Jupiter 31515-02-03 06:14 G 13231709.63 13231709.76 13231709.89 0.0535 0.0441 Jupiter 31516-03-11 09:50 G 13232111.69 13232111.91 13232112.13 0.0531 0.0175 Saturn 31519-02-05 22:05 G 13233173.23 13233173.42 13233173.63 0.0288 0.0172 Saturn 31520-02-19 16:33 G 13233552.17 13233552.19 13233552.21 0.0284 0.0282 Jupiter 31521-08-22 07:41 G 13234101.59 13234101.82 13234102.04 0.0493 0.0136 Jupiter 31522-09-22 14:53 G 13234497.96 13234498.12 13234498.29 0.0499 0.0345

Jupiter 31527-02-08 11:17 G 13236097.80 13236097.97 13236098.15 0.0534 0.0357 Uranus 31527-02-14 00:00 G 13236103.30 13236103.50 13236103.71 0.0138 0.0081 Uranus 31528-02-18 15:36 G 13236472.89 13236473.15 13236473.40 0.0138 0.0008 Jupiter 31528-03-16 12:14 G 13236499.81 13236500.01 13236500.22 0.0529 0.0260 Uranus 31529-02-22 07:26 G 13236842.60 13236842.81 13236843.04 0.0139 0.0065 Uranus 31530-02-27 00:14 G 13237212.51 13237212.51 13237212.51 0.0139 0.0139 Jupiter 31533-08-26 16:19 G 13238488.95 13238489.18 13238489.41 0.0493 0.0068 Jupiter 31534-09-27 01:26 G 13238885.43 13238885.56 13238885.70 0.0500 0.0409 Saturn 31535-08-15 03:07 G 13239207.40 13239207.63 13239207.87 0.0275 0.0071 Jupiter 31539-02-13 14:53 G 13240485.92 13240486.12 13240486.32 0.0535 0.0273 Neptune 31539-12-19 19:26 G 13240795.26 13240795.31 13240795.40 0.0090 0.0086 Jupiter 31540-03-21 14:38 G 13240887.94 13240888.11 13240888.29 0.0529 0.0341 Mars 31540-06-19 13:12 G 13240977.94 13240978.05 13240978.16 0.1671 0.1366 Neptune 31540-12-21 07:55 G 13241162.71 13241162.83 13241163.01 0.0090 0.0073 Neptune 31541-12-23 20:53 G 13241530.20 13241530.37 13241530.59 0.0090 0.0059 Neptune 31542-12-26 09:36 G 13241897.69 13241897.90 13241898.14 0.0090 0.0044 Neptune 31543-12-28 22:48 G 13242265.21 13242265.45 13242265.70 0.0090 0.0030 Jupiter 31544-07-31 03:50 G 13242480.58 13242480.66 13242480.75 0.0492 0.0454 Neptune 31544-12-30 11:45 G 13242632.73 13242632.99 13242633.24 0.0090 0.0016 Jupiter 31545-08-31 00:57 G 13242876.31 13242876.54 13242876.77 0.0494 0.0003 Neptune 31546-01-02 00:14 G 13243000.26 13243000.51 13243000.77 0.0090 0.0003 Jupiter 31546-10-01 12:57 G 13243272.97 13243273.04 13243273.12 0.0501 0.0474 Neptune 31547-01-04 13:12 G 13243367.80 13243368.05 13243368.31 0.0090 0.0013 Neptune 31548-01-07 01:55 G 13243735.34 13243735.58 13243735.84 0.0090 0.0027 Neptune 31549-01-08 15:07 G 13244102.91 13244103.13 13244103.36 0.0090 0.0041 Saturn 31549-02-12 20:38 G 13244138.13 13244138.36 13244138.60 0.0285 0.0081 Neptune 31550-01-11 03:36 G 13244470.47 13244470.65 13244470.88 0.0090 0.0056 Neptune 31551-01-13 17:17 G 13244838.05 13244838.22 13244838.38 0.0090 0.0069 Jupiter 31551-02-18 22:05 G 13244874.20 13244874.42 13244874.64 0.0535 0.0183 Neptune 31552-01-16 06:14 G 13245205.66 13245205.76 13245205.85 0.0090 0.0083 Jupiter 31552-03-26 19:12 G 13245276.17 13245276.30 13245276.45 0.0527 0.0423 Jupiter 31556-08-04 11:45 G 13246867.85 13246867.99 13246868.13 0.0491 0.0394 Jupiter 31557-09-04 08:53 G 13247263.64 13247263.87 13247264.11 0.0494 0.0070 Jupiter 31563-02-24 06:00 G 13249262.52 13249262.75 13249262.98 0.0534 0.0093 Jupiter 31564-03-31 23:02 G 13249664.39 13249664.46 13249664.53 0.0526 0.0499 Saturn 31564-08-08 13:41 G 13249793.86 13249794.07 13249794.30 0.0274 0.0117 31565-12-18 22:05 G 13250291.35 13250291.42 13250291.48 0.1867 0.1745 Mars Uranus 31566-08-14 23:45 G 13250530.32 13250530.49 13250530.68 0.0140 0.0096 Uranus 31567-08-19 17:02 G 13250899.96 13250900.21 13250900.46 0.0140 0.0020 Jupiter 31568-08-08 20:09 G 13251255.17 13251255.34 13251255.52 0.0492 0.0330 Uranus 31568-08-23 09:07 G 13251269.66 13251269.88 13251270.12 0.0139 0.0055 Uranus 31569-08-28 00:43 G 13251639.45 13251639.53 13251639.64 0.0139 0.0128 Jupiter 31569-09-08 19:12 G 13251651.08 13251651.30 13251651.53 0.0495 0.0141 Jupiter 31575-03-01 09:07 G 13253650.65 13253650.88 13253651.11 0.0533 0.0008 Saturn 31578-02-06 18:14 G 13254724.05 13254724.26 13254724.49 0.0288 0.0132 Jupiter 31580-08-13 03:07 G 13255642.44 13255642.63 13255642.83 0.0492 0.0271 Jupiter 31581-09-13 05:45 G 13256038.53 13256038.74 13256038.95 0.0497 0.0207 Jupiter 31586-01-28 08:09 G 13257636.80 13257636.84 13257636.89 0.0534 0.0524 Jupiter 31587-03-06 12:43 G 13258038.81 13258039.03 13258039.27 0.0532 0.0084 Jupiter 31592-08-17 11:31 G 13260029.77 13260029.98 13260030.20 0.0492 0.0206 Jupiter 31593-09-17 15:36 G 13260425.96 13260426.15 13260426.35 0.0497 0.0275 Saturn 31594-08-15 23:02 G 13260758.24 13260758.46 13260758.69 0.0275 0.0109 Jupiter 31598-02-02 11:02 G 13262024.84 13262024.96 13262025.10 0.0535 0.0448 Jupiter 31599-03-11 15:21 G 13262426.92 13262427.14 13262427.37 0.0531 0.0170 Jupiter 31604-08-21 20:24 G 13264417.12 13264417.35 13264417.57 0.0493 0.0138 Jupiter 31605-09-22 01:55 G 13264813.42 13264813.58 13264813.75 0.0498 0.0343 Saturn 31608-02-14 17:45 G 13265689.02 13265689.24 13265689.46 0.0286 0.0123 Jupiter 31610-02-07 17:17 G 13266413.05 13266413.22 13266413.39 0.0535 0.0364 Uranus 31611-02-14 11:45 G 13266784.80 13266784.99 13266785.22 0.0138 0.0077 Jupiter 31611-03-16 20:53 G 13266815.17 13266815.37 13266815.57 0.0530 0.0257

Uranus 31612-02-19 03:36 G 13267154.39 13267154.65 13267154.90 0.0138 0.0004 Uranus 31613-02-22 19:12 G 13267524.09 13267524.30 13267524.53 0.0139 0.0070 Jupiter 31616-08-26 03:50 G 13268804.43 13268804.66 13268804.89 0.0493 0.0070 Jupiter 31617-09-26 12:00 G 13269200.87 13269201.00 13269201.14 0.0500 0.0409 Pluto 31619-02-22 23:45 G 13269715.27 13269715.49 13269715.75 0.0065 0.0027 Mars 31619-06-22 18:43 G 13269835.10 13269835.28 13269835.46 0.1667 0.0560 31620-02-24 13:26 G 13270081.95 13270082.06 13270082.19 0.0065 0.0058 Pluto Jupiter 31622-02-13 01:26 G 13270801.36 13270801.56 13270801.76 0.0535 0.0277 Neptune 31622-06-21 22:05 G 13270930.31 13270930.42 13270930.54 0.0088 0.0078 Jupiter 31623-03-22 02:09 G 13271203.42 13271203.59 13271203.77 0.0529 0.0341 Neptune 31623-06-24 08:53 G 13271297.70 13271297.87 13271298.04 0.0088 0.0065 Saturn 31623-08-10 10:19 G 13271344.70 13271344.93 13271345.17 0.0274 0.0077 Neptune 31624-06-25 18:57 G 13271665.10 13271665.29 13271665.51 0.0088 0.0052 Neptune 31625-06-28 05:31 G 13272032.52 13272032.73 13272032.98 0.0088 0.0039 Neptune 31626-06-30 16:33 G 13272399.95 13272400.19 13272400.44 0.0088 0.0025 Neptune 31627-07-03 03:07 G 13272767.38 13272767.63 13272767.89 0.0088 0.0012 Jupiter 31627-07-31 16:19 G 13272796.10 13272796.18 13272796.27 0.0492 0.0456 Neptune 31628-07-04 13:55 G 13273134.82 13273135.08 13273135.34 0.0088 0.0002 Jupiter 31628-08-30 13:26 G 13273191.83 13273192.06 13273192.29 0.0494 0.0002 Neptune 31629-07-07 00:14 G 13273502.26 13273502.51 13273502.77 0.0088 0.0015 Jupiter 31629-10-01 01:12 G 13273588.49 13273588.55 13273588.63 0.0501 0.0476 Neptune 31630-07-09 10:33 G 13273869.72 13273869.94 13273870.20 0.0088 0.0029 Neptune 31631-07-11 21:07 G 13274237.16 13274237.38 13274237.62 0.0088 0.0042 Neptune 31632-07-13 07:41 G 13274604.62 13274604.82 13274605.02 0.0088 0.0055 Neptune 31633-07-15 17:31 G 13274972.10 13274972.23 13274972.42 0.0088 0.0069 Jupiter 31634-02-18 06:43 G 13275189.56 13275189.78 13275190.00 0.0534 0.0191 Neptune 31634-07-18 04:05 G 13275339.60 13275339.67 13275339.79 0.0088 0.0082 Jupiter 31635-03-27 01:41 G 13275591.43 13275591.57 13275591.72 0.0527 0.0416 Saturn 31637-02-07 15:36 G 13276274.92 13276275.15 13276275.38 0.0288 0.0089 Jupiter 31639-08-04 22:19 G 13277183.29 13277183.43 13277183.56 0.0492 0.0401

Jupiter 31640-09-03 21:36 G 13277579.17 13277579.40 13277579.64 0.0495 0.0067 Jupiter 31646-02-23 11:17 G 13279577.74 13279577.97 13279578.20 0.0533 0.0102 Jupiter 31647-04-01 02:09 G 13279979.52 13279979.59 13279979.67 0.0525 0.0492 Uranus 31650-08-15 11:31 G 13281211.80 13281211.98 13281212.19 0.0140 0.0092 Jupiter 31651-08-09 06:29 G 13281570.61 13281570.77 13281570.95 0.0492 0.0338 Uranus 31651-08-20 04:48 G 13281581.45 13281581.70 13281581.96 0.0140 0.0016 Saturn 31652-08-04 09:36 G 13281931.80 13281931.90 13281932.01 0.0271 0.0243 Uranus 31652-08-23 20:53 G 13281951.16 13281951.37 13281951.62 0.0139 0.0059 Jupiter 31652-09-08 07:12 G 13281966.58 13281966.80 13281967.02 0.0496 0.0135 Saturn 31653-08-16 20:38 G 13282309.16 13282309.36 13282309.57 0.0275 0.0150 Uranus 31653-08-28 12:29 G 13282320.96 13282321.02 13282321.11 0.0139 0.0132 Jupiter 31658-02-28 13:41 G 13283965.84 13283966.07 13283966.30 0.0533 0.0014 Jupiter 31663-08-13 15:21 G 13285957.95 13285958.14 13285958.34 0.0492 0.0273 Jupiter 31664-09-12 16:33 G 13286353.98 13286354.19 13286354.41 0.0496 0.0205 Saturn 31667-02-15 15:50 G 13287239.96 13287240.16 13287240.36 0.0286 0.0166 Jupiter 31669-01-27 12:43 G 13287952.01 13287952.03 13287952.06 0.0535 0.0531 Jupiter 31670-03-05 18:57 G 13288354.06 13288354.29 13288354.52 0.0532 0.0078 Jupiter 31675-08-17 22:48 G 13290345.25 13290345.45 13290345.67 0.0492 0.0209 Jupiter 31676-09-17 01:26 G 13290741.37 13290741.56 13290741.76 0.0497 0.0273 Jupiter 31681-02-01 19:55 G 13292340.21 13292340.33 13292340.46 0.0535 0.0453 Jupiter 31682-03-11 01:26 G 13292742.34 13292742.56 13292742.78 0.0531 0.0168 Saturn 31682-08-11 09:50 G 13292895.66 13292895.91 13292896.15 0.0274 0.0035 Jupiter 31687-08-22 07:26 G 13294732.59 13294732.81 13294733.04 0.0493 0.0141 Jupiter 31688-09-21 13:12 G 13295128.88 13295129.05 13295129.22 0.0498 0.0342 Jupiter 31693-02-07 02:38 G 13296728.45 13296728.61 13296728.78 0.0534 0.0372 Jupiter 31694-03-16 03:36 G 13297130.45 13297130.65 13297130.86 0.0529 0.0250 Uranus 31695-02-14 22:48 G 13297466.24 13297466.45 13297466.67 0.0138 0.0073 Saturn 31696-02-09 13:55 G 13297825.83 13297826.08 13297826.32 0.0288 0.0045 Uranus 31696-02-19 14:09 G 13297835.84 13297836.09 13297836.35 0.0139 0.0001 Uranus 31697-02-23 05:45 G 13298205.55 13298205.74 13298205.98 0.0139 0.0074 Jupiter 31699-08-26 14:24 G 13299119.87 13299120.10 13299120.33 0.0494 0.0075 Jupiter 31700-09-27 00:00 G 13299516.38 13299516.50 13299516.65 0.0500 0.0407 Neptune 31704-12-21 15:50 G 13301063.07 13301063.16 13301063.30 0.0090 0.0081 Jupiter 31705-02-13 07:26 G 13301116.62 13301116.81 13301117.02 0.0534 0.0285 Neptune 31705-12-24 04:19 G 13301430.54 13301430.68 13301430.88 0.0090 0.0067 Jupiter 31706-03-22 05:31 G 13301518.55 13301518.73 13301518.91 0.0528 0.0332 Neptune 31706-12-26 17:45 G 13301798.04 13301798.24 13301798.45 0.0090 0.0052 Pluto 31707-08-27 07:55 G 13302041.60 13302041.83 13302042.05 0.0079 0.0037 Neptune 31707-12-29 06:29 G 13302165.54 13302165.77 13302166.01 0.0090 0.0038 Neptune 31708-12-30 18:57 G 13302533.06 13302533.29 13302533.55 0.0090 0.0024 Neptune 31710-01-02 07:55 G 13302900.58 13302900.83 13302901.09 0.0090 0.0009 Jupiter 31710-08-01 00:29 G 13303111.44 13303111.52 13303111.59 0.0492 0.0465 Neptune 31711-01-04 20:38 G 13303268.11 13303268.36 13303268.62 0.0090 0.0005 Saturn 31711-08-07 09:36 G 13303482.74 13303482.90 13303483.07 0.0272 0.0201 Jupiter 31711-08-31 23:02 G 13303507.23 13303507.46 13303507.70 0.0494 0.0007 Neptune 31712-01-07 09:36 G 13303635.65 13303635.90 13303636.15 0.0090 0.0020 Saturn 31712-08-18 20:24 G 13303860.18 13303860.35 13303860.53 0.0275 0.0194 Jupiter 31712-10-01 11:31 G 13303903.91 13303903.98 13303904.06 0.0501 0.0471 Neptune 31713-01-08 21:50 G 13304003.19 13304003.41 13304003.67 0.0090 0.0035 Neptune 31714-01-11 10:48 G 13304370.75 13304370.95 13304371.18 0.0090 0.0049 Neptune 31715-01-13 23:45 G 13304738.32 13304738.49 13304738.69 0.0090 0.0063 Neptune 31716-01-16 12:43 G 13305105.92 13305106.03 13305106.18 0.0090 0.0077 Jupiter 31717-02-18 09:21 G 13305504.68 13305504.89 13305505.11 0.0534 0.0199 Jupiter 31718-03-27 05:45 G 13305906.60 13305906.74 13305906.89 0.0527 0.0411 Jupiter 31722-08-05 09:21 G 13307498.76 13307498.89 13307499.03 0.0492 0.0403 Jupiter 31723-09-05 07:55 G 13307894.60 13307894.83 13307895.07 0.0494 0.0064 Saturn 31725-02-03 17:31 G 13308412.12 13308412.23 13308412.36 0.0290 0.0254 Saturn 31726-02-17 16:05 G 13308791.02 13308791.17 13308791.35 0.0286 0.0213 Jupiter 31729-02-23 14:38 G 13309892.88 13309893.11 13309893.34 0.0534 0.0109 Jupiter 31730-04-01 08:09 G 13310294.76 13310294.84 13310294.93 0.0526 0.0490

Jupiter 31734-08-09 17:02 G 13311886.04 13311886.21 13311886.38 0.0492 0.0341 Uranus 31734-08-17 01:12 G 13311893.37 13311893.55 13311893.77 0.0140 0.0087 Uranus 31735-08-21 18:43 G 13312263.03 13312263.28 13312263.54 0.0140 0.0011 Jupiter 31735-09-09 16:05 G 13312281.95 13312282.17 13312282.40 0.0495 0.0131 Uranus 31736-08-25 10:48 G 13312632.73 13312632.95 13312633.18 0.0139 0.0064 Uranus 31737-08-30 01:55 G 13313002.58 13313002.58 13313002.64 0.0139 0.0138 Jupiter 31741-02-28 21:07 G 13314281.15 13314281.38 13314281.62 0.0533 0.0020 Saturn 31741-08-13 12:00 G 13314446.76 13314447.00 13314447.25 0.0274 0.0013 Jupiter 31746-08-14 01:12 G 13316273.36 13316273.55 13316273.75 0.0492 0.0276 Jupiter 31747-09-14 01:55 G 13316669.37 13316669.58 13316669.80 0.0496 0.0203 Jupiter 31753-03-06 01:55 G 13318669.35 13318669.58 13318669.81 0.0532 0.0070 Saturn 31755-02-11 15:36 G 13319376.90 13319377.15 13319377.40 0.0288 0.0003 Jupiter 31758-08-18 06:14 G 13320660.56 13320660.76 13320660.98 0.0493 0.0215 Jupiter 31759-09-18 11:02 G 13321056.76 13321056.96 13321057.15 0.0498 0.0269 Jupiter 31764-02-03 02:09 G 13322655.48 13322655.59 13322655.72 0.0534 0.0460 Jupiter 31765-03-11 04:33 G 13323057.47 13323057.69 13323057.92 0.0531 0.0159 Saturn 31770-08-08 13:12 G 13325033.85 13325034.05 13325034.26 0.0272 0.0154 Jupiter 31770-08-22 14:38 G 13325047.89 13325048.11 13325048.34 0.0493 0.0148 Saturn 31771-08-21 00:29 G 13325411.41 13325411.52 13325411.64 0.0276 0.0242 Jupiter 31771-09-22 20:53 G 13325444.21 13325444.37 13325444.55 0.0498 0.0337 Jupiter 31776-02-08 03:07 G 13327043.47 13327043.63 13327043.80 0.0534 0.0380 Jupiter 31777-03-16 04:48 G 13327445.50 13327445.70 13327445.91 0.0530 0.0243 Uranus 31779-02-16 10:05 G 13328147.71 13328147.92 13328148.15 0.0138 0.0069 Uranus 31780-02-21 01:26 G 13328517.31 13328517.56 13328517.82 0.0139 0.0004 Uranus 31781-02-24 17:02 G 13328887.01 13328887.21 13328887.43 0.0139 0.0078 Jupiter 31782-08-26 23:17 G 13329435.24 13329435.47 13329435.70 0.0493 0.0078 Jupiter 31783-09-27 07:41 G 13329831.68 13329831.82 13329831.96 0.0499 0.0403 Saturn 31784-02-05 21:36 G 13329963.23 13329963.40 13329963.58 0.0290 0.0203 Saturn 31785-02-18 19:41 G 13330342.24 13330342.32 13330342.43 0.0286 0.0263 Neptune 31786-06-22 06:00 G 13330830.74 13330830.75 13330830.82 0.0088 0.0087

Neptune 31787-06-24 17:02 G 13331198.08 13331198.21 13331198.36 0.0088 0.0073 Jupiter 31788-02-13 07:41 G 13331431.63 13331431.82 13331432.02 0.0534 0.0294 Neptune 31788-06-26 03:21 G 13331565.47 13331565.64 13331565.85 0.0088 0.0060 Jupiter 31789-03-21 07:55 G 13331833.65 13331833.83 13331834.02 0.0529 0.0327 Neptune 31789-06-28 13:55 G 13331932.88 13331933.08 13331933.32 0.0088 0.0047 Neptune 31790-07-01 00:43 G 13332300.30 13332300.53 13332300.78 0.0088 0.0033 Neptune 31791-07-03 11:17 G 13332667.73 13332667.97 13332668.23 0.0088 0.0020 Neptune 31792-07-04 22:05 G 13333035.16 13333035.42 13333035.68 0.0088 0.0006 Neptune 31793-07-07 08:53 G 13333402.61 13333402.87 13333403.13 0.0088 0.0008 Jupiter 31793-07-31 09:36 G 13333426.83 13333426.90 13333426.97 0.0492 0.0468 Neptune 31794-07-09 19:12 G 13333770.06 13333770.30 13333770.56 0.0088 0.0022 Jupiter 31794-08-31 06:43 G 13333822.55 13333822.78 13333823.02 0.0493 0.0012 Neptune 31795-07-12 05:45 G 13334137.51 13334137.74 13334137.98 0.0088 0.0035 Jupiter 31795-10-01 17:02 G 13334219.14 13334219.21 13334219.30 0.0501 0.0468 Neptune 31796-07-13 16:05 G 13334504.97 13334505.17 13334505.40 0.0088 0.0049 Neptune 31797-07-16 02:38 G 13334872.44 13334872.61 13334872.80 0.0088 0.0062 Neptune 31798-07-18 12:43 G 13335239.93 13335240.03 13335240.19 0.0088 0.0076 Jupiter 31800-02-18 14:09 G 13335819.87 13335820.09 13335820.30 0.0534 0.0206 Saturn 31800-08-15 18:00 G 13335998.01 13335998.25 13335998.49 0.0274 0.0063 Jupiter 31801-03-27 11:45 G 13336221.85 13336221.99 13336222.14 0.0528 0.0409 Jupiter 31805-08-05 17:17 G 13337814.10 13337814.22 13337814.35 0.0492 0.0408 Jupiter 31806-09-05 15:21 G 13338209.91 13338210.14 13338210.37 0.0494 0.0059 Jupiter 31812-02-24 20:24 G 13340208.12 13340208.35 13340208.58 0.0533 0.0118 Jupiter 31813-04-01 12:29 G 13340609.94 13340610.02 13340610.12 0.0526 0.0482 Saturn 31814-02-13 20:53 G 13340928.13 13340928.37 13340928.61 0.0288 0.0055 Jupiter 31817-08-09 21:36 G 13342201.24 13342201.40 13342201.57 0.0492 0.0349 Uranus 31818-08-18 15:21 G 13342574.95 13342575.14 13342575.36 0.0140 0.0081 Jupiter 31818-09-09 22:19 G 13342597.20 13342597.43 13342597.65 0.0496 0.0126 Uranus 31819-08-23 08:38 G 13342944.60 13342944.86 13342945.11 0.0140 0.0005 Uranus 31820-08-27 00:29 G 13343314.31 13343314.52 13343314.75 0.0139 0.0070

Jupiter 31824-03-01 00:14 G 13344596.27 13344596.51 13344596.74 0.0532 0.0028 31824-06-22 11:45 G 13344709.82 13344709.99 13344710.15 0.1677 0.0795 Mars Saturn 31829-08-10 20:09 G 13346585.12 13346585.34 13346585.57 0.0272 0.0103 Jupiter 31829-08-14 05:17 G 13346588.54 13346588.72 13346588.92 0.0492 0.0285 Jupiter 31830-09-14 07:26 G 13346984.60 13346984.81 13346985.03 0.0496 0.0196 Jupiter 31836-03-06 00:14 G 13348984.28 13348984.51 13348984.74 0.0532 0.0061 Jupiter 31841-08-18 13:55 G 13350975.88 13350976.08 13350976.30 0.0492 0.0219 Jupiter 31842-09-18 17:02 G 13351372.02 13351372.21 13351372.41 0.0497 0.0265 Saturn 31843-02-08 06:00 G 13351514.54 13351514.75 13351514.97 0.0290 0.0146 Jupiter 31847-02-02 23:02 G 13352970.35 13352970.46 13352970.57 0.0534 0.0470 Jupiter 31848-03-11 03:21 G 13353372.41 13353372.64 13353372.86 0.0531 0.0150 Jupiter 31853-08-22 21:07 G 13355363.16 13355363.38 13355363.60 0.0492 0.0152 Jupiter 31854-09-23 01:26 G 13355759.39 13355759.56 13355759.74 0.0498 0.0331 Saturn 31858-08-05 20:09 G 13357172.33 13357172.34 13357172.37 0.0271 0.0270 Jupiter 31859-02-08 04:19 G 13357358.53 13357358.68 13357358.85 0.0535 0.0390 Saturn 31859-08-18 03:50 G 13357549.45 13357549.66 13357549.89 0.0274 0.0119 Jupiter 31860-03-16 07:55 G 13357760.63 13357760.83 13357761.04 0.0530 0.0236 Uranus 31863-02-17 18:43 G 13358829.06 13358829.28 13358829.51 0.0138 0.0067 Uranus 31864-02-22 09:50 G 13359198.65 13359198.91 13359199.16 0.0139 0.0006 Pluto 31865-02-25 16:19 G 13359568.06 13359568.18 13359568.33 0.0065 0.0055 Uranus 31865-02-26 01:12 G 13359568.36 13359568.55 13359568.78 0.0139 0.0080 Jupiter 31865-08-27 04:48 G 13359750.47 13359750.70 13359750.93 0.0493 0.0083 Pluto 31866-02-27 05:02 G 13359934.50 13359934.71 13359934.97 0.0065 0.0030 Jupiter 31866-09-27 12:00 G 13360146.87 13360147.00 13360147.14 0.0499 0.0398 Neptune 31868-12-21 22:19 G 13360963.42 13360963.43 13360963.48 0.0089 0.0089 Neptune 31869-12-24 11:17 G 13361330.85 13361330.97 13361331.13 0.0090 0.0075 Neptune 31870-12-27 00:00 G 13361698.34 13361698.50 13361698.72 0.0090 0.0061 Jupiter 31871-02-13 11:45 G 13361746.80 13361746.99 13361747.18 0.0534 0.0303 Neptune 31871-12-29 12:57 G 13362065.84 13362066.04 13362066.28 0.0090 0.0047 Jupiter 31872-03-21 11:02 G 13362148.78 13362148.96 13362149.15 0.0529 0.0319

Neptune 31872-12-31 01:55 G 13362433.36 13362433.58 13362433.84 0.0090 0.0032 Saturn 31873-02-15 06:29 G 13362479.55 13362479.77 13362480.00 0.0287 0.0113 Neptune 31874-01-02 14:38 G 13362800.87 13362801.11 13362801.38 0.0090 0.0018 Neptune 31875-01-05 03:50 G 13363168.41 13363168.66 13363168.92 0.0090 0.0003 Neptune 31876-01-07 16:19 G 13363535.94 13363536.18 13363536.45 0.0090 0.0013 Jupiter 31876-07-31 11:17 G 13363741.92 13363741.97 13363742.03 0.0492 0.0477 Neptune 31877-01-09 05:17 G 13363903.48 13363903.72 13363903.97 0.0090 0.0027 Jupiter 31877-08-31 10:05 G 13364137.68 13364137.92 13364138.15 0.0494 0.0019 Neptune 31878-01-11 17:45 G 13364271.03 13364271.24 13364271.49 0.0090 0.0042 Jupiter 31878-10-01 21:50 G 13364534.32 13364534.41 13364534.49 0.0501 0.0462 Neptune 31879-01-14 06:43 G 13364638.59 13364638.78 13364639.00 0.0090 0.0056 Neptune 31880-01-16 19:55 G 13365006.17 13365006.33 13365006.49 0.0090 0.0070 Neptune 31881-01-18 08:09 G 13365373.78 13365373.84 13365373.95 0.0090 0.0085 Jupiter 31883-02-18 16:05 G 13366134.96 13366135.17 13366135.39 0.0534 0.0214 Jupiter 31884-03-26 12:14 G 13366536.86 13366537.01 13366537.16 0.0527 0.0399 Jupiter 31888-08-04 18:57 G 13368129.17 13368129.29 13368129.42 0.0492 0.0416 Saturn 31888-08-12 06:29 G 13368136.53 13368136.77 13368137.01 0.0272 0.0049 Jupiter 31889-09-04 18:14 G 13368525.03 13368525.26 13368525.50 0.0494 0.0052 Jupiter 31895-02-23 16:05 G 13370522.94 13370523.17 13370523.40 0.0533 0.0129 Jupiter 31896-03-31 09:21 G 13370924.80 13370924.89 13370925.00 0.0526 0.0475 Jupiter 31900-08-10 03:36 G 13372516.49 13372516.65 13372516.81 0.0492 0.0353 Jupiter 31901-09-10 03:36 G 13372912.42 13372912.65 13372912.87 0.0495 0.0122 Saturn 31902-02-10 18:14 G 13373066.02 13373066.26 13373066.49 0.0289 0.0084 Uranus 31902-08-20 04:33 G 13373256.49 13373256.69 13373256.92 0.0140 0.0076 Mars 31903-06-26 18:14 G 13373567.13 13373567.26 13373567.39 0.1672 0.1192 Uranus 31903-08-24 22:05 G 13373626.16 13373626.42 13373626.67 0.0140 0.0002 Uranus 31904-08-28 13:41 G 13373995.88 13373996.07 13373996.30 0.0139 0.0076 Jupiter 31907-03-01 18:57 G 13374911.06 13374911.29 13374911.52 0.0533 0.0039 Jupiter 31912-08-14 10:48 G 13376903.77 13376903.95 13376904.14 0.0492 0.0291 Jupiter 31913-09-14 10:48 G 13377299.74 13377299.95 13377300.17 0.0496 0.0190

Saturn 31917-08-08 07:55 G 13378723.69 13378723.83 13378723.99 0.0271 0.0214 Saturn 31918-08-20 16:48 G 13379101.02 13379101.20 13379101.39 0.0275 0.0178 Jupiter 31919-03-07 00:00 G 13379299.26 13379299.50 13379299.73 0.0533 0.0051 Jupiter 31924-08-18 17:45 G 13381291.04 13381291.24 13381291.45 0.0492 0.0225 Jupiter 31925-09-18 19:55 G 13381687.13 13381687.33 13381687.53 0.0497 0.0259 Mars 31928-12-24 18:43 G 13382880.16 13382880.28 13382880.41 0.1865 0.1460 Jupiter 31930-02-03 00:43 G 13383285.44 13383285.53 13383285.64 0.0534 0.0480 Jupiter 31931-03-12 05:17 G 13383687.50 13383687.72 13383687.95 0.0531 0.0141 Saturn 31932-02-18 20:09 G 13384031.15 13384031.34 13384031.54 0.0287 0.0176 Jupiter 31936-08-22 22:05 G 13385678.20 13385678.42 13385678.64 0.0493 0.0161 Jupiter 31937-09-23 03:21 G 13386074.46 13386074.64 13386074.81 0.0498 0.0325 Jupiter 31942-02-08 05:45 G 13387673.59 13387673.74 13387673.89 0.0534 0.0397 Jupiter 31943-03-17 07:41 G 13388075.61 13388075.82 13388076.04 0.0530 0.0227 Uranus 31946-02-14 13:55 G 13389141.06 13389141.08 13389141.13 0.0138 0.0136 Uranus 31947-02-19 04:19 G 13389510.46 13389510.68 13389510.91 0.0138 0.0064 Saturn 31947-08-15 19:12 G 13389688.05 13389688.30 13389688.54 0.0273 0.0010 Uranus 31948-02-23 19:26 G 13389880.05 13389880.31 13389880.56 0.0139 0.0009 Jupiter 31948-08-27 05:45 G 13390065.51 13390065.74 13390065.97 0.0493 0.0091 Uranus 31949-02-27 10:33 G 13390249.75 13390249.94 13390250.16 0.0139 0.0083 Jupiter 31949-09-27 13:41 G 13390461.93 13390462.07 13390462.21 0.0499 0.0392 Neptune 31951-06-26 01:26 G 13391098.47 13391098.56 13391098.66 0.0088 0.0081 Neptune 31952-06-27 11:31 G 13391465.84 13391465.98 13391466.16 0.0088 0.0068 Neptune 31953-06-29 22:19 G 13391833.24 13391833.43 13391833.64 0.0088 0.0054 Pluto 31953-08-29 20:53 G 13391894.12 13391894.37 13391894.63 0.0079 0.0014 Jupiter 31954-02-13 05:17 G 13392061.53 13392061.72 13392061.91 0.0534 0.0315 Neptune 31954-07-02 08:38 G 13392200.65 13392200.86 13392201.11 0.0088 0.0041 Jupiter 31955-03-22 05:31 G 13392463.54 13392463.73 13392463.92 0.0529 0.0309 Neptune 31955-07-04 19:12 G 13392568.06 13392568.30 13392568.55 0.0088 0.0027 Neptune 31956-07-06 06:00 G 13392935.50 13392935.75 13392936.01 0.0088 0.0013 Neptune 31957-07-08 16:33 G 13393302.93 13393303.19 13393303.45 0.0088 0.0001

Neptune 31958-07-11 02:53 G 13393670.38 13393670.62 13393670.89 0.0088 0.0015 Neptune 31959-07-13 13:41 G 13394037.83 13394038.07 13394038.32 0.0088 0.0028 Jupiter 31959-08-01 16:19 G 13394057.14 13394057.18 13394057.23 0.0492 0.0482 Neptune 31960-07-15 00:00 G 13394405.29 13394405.50 13394405.74 0.0088 0.0042 Jupiter 31960-08-31 14:38 G 13394452.87 13394453.11 13394453.34 0.0494 0.0023 Saturn 31961-02-12 09:50 G 13394617.67 13394617.91 13394618.16 0.0289 0.0019 Neptune 31961-07-17 10:19 G 13394772.75 13394772.93 13394773.15 0.0088 0.0056 Jupiter 31961-10-02 00:14 G 13394849.43 13394849.51 13394849.61 0.0500 0.0458 Neptune 31962-07-19 20:53 G 13395140.23 13395140.37 13395140.54 0.0088 0.0069 Neptune 31963-07-22 06:57 G 13395507.74 13395507.79 13395507.91 0.0088 0.0083 Jupiter 31966-02-18 08:09 G 13396449.63 13396449.84 13396450.05 0.0534 0.0228 Jupiter 31967-03-27 06:14 G 13396851.61 13396851.76 13396851.92 0.0528 0.0392 Jupiter 31971-08-05 23:31 G 13398444.37 13398444.48 13398444.60 0.0492 0.0422 Jupiter 31972-09-04 21:36 G 13398840.17 13398840.40 13398840.63 0.0494 0.0045 Saturn 31976-08-09 21:36 G 13400275.21 13400275.40 13400275.61 0.0272 0.0156 Saturn 31977-08-22 07:26 G 13400652.70 13400652.81 13400652.94 0.0275 0.0240 Jupiter 31978-02-23 12:43 G 13400837.81 13400838.03 13400838.26 0.0534 0.0141 Jupiter 31979-04-01 08:38 G 13401239.76 13401239.86 13401239.97 0.0527 0.0469 Jupiter 31983-08-10 06:43 G 13402831.62 13402831.78 13402831.94 0.0492 0.0360 Jupiter 31984-09-09 05:17 G 13403227.49 13403227.72 13403227.95 0.0495 0.0114 Uranus 31986-08-20 15:21 G 13403937.94 13403938.14 13403938.37 0.0140 0.0073 Uranus 31987-08-25 08:53 G 13404307.62 13404307.87 13404308.13 0.0140 0.0004 Uranus 31988-08-29 00:43 G 13404677.34 13404677.53 13404677.75 0.0140 0.0080 Saturn 31990-02-06 12:14 G 13405203.87 13405204.01 13405204.17 0.0290 0.0229 Jupiter 31990-02-28 19:26 G 13405226.08 13405226.31 13405226.55 0.0533 0.0050 Saturn 31991-02-20 12:14 G 13405582.89 13405583.01 13405583.14 0.0286 0.0241 Jupiter 31995-08-14 10:33 G 13407218.75 13407218.94 13407219.12 0.0492 0.0298 Jupiter 31996-09-13 11:02 G 13407614.75 13407614.96 13407615.18 0.0496 0.0183

## 33RD MILLENNIUM CE

## This is a list of transits of Earth in the 33rd millennium CE.

FROM MAX- C START MAX END SUNRAD DEPTH S
TRANSIT

TIME

Jupiter 32002-03-05 23:31 G 13409614.24 13409614.48 13409614.71 0.0532 0.0043 Saturn 32006-08-17 08:24 G 13411239.61 13411239.85 13411240.09 0.0273 0.0069 Jupiter 32007-08-18 17:45 G 13411606.04 13411606.24 13411606.45 0.0492 0.0233 Jupiter 32008-09-17 20:24 G 13412002.15 13412002.35 13412002.55 0.0497 0.0253 Jupiter 32013-02-01 17:31 G 13413600.14 13413600.23 13413600.32 0.0534 0.0492 Jupiter 32014-03-10 21:36 G 13414002.17 13414002.40 13414002.63 0.0532 0.0129 Jupiter 32019-08-23 02:24 G 13415993.38 13415993.60 13415993.82 0.0493 0.0165 Saturn 32020-02-15 03:07 G 13416169.39 13416169.63 13416169.88 0.0288 0.0051 Jupiter 32020-09-22 06:43 G 13416389.60 13416389.78 13416389.95 0.0498 0.0321 Jupiter 32025-02-06 19:55 G 13417988.19 13417988.33 13417988.48 0.0534 0.0413 Jupiter 32026-03-15 23:17 G 13418390.26 13418390.47 13418390.69 0.0531 0.0216 Uranus 32030-02-14 23:31 G 13419822.44 13419822.48 13419822.57 0.0137 0.0133 Uranus 32031-02-19 14:09 G 13420191.86 13420192.09 13420192.32 0.0138 0.0061 Jupiter 32031-08-27 09:21 G 13420380.66 13420380.89 13420381.12 0.0493 0.0098 Uranus 32032-02-24 04:48 G 13420561.44 13420561.70 13420561.95 0.0138 0.0012 Jupiter 32032-09-26 14:53 G 13420776.98 13420777.12 13420777.27 0.0498 0.0385 Uranus 32033-02-27 20:24 G 13420931.15 13420931.35 13420931.55 0.0139 0.0085 Neptune 32033-12-24 16:48 G 13421231.13 13421231.20 13421231.31 0.0090 0.0084 Neptune 32034-12-27 05:31 G 13421598.59 13421598.73 13421598.91 0.0090 0.0070 Saturn 32035-08-12 11:17 G 13421826.75 13421826.97 13421827.20 0.0272 0.0097

Neptune 32035-12-29 18:43 G 13421966.09 13421966.28 13421966.50 0.0090 0.0055 Neptune 32036-12-31 07:12 G 13422333.59 13422333.80 13422334.05 0.0090 0.0041 Jupiter 32037-02-12 00:00 G 13422376.32 13422376.50 13422376.69 0.0535 0.0329 Neptune 32038-01-02 20:24 G 13422701.12 13422701.35 13422701.61 0.0090 0.0026 Jupiter 32038-03-21 02:38 G 13422778.42 13422778.61 13422778.80 0.0530 0.0300 Neptune 32039-01-05 09:21 G 13423068.64 13423068.89 13423069.15 0.0090 0.0011 Neptune 32040-01-07 22:05 G 13423436.17 13423436.42 13423436.69 0.0090 0.0005 Neptune 32041-01-09 11:02 G 13423803.71 13423803.96 13423804.21 0.0090 0.0019 Neptune 32042-01-11 23:31 G 13424171.25 13424171.48 13424171.73 0.0090 0.0034 Jupiter 32042-07-31 19:12 G 13424372.28 13424372.30 13424372.33 0.0492 0.0488 Neptune 32043-01-14 12:14 G 13424538.81 13424539.01 13424539.25 0.0090 0.0049 Jupiter 32043-08-31 16:19 G 13424767.95 13424768.18 13424768.42 0.0493 0.0030 Neptune 32044-01-17 01:12 G 13424906.38 13424906.55 13424906.74 0.0090 0.0063 Jupiter 32044-10-01 00:29 G 13425164.43 13425164.52 13425164.62 0.0500 0.0452 Neptune 32045-01-18 13:41 G 13425273.97 13425274.07 13425274.22 0.0090 0.0078 Saturn 32049-02-08 07:41 G 13426755.62 13426755.82 13426756.03 0.0289 0.0157 Jupiter 32049-02-17 07:12 G 13426764.59 13426764.80 13426765.01 0.0534 0.0239 Jupiter 32050-03-26 06:57 G 13427166.63 13427166.79 13427166.95 0.0528 0.0384 Jupiter 32054-08-04 23:31 G 13428759.37 13428759.48 13428759.59 0.0492 0.0429 Jupiter 32055-09-04 21:21 G 13429155.15 13429155.39 13429155.62 0.0494 0.0039 Jupiter 32061-02-22 12:14 G 13431152.79 13431153.01 13431153.24 0.0534 0.0149 Jupiter 32062-03-31 07:55 G 13431554.73 13431554.83 13431554.95 0.0527 0.0463 Saturn 32064-08-06 12:57 G 13432413.99 13432414.04 13432414.10 0.0270 0.0262 Saturn 32065-08-18 21:07 G 13432791.17 13432791.38 13432791.60 0.0274 0.0127 Jupiter 32066-08-09 06:43 G 13433146.63 13433146.78 13433146.94 0.0492 0.0367 Jupiter 32067-09-09 06:00 G 13433542.52 13433542.75 13433542.97 0.0495 0.0108 Uranus 32070-08-21 01:55 G 13434619.37 13434619.58 13434619.81 0.0141 0.0069 Uranus 32071-08-25 19:26 G 13434989.06 13434989.31 13434989.57 0.0140 0.0008 Uranus 32072-08-29 11:31 G 13435358.79 13435358.98 13435359.20 0.0140 0.0083 Jupiter 32073-02-27 11:17 G 13435540.74 13435540.97 13435541.21 0.0533 0.0063

Jupiter 32078-08-13 15:07 G 13437533.95 13437534.13 13437534.32 0.0492 0.0304 Saturn 32079-02-16 20:09 G 13437721.13 13437721.34 13437721.57 0.0288 0.0120 Jupiter 32079-09-13 15:36 G 13437929.93 13437930.15 13437930.37 0.0495 0.0179 Jupiter 32085-03-04 13:41 G 13439928.84 13439929.07 13439929.31 0.0533 0.0030 Jupiter 32090-08-17 22:19 G 13441921.23 13441921.43 13441921.64 0.0492 0.0240 Jupiter 32091-09-17 23:17 G 13442317.27 13442317.47 13442317.67 0.0496 0.0246 Saturn 32094-08-13 23:17 G 13443378.23 13443378.47 13443378.72 0.0272 0.0040 Jupiter 32096-02-01 11:31 G 13443914.92 13443914.98 13443915.06 0.0534 0.0506 Jupiter 32097-03-09 17:31 G 13444317.01 13444317.23 13444317.46 0.0532 0.0118 Jupiter 32102-08-23 05:02 G 13446308.50 13446308.71 13446308.93 0.0492 0.0172 Jupiter 32103-09-23 07:41 G 13446704.64 13446704.82 13446705.00 0.0497 0.0314 Jupiter 32108-02-07 18:29 G 13448303.14 13448303.27 13448303.42 0.0535 0.0424 Saturn 32108-02-12 01:41 G 13448307.34 13448307.57 13448307.81 0.0289 0.0087 32108-06-25 09:07 G 13448441.69 13448441.88 13448442.07 0.1683 0.0239 Mars Jupiter 32109-03-15 23:31 G 13448705.27 13448705.48 13448705.70 0.0531 0.0208 Pluto 32112-03-01 23:31 G 13449787.23 13449787.48 13449787.75 0.0065 0.0005 Uranus 32114-02-16 12:43 G 13450503.96 13450504.03 13450504.14 0.0137 0.0128 Jupiter 32114-08-27 10:05 G 13450695.69 13450695.92 13450696.15 0.0493 0.0105 Uranus 32115-02-21 02:53 G 13450873.40 13450873.62 13450873.87 0.0138 0.0056 Jupiter 32115-09-27 15:07 G 13451091.99 13451092.13 13451092.29 0.0498 0.0380 Uranus 32116-02-25 17:45 G 13451242.99 13451243.24 13451243.50 0.0138 0.0017 Neptune 32116-06-27 18:29 G 13451366.17 13451366.27 13451366.42 0.0088 0.0077 Uranus 32117-03-01 09:21 G 13451612.71 13451612.89 13451613.09 0.0139 0.0091 Neptune 32117-06-30 05:17 G 13451733.56 13451733.72 13451733.92 0.0088 0.0063 Neptune 32118-07-02 15:50 G 13452100.96 13452101.16 13452101.39 0.0088 0.0049 Neptune 32119-07-05 02:38 G 13452468.38 13452468.61 13452468.85 0.0088 0.0035 Jupiter 32120-02-13 00:14 G 13452691.34 13452691.51 13452691.70 0.0535 0.0337 Neptune 32120-07-06 12:57 G 13452835.80 13452836.04 13452836.30 0.0088 0.0022 Jupiter 32121-03-21 03:07 G 13453093.44 13453093.63 13453093.82 0.0530 0.0295 Neptune 32121-07-08 23:31 G 13453203.23 13453203.48 13453203.75 0.0088 0.0008

Neptune 32122-07-11 10:05 G 13453570.67 13453570.92 13453571.18 0.0088 0.0007 Neptune 32123-07-13 20:38 G 13453938.12 13453938.36 13453938.62 0.0088 0.0021 Saturn 32123-08-09 22:05 G 13453965.28 13453965.42 13453965.58 0.0271 0.0210 Neptune 32124-07-15 06:57 G 13454305.57 13454305.79 13454306.05 0.0088 0.0035 Saturn 32124-08-21 07:26 G 13454342.63 13454342.81 13454342.99 0.0274 0.0183 Neptune 32125-07-17 17:31 G 13454673.04 13454673.23 13454673.46 0.0088 0.0049 Neptune 32126-07-20 04:19 G 13455040.51 13455040.68 13455040.87 0.0088 0.0062 Jupiter 32126-08-31 18:00 G 13455083.01 13455083.25 13455083.48 0.0493 0.0036 Neptune 32127-07-22 14:38 G 13455408.00 13455408.11 13455408.25 0.0088 0.0076 Jupiter 32127-10-02 02:24 G 13455479.50 13455479.60 13455479.70 0.0500 0.0449 Jupiter 32132-02-18 00:29 G 13457079.32 13457079.52 13457079.73 0.0534 0.0254 Jupiter 32133-03-25 23:45 G 13457481.34 13457481.49 13457481.66 0.0529 0.0375 Saturn 32137-02-05 10:48 G 13458893.94 13458893.95 13458893.99 0.0291 0.0290 Jupiter 32137-08-05 04:48 G 13459074.59 13459074.70 13459074.80 0.0492 0.0437 Saturn 32138-02-19 12:29 G 13459272.84 13459273.02 13459273.21 0.0287 0.0187 Jupiter 32138-09-05 03:21 G 13459470.41 13459470.64 13459470.87 0.0494 0.0034 Jupiter 32144-02-23 03:21 G 13461467.42 13461467.64 13461467.87 0.0534 0.0164 Jupiter 32145-03-31 00:14 G 13461869.41 13461869.51 13461869.64 0.0528 0.0455 Jupiter 32149-08-09 12:29 G 13463461.87 13463462.02 13463462.17 0.0492 0.0375 Jupiter 32150-09-09 10:48 G 13463857.72 13463857.95 13463858.18 0.0494 0.0102 Saturn 32153-08-16 08:38 G 13464929.62 13464929.86 13464930.11 0.0273 0.0015 Uranus 32154-08-22 13:41 G 13465300.86 13465301.07 13465301.31 0.0141 0.0065 Uranus 32155-08-27 07:12 G 13465670.55 13465670.80 13465671.06 0.0140 0.0012 Jupiter 32156-02-28 07:26 G 13465855.58 13465855.81 13465856.04 0.0534 0.0076 Uranus 32156-08-30 23:31 G 13466040.29 13466040.48 13466040.68 0.0140 0.0087 Jupiter 32161-08-13 19:26 G 13467849.14 13467849.31 13467849.50 0.0492 0.0311 Jupiter 32162-09-13 18:29 G 13468245.06 13468245.27 13468245.49 0.0495 0.0173 Saturn 32167-02-13 17:31 G 13469858.98 13469859.23 13469859.47 0.0288 0.0020 Jupiter 32168-03-04 14:24 G 13470243.86 13470244.10 13470244.33 0.0533 0.0021 Jupiter 32173-08-18 00:57 G 13472236.34 13472236.54 13472236.74 0.0492 0.0246

Jupiter 32174-09-18 01:12 G 13472632.35 13472632.55 13472632.75 0.0496 0.0241 Jupiter 32179-02-01 13:26 G 13474230.00 13474230.06 13474230.12 0.0534 0.0514 Jupiter 32180-03-09 19:41 G 13474632.09 13474632.32 13474632.55 0.0532 0.0112 Saturn 32182-08-11 04:33 G 13475516.50 13475516.69 13475516.89 0.0271 0.0160 Saturn 32183-08-23 14:24 G 13475893.99 13475894.10 13475894.24 0.0275 0.0235 Jupiter 32185-08-22 08:38 G 13476623.65 13476623.86 13476624.08 0.0492 0.0178 Jupiter 32186-09-22 11:17 G 13477019.79 13477019.97 13477020.16 0.0497 0.0311 Jupiter 32191-02-06 14:38 G 13478617.98 13478618.11 13478618.24 0.0534 0.0437 Jupiter 32192-03-14 18:14 G 13479020.05 13479020.26 13479020.48 0.0531 0.0196 Saturn 32196-02-08 00:43 G 13480445.37 13480445.53 13480445.68 0.0291 0.0224 Saturn 32197-02-21 01:26 G 13480824.44 13480824.56 13480824.68 0.0287 0.0249 Jupiter 32197-08-26 17:31 G 13481011.00 13481011.23 13481011.46 0.0493 0.0110 Uranus 32198-02-17 01:12 G 13481185.45 13481185.55 13481185.68 0.0137 0.0123 Jupiter 32198-09-26 22:33 G 13481407.30 13481407.44 13481407.60 0.0498 0.0379 Neptune 32198-12-27 10:33 G 13481498.84 13481498.94 13481499.08 0.0090 0.0079 Uranus 32199-02-21 15:36 G 13481554.92 13481555.15 13481555.39 0.0138 0.0051 Pluto 32199-09-01 13:26 G 13481746.88 13481747.06 13481747.28 0.0079 0.0049 Neptune 32199-12-29 23:17 G 13481866.30 13481866.47 13481866.66 0.0090 0.0064 Uranus 32200-02-26 06:14 G 13481924.51 13481924.76 13481925.02 0.0138 0.0023 Neptune 32201-01-01 12:00 G 13482233.81 13482234.00 13482234.24 0.0090 0.0050 Uranus 32201-03-02 22:05 G 13482294.24 13482294.42 13482294.61 0.0139 0.0096 Neptune 32202-01-04 01:12 G 13482601.33 13482601.55 13482601.80 0.0090 0.0035 Neptune 32203-01-06 14:09 G 13482968.85 13482969.09 13482969.35 0.0090 0.0020 Jupiter 32203-02-12 18:00 G 13483006.08 13483006.25 13483006.43 0.0534 0.0352 Neptune 32204-01-09 03:21 G 13483336.38 13483336.64 13483336.90 0.0090 0.0004 Jupiter 32204-03-20 20:09 G 13483408.14 13483408.34 13483408.54 0.0530 0.0283 Neptune 32205-01-10 16:05 G 13483703.92 13483704.17 13483704.43 0.0090 0.0010 Neptune 32206-01-13 04:48 G 13484071.46 13484071.70 13484071.96 0.0090 0.0026 Neptune 32207-01-15 17:17 G 13484439.01 13484439.22 13484439.47 0.0090 0.0041 Neptune 32208-01-18 06:00 G 13484806.57 13484806.75 13484806.98 0.0090 0.0056

Neptune 32209-01-19 18:57 G 13485174.15 13485174.29 13485174.47 0.0090 0.0070 Jupiter 32209-09-01 01:12 G 13485398.32 13485398.55 13485398.78 0.0493 0.0042 Neptune 32210-01-22 07:41 G 13485541.76 13485541.82 13485541.93 0.0090 0.0085 Jupiter 32210-10-02 07:41 G 13485794.72 13485794.82 13485794.93 0.0499 0.0444 Saturn 32212-08-18 13:55 G 13486480.84 13486481.08 13486481.32 0.0273 0.0064 Mars 32212-12-26 11:02 G 13486610.79 13486610.96 13486611.13 0.1855 0.0895 Jupiter 32215-02-17 21:36 G 13487394.20 13487394.40 13487394.60 0.0534 0.0266 Jupiter 32216-03-25 23:02 G 13487796.30 13487796.46 13487796.63 0.0530 0.0367 Jupiter 32220-08-05 11:17 G 13489389.87 13489389.97 13489390.07 0.0492 0.0443 Jupiter 32221-09-05 08:38 G 13489785.63 13489785.86 13489786.09 0.0493 0.0028 Saturn 32226-02-16 06:00 G 13491410.51 13491410.75 13491410.99 0.0288 0.0043 Jupiter 32227-02-23 04:48 G 13491782.48 13491782.70 13491782.92 0.0534 0.0174 Jupiter 32228-03-31 04:05 G 13492184.56 13492184.67 13492184.80 0.0528 0.0451 Jupiter 32232-08-09 17:17 G 13493777.08 13493777.22 13493777.38 0.0492 0.0381 Jupiter 32233-09-09 14:53 G 13494172.90 13494173.12 13494173.35 0.0494 0.0098 Uranus 32237-08-19 09:36 G 13495612.85 13495612.90 13495612.98 0.0141 0.0136 Uranus 32238-08-24 03:36 G 13495982.43 13495982.65 13495982.89 0.0141 0.0059 Jupiter 32239-02-28 11:31 G 13496170.75 13496170.98 13496171.21 0.0534 0.0081 Uranus 32239-08-28 21:07 G 13496352.13 13496352.38 13496352.64 0.0140 0.0018 Uranus 32240-09-01 13:26 G 13496721.88 13496722.06 13496722.26 0.0140 0.0093 Saturn 32241-08-13 07:26 G 13497067.59 13497067.81 13497068.03 0.0271 0.0114 Jupiter 32244-08-14 01:26 G 13498164.38 13498164.56 13498164.74 0.0492 0.0316 Jupiter 32245-09-14 00:29 G 13498560.30 13498560.52 13498560.74 0.0495 0.0170 Jupiter 32251-03-05 11:45 G 13500558.76 13500558.99 13500559.22 0.0533 0.0007 Saturn 32255-02-10 10:19 G 13501996.74 13501996.93 13501997.14 0.0291 0.0164 Jupiter 32256-08-18 09:36 G 13502551.71 13502551.90 13502552.11 0.0492 0.0253 Jupiter 32257-09-18 10:48 G 13502947.75 13502947.95 13502948.16 0.0496 0.0240 Jupiter 32262-02-01 10:48 G 13504544.92 13504544.95 13504544.99 0.0534 0.0527 Jupiter 32263-03-10 15:07 G 13504946.90 13504947.13 13504947.36 0.0532 0.0098 Jupiter 32268-08-22 17:45 G 13506939.02 13506939.24 13506939.45 0.0492 0.0184

Jupiter 32269-09-22 19:55 G 13507335.15 13507335.33 13507335.51 0.0496 0.0306 Saturn 32271-08-20 15:36 G 13508031.93 13508032.15 13508032.38 0.0273 0.0110 Jupiter 32274-02-06 13:55 G 13508932.96 13508933.08 13508933.21 0.0534 0.0448 Jupiter 32275-03-15 18:29 G 13509335.05 13509335.27 13509335.49 0.0532 0.0187 Neptune 32280-06-28 01:55 G 13511266.53 13511266.58 13511266.65 0.0088 0.0085 Jupiter 32280-08-27 01:41 G 13511326.34 13511326.57 13511326.79 0.0492 0.0115 Neptune 32281-06-30 11:45 G 13511633.87 13511633.99 13511634.17 0.0088 0.0072 Jupiter 32281-09-27 05:02 G 13511722.56 13511722.71 13511722.86 0.0497 0.0375 Uranus 32282-02-18 15:21 G 13511867.02 13511867.14 13511867.29 0.0137 0.0117 Neptune 32282-07-02 22:33 G 13512001.27 13512001.44 13512001.66 0.0088 0.0058 Uranus 32283-02-23 05:31 G 13512236.50 13512236.73 13512236.98 0.0138 0.0045 Neptune 32283-07-05 09:07 G 13512368.67 13512368.88 13512369.12 0.0088 0.0044 Uranus 32284-02-27 20:38 G 13512606.11 13512606.36 13512606.61 0.0138 0.0028 Neptune 32284-07-06 19:41 G 13512736.09 13512736.32 13512736.58 0.0088 0.0030 Saturn 32285-02-17 13:41 G 13512961.85 13512962.07 13512962.31 0.0288 0.0101 Uranus 32285-03-03 12:00 G 13512975.85 13512976.00 13512976.19 0.0139 0.0103 Neptune 32285-07-09 06:14 G 13513103.51 13513103.76 13513104.02 0.0088 0.0016 Jupiter 32286-02-11 20:24 G 13513321.18 13513321.35 13513321.52 0.0535 0.0361 Neptune 32286-07-11 16:48 G 13513470.94 13513471.20 13513471.46 0.0088 0.0001 Jupiter 32287-03-21 00:57 G 13513723.34 13513723.54 13513723.74 0.0531 0.0278 Neptune 32287-07-14 03:07 G 13513838.38 13513838.63 13513838.89 0.0088 0.0013 Neptune 32288-07-15 13:26 G 13514205.83 13514206.06 13514206.32 0.0088 0.0027 Neptune 32289-07-17 23:45 G 13514573.28 13514573.49 13514573.74 0.0088 0.0041 Neptune 32290-07-20 10:19 G 13514940.75 13514940.93 13514941.15 0.0088 0.0055 Neptune 32291-07-22 20:53 G 13515308.23 13515308.37 13515308.55 0.0088 0.0069 Neptune 32292-07-24 07:12 G 13515675.74 13515675.80 13515675.91 0.0088 0.0083 Jupiter 32292-08-31 07:55 G 13515713.60 13515713.83 13515714.06 0.0493 0.0046 Jupiter 32293-10-01 13:41 G 13516109.97 13516110.07 13516110.18 0.0499 0.0442 Jupiter 32298-02-17 03:36 G 13517709.46 13517709.65 13517709.86 0.0535 0.0272 Jupiter 32299-03-26 06:00 G 13518111.58 13518111.75 13518111.91 0.0530 0.0366

Saturn 32300-08-15 06:57 G 13518618.55 13518618.79 13518619.02 0.0271 0.0073 Jupiter 32303-08-06 19:12 G 13519705.22 13519705.30 13519705.41 0.0492 0.0447 Jupiter 32304-09-05 17:02 G 13520100.98 13520101.21 13520101.44 0.0493 0.0026 Jupiter 32310-02-23 06:00 G 13522097.53 13522097.75 13522097.97 0.0534 0.0186 Jupiter 32311-04-01 03:50 G 13522499.54 13522499.66 13522499.79 0.0528 0.0442 Saturn 32314-02-12 15:50 G 13523547.94 13523548.16 13523548.39 0.0291 0.0109 Jupiter 32315-08-11 02:53 G 13524092.49 13524092.62 13524092.77 0.0493 0.0389 Jupiter 32316-09-10 02:24 G 13524488.38 13524488.60 13524488.83 0.0494 0.0096 Uranus 32321-08-21 00:57 G 13526294.45 13526294.54 13526294.65 0.0141 0.0129 Jupiter 32322-02-28 10:05 G 13526485.69 13526485.92 13526486.15 0.0533 0.0094 Uranus 32322-08-25 19:12 G 13526664.06 13526664.30 13526664.53 0.0141 0.0052 Jupiter 32323-04-06 04:48 G 13526887.67 13526887.70 13526887.74 0.0527 0.0520 Uranus 32323-08-30 12:29 G 13527033.77 13527034.02 13527034.27 0.0140 0.0024 Uranus 32324-09-03 04:33 G 13527403.52 13527403.69 13527403.87 0.0140 0.0100 Jupiter 32327-08-15 11:45 G 13528479.81 13528479.99 13528480.16 0.0492 0.0324 Jupiter 32328-09-14 11:17 G 13528875.75 13528875.97 13528876.19 0.0495 0.0165 Saturn 32329-08-10 07:26 G 13529205.70 13529205.81 13529205.93 0.0270 0.0236 Saturn 32330-08-22 14:09 G 13529582.88 13529583.09 13529583.29 0.0273 0.0151 Jupiter 32334-03-05 13:55 G 13530873.84 13530874.08 13530874.31 0.0533 0.0010 Jupiter 32339-08-19 19:55 G 13532867.13 13532867.33 13532867.53 0.0492 0.0256 Jupiter 32340-09-18 19:55 G 13533263.13 13533263.33 13533263.54 0.0495 0.0236 Saturn 32344-02-20 18:00 G 13534513.04 13534513.25 13534513.46 0.0288 0.0153 Jupiter 32346-03-10 20:38 G 13535262.13 13535262.36 13535262.59 0.0533 0.0093 Jupiter 32351-08-24 02:53 G 13537254.41 13537254.62 13537254.84 0.0492 0.0188 Jupiter 32352-09-23 04:05 G 13537650.49 13537650.67 13537650.86 0.0496 0.0305 Jupiter 32357-02-06 21:36 G 13539248.28 13539248.40 13539248.53 0.0534 0.0455 Pluto 32358-03-05 21:50 G 13539640.16 13539640.41 13539640.68 0.0065 0.0008 Jupiter 32358-03-16 03:21 G 13539650.42 13539650.64 13539650.86 0.0532 0.0185 Saturn 32359-08-17 04:05 G 13540169.42 13540169.67 13540169.91 0.0271 0.0033 Neptune 32362-12-28 13:55 G 13541399.07 13541399.08 13541399.15 0.0090 0.0089 Jupiter 32363-08-28 11:45 G 13541641.77 13541641.99 13541642.22 0.0492 0.0117 Neptune 32363-12-31 02:53 G 13541766.50 13541766.62 13541766.79 0.0090 0.0074 Jupiter 32364-09-27 15:21 G 13542038.00 13542038.14 13542038.30 0.0497 0.0376 Neptune 32365-01-01 15:50 G 13542133.98 13542134.16 13542134.37 0.0090 0.0059 Neptune 32366-01-04 04:48 G 13542501.48 13542501.70 13542501.93 0.0090 0.0044 Uranus 32366-02-20 03:21 G 13542548.50 13542548.64 13542548.79 0.0137 0.0112 Neptune 32367-01-06 17:45 G 13542869.00 13542869.24 13542869.49 0.0090 0.0029 Uranus 32367-02-24 17:45 G 13542917.99 13542918.24 13542918.48 0.0138 0.0040 Neptune 32368-01-09 06:43 G 13543236.53 13543236.78 13543237.04 0.0090 0.0014 Uranus 32368-02-29 08:24 G 13543287.61 13543287.85 13543288.11 0.0138 0.0033 Neptune 32369-01-10 19:55 G 13543604.07 13543604.33 13543604.59 0.0090 0.0001 Jupiter 32369-02-12 01:41 G 13543636.41 13543636.57 13543636.74 0.0534 0.0372 Uranus 32369-03-05 00:14 G 13543657.36 13543657.51 13543657.68 0.0139 0.0107 Neptune 32370-01-13 08:38 G 13543971.61 13543971.86 13543972.12 0.0090 0.0017 Jupiter 32370-03-21 03:50 G 13544038.46 13544038.66 13544038.86 0.0531 0.0269 Neptune 32371-01-15 21:36 G 13544339.16 13544339.40 13544339.65 0.0090 0.0032 Neptune 32372-01-18 10:19 G 13544706.72 13544706.93 13544707.16 0.0090 0.0047 Neptune 32373-01-19 23:17 G 13545074.29 13545074.47 13545074.66 0.0090 0.0062 Saturn 32373-02-13 17:02 G 13545098.98 13545099.21 13545099.46 0.0291 0.0061 Neptune 32374-01-22 11:45 G 13545441.88 13545441.99 13545442.14 0.0090 0.0077 Jupiter 32375-09-01 20:24 G 13546029.12 13546029.35 13546029.58 0.0493 0.0050 Jupiter 32376-10-02 03:21 G 13546425.54 13546425.64 13546425.75 0.0499 0.0442 Jupiter 32381-02-17 06:14 G 13548024.57 13548024.76 13548024.96 0.0534 0.0284 Jupiter 32382-03-26 06:00 G 13548426.59 13548426.75 13548426.93 0.0529 0.0357 Jupiter 32386-08-06 05:45 G 13550020.66 13550020.74 13550020.83 0.0493 0.0456 Jupiter 32387-09-06 05:17 G 13550416.48 13550416.72 13550416.95 0.0494 0.0023 Saturn 32388-08-11 03:21 G 13550756.49 13550756.64 13550756.82 0.0270 0.0199 Saturn 32389-08-23 10:05 G 13551133.74 13551133.92 13551134.10 0.0273 0.0189 32392-06-28 06:00 G 13552173.56 13552173.75 13552173.94 0.1689 0.0313 Mars Jupiter 32393-02-22 09:36 G 13552412.68 13552412.90 13552413.12 0.0534 0.0194

Jupiter 32394-03-31 08:38 G 13552814.74 13552814.86 13552815.00 0.0529 0.0439 Jupiter 32398-08-10 15:07 G 13554407.99 13554408.13 13554408.27 0.0493 0.0392 Jupiter 32399-09-10 13:41 G 13554803.84 13554804.07 13554804.30 0.0494 0.0093 Saturn 32402-02-07 14:38 G 13555685.05 13555685.11 13555685.18 0.0292 0.0281 Saturn 32403-02-21 18:29 G 13556064.11 13556064.27 13556064.46 0.0288 0.0201 Jupiter 32405-02-27 16:19 G 13556800.95 13556801.18 13556801.41 0.0534 0.0101 Uranus 32405-08-21 16:19 G 13556976.06 13556976.18 13556976.30 0.0141 0.0123 Jupiter 32406-04-05 13:41 G 13557203.03 13557203.07 13557203.11 0.0528 0.0519 Uranus 32406-08-26 10:19 G 13557345.69 13557345.93 13557346.17 0.0141 0.0045 Uranus 32407-08-31 03:36 G 13557715.40 13557715.65 13557715.90 0.0140 0.0031 Uranus 32408-09-03 19:41 G 13558085.17 13558085.32 13558085.50 0.0140 0.0107 Jupiter 32410-08-14 22:48 G 13558795.28 13558795.45 13558795.63 0.0492 0.0327 Jupiter 32411-09-14 21:36 G 13559191.18 13559191.40 13559191.62 0.0494 0.0164 Jupiter 32417-03-05 00:00 G 13561189.26 13561189.50 13561189.73 0.0534 0.0010 Saturn 32418-08-17 23:17 G 13561720.22 13561720.47 13561720.71 0.0271 0.0005 Jupiter 32422-08-19 07:55 G 13563182.63 13563182.83 13563183.03 0.0492 0.0259 Jupiter 32423-09-19 07:55 G 13563578.63 13563578.83 13563579.03 0.0495 0.0236 Jupiter 32429-03-10 02:38 G 13565577.38 13565577.61 13565577.85 0.0532 0.0084 Saturn 32432-02-15 15:50 G 13566649.92 13566650.16 13566650.41 0.0291 0.0015 Jupiter 32434-08-23 15:07 G 13567569.92 13567570.13 13567570.35 0.0493 0.0193 Jupiter 32435-09-23 18:29 G 13567966.09 13567966.27 13567966.46 0.0497 0.0304 Jupiter 32440-02-07 03:50 G 13569563.55 13569563.66 13569563.78 0.0533 0.0464 Jupiter 32441-03-15 06:14 G 13569965.54 13569965.76 13569965.98 0.0531 0.0175 Neptune 32445-06-30 18:14 G 13571534.19 13571534.26 13571534.38 0.0088 0.0081 Pluto 32445-09-04 11:45 G 13571599.86 13571599.99 13571600.13 0.0079 0.0068 Neptune 32446-07-03 04:48 G 13571901.56 13571901.70 13571901.89 0.0088 0.0067 Jupiter 32446-08-28 00:14 G 13571957.28 13571957.51 13571957.74 0.0493 0.0123 Neptune 32447-07-05 15:36 G 13572268.96 13572269.15 13572269.38 0.0088 0.0053 Saturn 32447-08-12 23:02 G 13572307.27 13572307.46 13572307.66 0.0269 0.0162 Jupiter 32447-09-28 04:19 G 13572353.53 13572353.68 13572353.84 0.0497 0.0373

Neptune 32448-07-07 02:38 G 13572636.38 13572636.61 13572636.84 0.0088 0.0038 Saturn 32448-08-24 05:02 G 13572684.59 13572684.71 13572684.86 0.0273 0.0226 Neptune 32449-07-09 12:43 G 13573003.79 13573004.03 13573004.29 0.0088 0.0024 Uranus 32450-02-20 15:21 G 13573230.00 13573230.14 13573230.31 0.0137 0.0108 Neptune 32450-07-11 23:17 G 13573371.22 13573371.47 13573371.74 0.0088 0.0010 Uranus 32451-02-25 05:31 G 13573599.49 13573599.73 13573599.98 0.0138 0.0036 Neptune 32451-07-14 09:50 G 13573738.66 13573738.91 13573739.17 0.0088 0.0005 Jupiter 32452-02-12 06:29 G 13573951.61 13573951.77 13573951.93 0.0534 0.0380 Uranus 32452-02-29 20:38 G 13573969.11 13573969.36 13573969.61 0.0138 0.0037 Neptune 32452-07-15 20:09 G 13574106.10 13574106.34 13574106.60 0.0088 0.0019 Uranus 32453-03-05 12:00 G 13574338.87 13574339.00 13574339.17 0.0139 0.0112 Jupiter 32453-03-20 09:21 G 13574353.68 13574353.89 13574354.09 0.0531 0.0264 Neptune 32453-07-18 06:29 G 13574473.54 13574473.77 13574474.02 0.0088 0.0033 Neptune 32454-07-20 17:02 G 13574841.00 13574841.21 13574841.43 0.0088 0.0047 Neptune 32455-07-23 03:36 G 13575208.47 13575208.65 13575208.83 0.0088 0.0061 Neptune 32456-07-24 13:26 G 13575575.96 13575576.06 13575576.22 0.0088 0.0076 Jupiter 32458-09-01 08:53 G 13576344.64 13576344.87 13576345.11 0.0493 0.0052 Jupiter 32459-10-02 14:38 G 13576741.01 13576741.11 13576741.22 0.0498 0.0441 Saturn 32461-02-08 12:43 G 13577235.90 13577236.03 13577236.18 0.0292 0.0237 Saturn 32462-02-22 16:48 G 13577615.09 13577615.20 13577615.34 0.0288 0.0245 Jupiter 32464-02-17 12:29 G 13578339.83 13578340.02 13578340.22 0.0534 0.0291 Jupiter 32465-03-25 14:53 G 13578741.95 13578742.12 13578742.30 0.0530 0.0354 Jupiter 32469-08-05 18:29 G 13580336.19 13580336.27 13580336.36 0.0493 0.0459 Jupiter 32470-09-05 16:48 G 13580731.97 13580732.20 13580732.43 0.0493 0.0019 Jupiter 32476-02-22 20:24 G 13582728.13 13582728.35 13582728.56 0.0534 0.0199 Jupiter 32477-03-30 20:24 G 13583130.23 13583130.35 13583130.48 0.0529 0.0439 Saturn 32477-08-18 18:29 G 13583271.02 13583271.27 13583271.51 0.0271 0.0041 Jupiter 32481-08-10 03:36 G 13584723.52 13584723.65 13584723.79 0.0492 0.0395 Jupiter 32482-09-10 02:24 G 13585119.37 13585119.60 13585119.83 0.0494 0.0093 Jupiter 32488-02-28 00:57 G 13587116.31 13587116.54 13587116.77 0.0533 0.0109

Jupiter 32489-04-04 19:55 G 13587518.28 13587518.33 13587518.38 0.0527 0.0512 Uranus 32489-08-22 05:31 G 13587657.61 13587657.73 13587657.89 0.0141 0.0118 Uranus 32490-08-27 00:00 G 13588027.26 13588027.50 13588027.75 0.0141 0.0040 Saturn 32491-02-16 12:14 G 13588200.77 13588201.01 13588201.26 0.0291 0.0028 Uranus 32491-08-31 17:31 G 13588396.99 13588397.23 13588397.48 0.0140 0.0038 Uranus 32492-09-04 09:50 G 13588766.78 13588766.91 13588767.07 0.0140 0.0113 Jupiter 32493-08-14 10:19 G 13589110.76 13589110.93 13589111.10 0.0493 0.0334 Jupiter 32494-09-14 11:17 G 13589506.75 13589506.97 13589507.19 0.0495 0.0161 32496-12-27 06:00 G 13590341.56 13590341.75 13590341.94 0.1845 0.0465 Mars Jupiter 32500-03-05 05:31 G 13591504.49 13591504.73 13591504.96 0.0533 0.0016 Jupiter 32505-08-19 19:12 G 13593498.11 13593498.30 13593498.50 0.0493 0.0266 Saturn 32506-08-14 18:43 G 13593858.06 13593858.28 13593858.49 0.0269 0.0125 Jupiter 32506-09-19 20:53 G 13593894.17 13593894.37 13593894.58 0.0496 0.0233 Saturn 32507-08-27 00:14 G 13594235.46 13594235.51 13594235.58 0.0273 0.0263 Jupiter 32512-03-10 08:09 G 13595892.61 13595892.84 13595893.08 0.0532 0.0078 Jupiter 32517-08-24 04:33 G 13597885.47 13597885.69 13597885.90 0.0493 0.0195 Jupiter 32518-09-24 06:43 G 13598281.59 13598281.78 13598281.96 0.0496 0.0303 Saturn 32520-02-11 09:50 G 13598786.73 13598786.91 13598787.10 0.0292 0.0195 Saturn 32521-02-24 14:38 G 13599166.11 13599166.11 13599166.11 0.0288 0.0288 Jupiter 32523-02-07 09:36 G 13599878.80 13599878.90 13599879.02 0.0534 0.0471 Jupiter 32524-03-15 13:55 G 13600280.86 13600281.08 13600281.30 0.0532 0.0171 Neptune 32527-12-31 06:29 G 13601666.70 13601666.77 13601666.88 0.0090 0.0084 Neptune 32529-01-01 19:12 G 13602034.15 13602034.30 13602034.48 0.0090 0.0069 Jupiter 32529-08-28 12:29 G 13602272.80 13602273.02 13602273.25 0.0493 0.0126 Neptune 32530-01-04 07:55 G 13602401.64 13602401.83 13602402.06 0.0090 0.0054 Jupiter 32530-09-28 15:36 G 13602669.00 13602669.15 13602669.30 0.0497 0.0371 Neptune 32531-01-06 20:24 G 13602769.14 13602769.35 13602769.61 0.0090 0.0039 Neptune 32532-01-09 09:36 G 13603136.66 13603136.90 13603137.16 0.0090 0.0024 Neptune 32533-01-10 22:48 G 13603504.19 13603504.45 13603504.71 0.0090 0.0008 Neptune 32534-01-13 11:31 G 13603871.73 13603871.98 13603872.24 0.0090 0.0008 Uranus 32534-02-22 02:09 G 13603911.44 13603911.59 13603911.78 0.0137 0.0103 Neptune 32535-01-16 00:29 G 13604239.28 13604239.52 13604239.78 0.0090 0.0023 Jupiter 32535-02-12 16:48 G 13604267.04 13604267.20 13604267.36 0.0534 0.0385 Uranus 32535-02-26 16:33 G 13604280.94 13604281.19 13604281.44 0.0138 0.0032 Neptune 32536-01-18 13:41 G 13604606.84 13604607.07 13604607.30 0.0090 0.0038 Uranus 32536-03-02 07:26 G 13604650.56 13604650.81 13604651.05 0.0138 0.0041 Jupiter 32536-03-20 20:38 G 13604669.16 13604669.36 13604669.57 0.0531 0.0263 Saturn 32536-08-20 14:38 G 13604821.89 13604822.11 13604822.35 0.0271 0.0080 Neptune 32537-01-20 02:09 G 13604974.40 13604974.59 13604974.81 0.0090 0.0054 Uranus 32537-03-06 22:48 G 13605020.31 13605020.45 13605020.59 0.0139 0.0115 Neptune 32538-01-22 14:53 G 13605341.98 13605342.12 13605342.31 0.0090 0.0069 Neptune 32539-01-25 03:36 G 13605709.59 13605709.65 13605709.77 0.0090 0.0084 Jupiter 32541-09-01 21:36 G 13606660.17 13606660.40 13606660.63 0.0493 0.0054 Jupiter 32542-10-03 03:21 G 13607056.54 13607056.64 13607056.75 0.0498 0.0442 Jupiter 32547-02-17 22:48 G 13608655.26 13608655.45 13608655.65 0.0534 0.0299 Jupiter 32548-03-25 22:48 G 13609057.27 13609057.45 13609057.62 0.0530 0.0347 Saturn 32550-02-18 08:53 G 13609751.64 13609751.87 13609752.12 0.0291 0.0070 Jupiter 32552-08-06 04:05 G 13610651.61 13610651.67 13610651.75 0.0493 0.0468 Jupiter 32553-09-06 05:02 G 13611047.48 13611047.71 13611047.94 0.0494 0.0014 Jupiter 32559-02-23 03:36 G 13613043.44 13613043.65 13613043.87 0.0533 0.0208 Jupiter 32560-03-31 00:57 G 13613445.41 13613445.54 13613445.68 0.0528 0.0431 Jupiter 32564-08-10 13:26 G 13615038.93 13615039.06 13615039.20 0.0493 0.0403 Saturn 32565-08-15 15:36 G 13615408.92 13615409.15 13615409.39 0.0269 0.0086 Jupiter 32565-09-10 14:09 G 13615434.86 13615435.09 13615435.32 0.0494 0.0088 Jupiter 32571-02-28 06:00 G 13617431.52 13617431.75 13617431.98 0.0533 0.0116 Jupiter 32572-04-05 01:55 G 13617833.53 13617833.58 13617833.64 0.0528 0.0510 Uranus 32573-08-23 16:19 G 13618339.04 13618339.18 13618339.34 0.0141 0.0114 Uranus 32574-08-28 10:48 G 13618708.72 13618708.95 13618709.21 0.0141 0.0036 Uranus 32575-09-02 04:48 G 13619078.46 13619078.70 13619078.95 0.0140 0.0042 Jupiter 32576-08-14 23:02 G 13619426.29 13619426.46 13619426.63 0.0493 0.0336

Uranus 32576-09-05 21:36 G 13619448.28 13619448.40 13619448.55 0.0140 0.0117 Jupiter 32577-09-14 23:45 G 13619822.26 13619822.49 13619822.71 0.0495 0.0160 Saturn 32579-02-12 06:57 G 13620337.58 13620337.79 13620338.00 0.0293 0.0152 Jupiter 32583-03-05 11:17 G 13621819.74 13621819.97 13621820.20 0.0533 0.0020 Jupiter 32588-08-19 07:26 G 13623813.62 13623813.81 13623814.01 0.0492 0.0268 Jupiter 32589-09-19 07:55 G 13624209.62 13624209.83 13624210.04 0.0495 0.0230 Saturn 32594-08-10 11:31 G 13625995.92 13625995.98 13625996.05 0.0268 0.0257 Jupiter 32595-03-10 18:14 G 13626208.03 13626208.26 13626208.49 0.0533 0.0074 Saturn 32595-08-22 13:12 G 13626372.83 13626373.05 13626373.27 0.0271 0.0121 32597-06-27 17:17 G 13627048.10 13627048.22 13627048.34 0.1701 0.1308 Mars Jupiter 32600-08-24 16:19 G 13628200.97 13628201.18 13628201.40 0.0493 0.0198 Jupiter 32601-09-24 18:29 G 13628597.08 13628597.27 13628597.45 0.0496 0.0301 Pluto 32604-03-08 20:38 G 13629493.12 13629493.36 13629493.62 0.0065 0.0018 Jupiter 32606-02-07 20:38 G 13630194.26 13630194.36 13630194.46 0.0533 0.0478 Jupiter 32607-03-16 22:48 G 13630596.23 13630596.45 13630596.67 0.0531 0.0163 Saturn 32609-02-20 06:29 G 13631302.55 13631302.77 13631303.00 0.0291 0.0113 Neptune 32610-07-04 10:33 G 13631801.84 13631801.94 13631802.10 0.0088 0.0076 Neptune 32611-07-06 21:21 G 13632169.23 13632169.39 13632169.60 0.0088 0.0062 Neptune 32612-07-08 08:09 G 13632536.63 13632536.84 13632537.07 0.0088 0.0047 Jupiter 32612-08-28 22:19 G 13632588.21 13632588.43 13632588.66 0.0493 0.0132 Neptune 32613-07-10 18:43 G 13632904.05 13632904.28 13632904.53 0.0088 0.0033 Jupiter 32613-09-29 03:36 G 13632984.50 13632984.65 13632984.81 0.0498 0.0370 Neptune 32614-07-13 05:17 G 13633271.48 13633271.72 13633271.98 0.0088 0.0019 Neptune 32615-07-15 15:50 G 13633638.91 13633639.16 13633639.42 0.0088 0.0004 Neptune 32616-07-17 02:09 G 13634006.34 13634006.59 13634006.85 0.0088 0.0011 Neptune 32617-07-19 12:29 G 13634373.78 13634374.02 13634374.28 0.0088 0.0025 Jupiter 32618-02-13 01:26 G 13634582.41 13634582.56 13634582.72 0.0533 0.0392 Uranus 32618-02-23 16:19 G 13634593.01 13634593.18 13634593.36 0.0137 0.0097 Neptune 32618-07-21 23:02 G 13634741.23 13634741.46 13634741.70 0.0088 0.0039 Uranus 32619-02-28 06:14 G 13634962.51 13634962.76 13634963.01 0.0138 0.0026

Jupiter 32619-03-22 01:55 G 13634984.38 13634984.58 13634984.79 0.0530 0.0254 Neptune 32619-07-24 09:07 G 13635108.70 13635108.88 13635109.10 0.0088 0.0054 Uranus 32620-03-03 20:38 G 13635332.13 13635332.36 13635332.61 0.0138 0.0047 Neptune 32620-07-25 19:26 G 13635476.17 13635476.31 13635476.49 0.0088 0.0068 Uranus 32621-03-08 12:00 G 13635701.88 13635702.00 13635702.13 0.0139 0.0121 Neptune 32621-07-28 05:45 G 13635843.67 13635843.74 13635843.85 0.0088 0.0082 Saturn 32624-08-17 14:53 G 13636959.89 13636960.12 13636960.37 0.0269 0.0046 Jupiter 32624-09-02 07:26 G 13636975.57 13636975.81 13636976.04 0.0493 0.0061 Jupiter 32625-10-03 14:24 G 13637371.99 13637372.10 13637372.20 0.0498 0.0438 Jupiter 32630-02-18 02:38 G 13638970.42 13638970.61 13638970.80 0.0533 0.0306 Jupiter 32631-03-27 02:53 G 13639372.45 13639372.62 13639372.81 0.0530 0.0342 Jupiter 32635-08-07 16:05 G 13640967.11 13640967.17 13640967.24 0.0493 0.0470 Jupiter 32636-09-06 16:19 G 13641362.95 13641363.18 13641363.42 0.0494 0.0016 Saturn 32638-02-14 06:43 G 13641888.56 13641888.78 13641889.01 0.0293 0.0106 Jupiter 32642-02-23 07:26 G 13643358.59 13643358.81 13643359.02 0.0534 0.0215 Jupiter 32643-04-01 06:43 G 13643760.65 13643760.78 13643760.92 0.0529 0.0427 Jupiter 32647-08-12 00:57 G 13645354.41 13645354.54 13645354.67 0.0493 0.0407 Jupiter 32648-09-11 00:29 G 13645750.29 13645750.52 13645750.75 0.0494 0.0084 Saturn 32653-08-12 12:57 G 13647546.90 13647547.04 13647547.19 0.0268 0.0214 Jupiter 32654-02-28 13:55 G 13647746.85 13647747.08 13647747.31 0.0534 0.0121 Saturn 32654-08-24 14:38 G 13647923.93 13647924.11 13647924.31 0.0271 0.0166 Jupiter 32655-04-06 11:17 G 13648148.92 13648148.97 13648149.04 0.0528 0.0509 Uranus 32657-08-25 03:36 G 13649020.51 13649020.65 13649020.83 0.0141 0.0110 Uranus 32658-08-29 22:19 G 13649390.19 13649390.43 13649390.69 0.0141 0.0032 Jupiter 32659-08-16 09:50 G 13649741.74 13649741.91 13649742.08 0.0493 0.0340 Uranus 32659-09-03 16:33 G 13649759.95 13649760.19 13649760.43 0.0140 0.0046 Uranus 32660-09-07 09:07 G 13650129.78 13650129.88 13650130.02 0.0140 0.0122 Jupiter 32660-09-15 09:36 G 13650137.69 13650137.90 13650138.13 0.0495 0.0158 Jupiter 32666-03-05 19:55 G 13652135.10 13652135.33 13652135.56 0.0533 0.0028 Saturn 32668-02-22 06:29 G 13652853.57 13652853.77 13652853.98 0.0291 0.0159

Jupiter 32671-08-20 14:38 G 13654128.92 13654129.11 13654129.31 0.0493 0.0276 Jupiter 32672-09-19 17:02 G 13654525.01 13654525.21 13654525.43 0.0496 0.0226 32676-07-01 01:55 G 13655905.42 13655905.58 13655905.75 0.1696 0.0861 Mars Jupiter 32678-03-11 00:00 G 13656523.26 13656523.50 13656523.73 0.0532 0.0066 Saturn 32683-08-19 17:45 G 13658510.99 13658511.24 13658511.48 0.0269 0.0004 Jupiter 32683-08-24 23:17 G 13658516.26 13658516.47 13658516.69 0.0493 0.0206 Jupiter 32684-09-24 02:53 G 13658912.44 13658912.62 13658912.81 0.0496 0.0297 Jupiter 32689-02-06 22:48 G 13660509.37 13660509.45 13660509.55 0.0533 0.0486 Jupiter 32690-03-16 00:29 G 13660911.30 13660911.52 13660911.75 0.0532 0.0156 32691-09-08 12:29 G 13661452.98 13661453.02 13661453.09 0.0079 0.0078 Pluto Pluto 32692-09-09 15:36 G 13661820.09 13661820.15 13661820.27 0.0079 0.0074 Neptune 32693-01-01 22:05 G 13661934.32 13661934.42 13661934.56 0.0090 0.0079 Neptune 32694-01-04 10:33 G 13662301.78 13662301.94 13662302.14 0.0090 0.0064 Neptune 32695-01-06 23:17 G 13662669.28 13662669.47 13662669.71 0.0090 0.0049 Jupiter 32695-08-29 08:38 G 13662903.63 13662903.86 13662904.08 0.0493 0.0134 Neptune 32696-01-09 12:29 G 13663036.79 13663037.02 13663037.27 0.0090 0.0033 Jupiter 32696-09-28 12:43 G 13663299.88 13663300.03 13663300.19 0.0497 0.0367 Neptune 32697-01-11 01:12 G 13663404.31 13663404.55 13663404.81 0.0090 0.0018 Saturn 32697-02-15 09:07 G 13663439.64 13663439.88 13663440.12 0.0293 0.0057 Neptune 32698-01-13 14:09 G 13663771.84 13663772.09 13663772.35 0.0090 0.0003 Neptune 32699-01-16 03:07 G 13664139.38 13664139.63 13664139.89 0.0090 0.0014 Neptune 32700-01-18 16:05 G 13664506.93 13664507.17 13664507.42 0.0090 0.0029 Neptune 32701-01-21 04:48 G 13664874.50 13664874.70 13664874.94 0.0090 0.0045 Jupiter 32701-02-13 02:24 G 13664897.45 13664897.60 13664897.75 0.0533 0.0401 Neptune 32702-01-23 17:45 G 13665242.07 13665242.24 13665242.45 0.0090 0.0060 Uranus 32702-02-25 06:29 G 13665274.60 13665274.77 13665274.98 0.0137 0.0091 Jupiter 32702-03-22 04:19 G 13665299.48 13665299.68 13665299.89 0.0531 0.0248 Neptune 32703-01-26 06:57 G 13665609.66 13665609.79 13665609.94 0.0090 0.0075 Uranus 32703-03-01 20:38 G 13665644.11 13665644.36 13665644.62 0.0137 0.0019 Uranus 32704-03-05 10:48 G 13666013.73 13666013.95 13666014.20 0.0138 0.0054

Uranus 32705-03-10 01:41 G 13666383.49 13666383.57 13666383.69 0.0138 0.0128 Jupiter 32707-09-03 16:19 G 13667290.95 13667291.18 13667291.42 0.0493 0.0065 Jupiter 32708-10-03 21:36 G 13667687.29 13667687.40 13667687.52 0.0498 0.0434 Saturn 32712-08-14 17:17 G 13669098.03 13669098.22 13669098.41 0.0268 0.0167 Jupiter 32713-02-18 07:41 G 13669285.64 13669285.82 13669286.02 0.0534 0.0314 Saturn 32713-08-26 19:26 G 13669475.17 13669475.31 13669475.46 0.0271 0.0215 Jupiter 32714-03-27 09:21 G 13669687.71 13669687.89 13669688.07 0.0530 0.0338 Jupiter 32718-08-08 00:57 G 13671282.48 13671282.54 13671282.60 0.0493 0.0475 Jupiter 32719-09-08 00:43 G 13671678.30 13671678.53 13671678.77 0.0493 0.0013 Jupiter 32725-02-23 14:38 G 13673673.90 13673674.11 13673674.33 0.0533 0.0223 Saturn 32726-02-10 01:12 G 13674025.51 13674025.55 13674025.61 0.0294 0.0287 Jupiter 32726-04-01 12:43 G 13674075.89 13674076.03 13674076.17 0.0529 0.0420 Saturn 32727-02-24 10:48 G 13674404.78 13674404.95 13674405.12 0.0290 0.0210 Jupiter 32730-08-12 05:17 G 13675669.60 13675669.72 13675669.85 0.0493 0.0415 Jupiter 32731-09-12 06:29 G 13676065.54 13676065.77 13676066.00 0.0494 0.0078 Jupiter 32737-02-28 18:57 G 13678062.07 13678062.29 13678062.52 0.0533 0.0129 Jupiter 32738-04-06 13:55 G 13678464.02 13678464.08 13678464.16 0.0527 0.0500 Uranus 32741-08-26 15:50 G 13679701.99 13679702.16 13679702.33 0.0141 0.0105 Jupiter 32742-08-16 13:55 G 13680056.92 13680057.08 13680057.24 0.0493 0.0348 Saturn 32742-08-21 23:17 G 13680062.23 13680062.47 13680062.72 0.0270 0.0050 Uranus 32742-08-31 10:48 G 13680071.70 13680071.95 13680072.20 0.0141 0.0026 Uranus 32743-09-05 04:33 G 13680441.46 13680441.69 13680441.93 0.0140 0.0051 Jupiter 32743-09-16 15:21 G 13680452.92 13680453.14 13680453.37 0.0495 0.0151 Uranus 32744-09-08 21:21 G 13680811.31 13680811.39 13680811.52 0.0140 0.0127 Jupiter 32749-03-05 19:26 G 13682450.08 13682450.31 13682450.54 0.0533 0.0037 Jupiter 32754-08-20 23:02 G 13684444.27 13684444.46 13684444.66 0.0493 0.0279 Jupiter 32755-09-21 00:57 G 13684840.33 13684840.54 13684840.75 0.0495 0.0222 Saturn 32756-02-18 15:50 G 13684990.91 13684991.16 13684991.40 0.0292 0.0003 Jupiter 32761-03-10 22:33 G 13686838.21 13686838.44 13686838.67 0.0533 0.0056 Jupiter 32766-08-25 07:12 G 13688831.59 13688831.80 13688832.01 0.0493 0.0211

Jupiter 32767-09-25 08:38 G 13689227.68 13689227.86 13689228.06 0.0496 0.0292 Saturn 32771-08-17 00:57 G 13690649.33 13690649.54 13690649.77 0.0268 0.0117 Jupiter 32772-02-08 00:43 G 13690824.44 13690824.53 13690824.61 0.0533 0.0495 Saturn 32772-08-28 03:50 G 13691026.63 13691026.66 13691026.70 0.0272 0.0268 Jupiter 32773-03-16 03:50 G 13691226.43 13691226.66 13691226.88 0.0532 0.0149 Neptune 32774-07-04 17:02 G 13691702.16 13691702.21 13691702.29 0.0088 0.0085 Neptune 32775-07-07 03:21 G 13692069.51 13692069.64 13692069.82 0.0088 0.0071 Neptune 32776-07-08 14:38 G 13692436.91 13692437.11 13692437.31 0.0088 0.0056 Neptune 32777-07-11 00:43 G 13692804.32 13692804.53 13692804.78 0.0088 0.0042 Neptune 32778-07-13 11:31 G 13693171.75 13693171.98 13693172.24 0.0088 0.0028 Jupiter 32778-08-29 14:53 G 13693218.90 13693219.12 13693219.34 0.0493 0.0140 Neptune 32779-07-15 22:05 G 13693539.18 13693539.42 13693539.69 0.0088 0.0013 Jupiter 32779-09-29 18:29 G 13693615.11 13693615.27 13693615.43 0.0497 0.0362 Neptune 32780-07-17 08:38 G 13693906.61 13693906.86 13693907.12 0.0088 0.0003 Mars 32780-12-30 03:21 G 13694072.44 13694072.64 13694072.83 0.1836 0.0148 Neptune 32781-07-19 18:57 G 13694274.05 13694274.29 13694274.55 0.0088 0.0017 Neptune 32782-07-22 05:31 G 13694641.49 13694641.73 13694641.97 0.0088 0.0031 Neptune 32783-07-24 15:21 G 13695008.94 13695009.14 13695009.38 0.0088 0.0046 Jupiter 32784-02-13 07:26 G 13695212.67 13695212.81 13695212.97 0.0533 0.0410 Neptune 32784-07-26 01:55 G 13695376.40 13695376.58 13695376.78 0.0088 0.0060 Saturn 32785-02-11 10:05 G 13695576.78 13695576.92 13695577.08 0.0294 0.0229 Jupiter 32785-03-21 08:53 G 13695614.66 13695614.87 13695615.08 0.0531 0.0240 Neptune 32785-07-28 12:00 G 13695743.89 13695744.00 13695744.16 0.0088 0.0075 Saturn 32786-02-25 18:29 G 13695956.19 13695956.27 13695956.38 0.0290 0.0266 Uranus 32786-02-25 22:19 G 13695956.24 13695956.43 13695956.64 0.0137 0.0084 \* Uranus 32787-03-02 12:14 G 13696325.76 13696326.01 13696326.27 0.0138 0.0012 Uranus 32788-03-06 02:24 G 13696695.38 13696695.60 13696695.84 0.0138 0.0061 Uranus 32789-03-10 17:17 G 13697065.18 13697065.22 13697065.30 0.0138 0.0135 Jupiter 32790-09-02 19:41 G 13697606.09 13697606.32 13697606.55 0.0493 0.0072 Jupiter 32791-10-04 01:55 G 13698002.47 13698002.58 13698002.70 0.0498 0.0430

Jupiter 32796-02-18 11:45 G 13699600.81 13699600.99 13699601.19 0.0533 0.0322 Jupiter 32797-03-26 11:31 G 13700002.80 13700002.98 13700003.16 0.0530 0.0329 Jupiter 32801-08-07 02:24 G 13701597.56 13701597.60 13701597.65 0.0494 0.0484 Saturn 32801-08-23 07:55 G 13701613.61 13701613.83 13701614.06 0.0270 0.0102 Jupiter 32802-09-07 03:36 G 13701993.42 13701993.65 13701993.89 0.0494 0.0010 Jupiter 32803-10-08 12:29 G 13702390.00 13702390.02 13702390.04 0.0499 0.0496 Jupiter 32808-02-23 11:45 G 13703988.78 13703988.99 13703989.20 0.0533 0.0234 Jupiter 32809-03-31 09:50 G 13704390.77 13704390.91 13704391.06 0.0529 0.0413 Jupiter 32813-08-11 12:00 G 13705984.88 13705985.00 13705985.12 0.0493 0.0420 Jupiter 32814-09-11 12:57 G 13706380.81 13706381.04 13706381.27 0.0494 0.0074 Saturn 32815-02-20 02:53 G 13706542.38 13706542.62 13706542.86 0.0292 0.0060 Jupiter 32820-02-28 14:24 G 13708376.87 13708377.10 13708377.32 0.0533 0.0141 Jupiter 32821-04-05 11:02 G 13708778.89 13708778.96 13708779.05 0.0528 0.0495 Jupiter 32825-08-15 20:09 G 13710372.18 13710372.34 13710372.50 0.0493 0.0355 Uranus 32825-08-27 06:57 G 13710383.63 13710383.79 13710383.99 0.0141 0.0098 Uranus 32826-09-01 01:55 G 13710753.34 13710753.58 13710753.84 0.0141 0.0020 Jupiter 32826-09-15 20:24 G 13710768.13 13710768.35 13710768.57 0.0494 0.0144 Uranus 32827-09-05 19:55 G 13711123.11 13711123.33 13711123.57 0.0140 0.0058 Uranus 32828-09-09 13:12 G 13711492.98 13711493.05 13711493.13 0.0140 0.0133 Saturn 32830-08-18 11:31 G 13712200.75 13712200.98 13712201.23 0.0269 0.0062 Jupiter 32832-03-04 18:57 G 13712765.06 13712765.29 13712765.52 0.0533 0.0048 Jupiter 32837-08-20 03:50 G 13714759.47 13714759.66 13714759.85 0.0493 0.0286 Jupiter 32838-09-20 04:33 G 13715155.48 13715155.69 13715155.90 0.0495 0.0216 Saturn 32844-02-14 00:29 G 13717128.32 13717128.52 13717128.73 0.0293 0.0163 Jupiter 32844-03-10 01:26 G 13717153.33 13717153.56 13717153.79 0.0533 0.0047 Jupiter 32849-08-24 07:55 G 13719146.62 13719146.83 13719147.04 0.0493 0.0219 Pluto 32850-03-11 23:45 G 13719346.25 13719346.49 13719346.75 0.0065 0.0017 Jupiter 32850-09-24 10:33 G 13719542.75 13719542.94 13719543.13 0.0496 0.0285 Jupiter 32855-02-07 03:21 G 13721139.57 13721139.64 13721139.72 0.0533 0.0503 Jupiter 32856-03-15 05:02 G 13721541.48 13721541.71 13721541.93 0.0532 0.0141

Neptune 32857-01-02 00:57 G 13721834.52 13721834.54 13721834.57 0.0090 0.0089 Neptune 32858-01-04 13:26 G 13722201.93 13722202.06 13722202.22 0.0090 0.0074 Neptune 32859-01-07 01:55 G 13722569.41 13722569.58 13722569.80 0.0090 0.0059 Saturn 32859-08-13 17:45 G 13722788.11 13722788.24 13722788.39 0.0267 0.0221 Neptune 32860-01-09 15:07 G 13722936.91 13722937.13 13722937.36 0.0090 0.0043 Saturn 32860-08-24 18:57 G 13723165.10 13723165.29 13723165.50 0.0270 0.0159 Neptune 32861-01-11 03:36 G 13723304.42 13723304.65 13723304.91 0.0090 0.0028 Jupiter 32861-08-28 15:36 G 13723533.93 13723534.15 13723534.38 0.0493 0.0149 Neptune 32862-01-13 16:33 G 13723671.93 13723672.19 13723672.45 0.0090 0.0012 Jupiter 32862-09-28 19:55 G 13723930.17 13723930.33 13723930.49 0.0497 0.0357 Neptune 32863-01-16 05:31 G 13724039.47 13724039.73 13724039.98 0.0090 0.0004 Neptune 32864-01-18 18:00 G 13724407.01 13724407.25 13724407.51 0.0090 0.0020 Neptune 32865-01-20 07:12 G 13724774.56 13724774.80 13724775.03 0.0090 0.0035 Neptune 32866-01-22 19:41 G 13725142.13 13725142.32 13725142.55 0.0090 0.0051 Neptune 32867-01-25 09:21 G 13725509.71 13725509.89 13725510.06 0.0090 0.0066 Jupiter 32867-02-12 02:24 G 13725527.47 13725527.60 13725527.75 0.0533 0.0422 Neptune 32868-01-27 21:36 G 13725877.32 13725877.40 13725877.53 0.0090 0.0082 Jupiter 32868-03-20 03:21 G 13725929.43 13725929.64 13725929.86 0.0531 0.0230 Uranus 32870-02-26 13:12 G 13726637.85 13726638.05 13726638.27 0.0137 0.0077 Uranus 32871-03-03 03:07 G 13727007.38 13727007.63 13727007.89 0.0138 0.0005 Uranus 32872-03-06 17:17 G 13727377.01 13727377.22 13727377.45 0.0138 0.0068 Jupiter 32873-09-02 00:43 G 13727921.30 13727921.53 13727921.76 0.0493 0.0077 Saturn 32874-02-21 17:31 G 13728094.01 13728094.23 13728094.45 0.0292 0.0127 Jupiter 32874-10-03 06:14 G 13728317.64 13728317.76 13728317.87 0.0498 0.0426 Jupiter 32879-02-17 04:33 G 13729915.51 13729915.69 13729915.87 0.0533 0.0335 Jupiter 32880-03-25 05:02 G 13730317.53 13730317.71 13730317.90 0.0530 0.0320 32881-06-30 12:43 G 13730779.87 13730780.03 13730780.20 0.1708 0.0805 Mars Jupiter 32884-08-06 07:26 G 13731912.80 13731912.81 13731912.83 0.0494 0.0492 Jupiter 32885-09-06 07:55 G 13732308.60 13732308.83 13732309.07 0.0493 0.0011 Jupiter 32886-10-07 14:24 G 13732705.07 13732705.10 13732705.14 0.0498 0.0490

Saturn 32889-08-19 23:45 G 13733752.25 13733752.49 13733752.74 0.0269 0.0007 Jupiter 32891-02-22 08:09 G 13734303.64 13734303.84 13734304.05 0.0534 0.0247 Jupiter 32892-03-30 08:24 G 13734705.71 13734705.85 13734706.00 0.0530 0.0405 Jupiter 32896-08-10 15:21 G 13736300.03 13736300.14 13736300.26 0.0493 0.0427 Jupiter 32897-09-10 15:21 G 13736695.91 13736696.14 13736696.37 0.0494 0.0067 Saturn 32903-02-16 18:14 G 13738680.03 13738680.26 13738680.49 0.0293 0.0092 Jupiter 32903-02-28 14:53 G 13738691.90 13738692.12 13738692.35 0.0534 0.0151 Jupiter 32904-04-05 12:29 G 13739093.94 13739094.02 13739094.11 0.0528 0.0487 Jupiter 32908-08-15 19:41 G 13740687.17 13740687.32 13740687.48 0.0493 0.0364 Uranus 32909-08-28 21:50 G 13741065.23 13741065.41 13741065.61 0.0141 0.0092 Jupiter 32909-09-15 20:09 G 13741083.12 13741083.34 13741083.57 0.0494 0.0137 Uranus 32910-09-02 16:48 G 13741434.95 13741435.20 13741435.45 0.0141 0.0013 Uranus 32911-09-07 10:19 G 13741804.72 13741804.93 13741805.17 0.0140 0.0065 Uranus 32912-09-11 03:50 G 13742174.66 13742174.66 13742174.66 0.0140 0.0140 Jupiter 32915-03-05 19:26 G 13743080.08 13743080.31 13743080.54 0.0533 0.0056 Saturn 32918-08-16 05:02 G 13744339.53 13744339.71 13744339.91 0.0268 0.0167 Saturn 32919-08-28 07:12 G 13744716.67 13744716.80 13744716.96 0.0271 0.0216 Jupiter 32920-08-20 03:07 G 13745074.45 13745074.63 13745074.82 0.0493 0.0295 Jupiter 32921-09-20 04:48 G 13745470.49 13745470.70 13745470.91 0.0495 0.0210 Jupiter 32927-03-10 18:00 G 13747468.02 13747468.25 13747468.49 0.0533 0.0034 Jupiter 32932-08-24 12:14 G 13749461.81 13749462.01 13749462.22 0.0493 0.0226 Saturn 32933-02-24 11:17 G 13749645.81 13749645.97 13749646.16 0.0291 0.0198 Jupiter 32933-09-24 14:24 G 13749857.91 13749858.10 13749858.29 0.0496 0.0281 Pluto 32937-09-11 17:45 G 13751306.15 13751306.24 13751306.35 0.0079 0.0073 Jupiter 32938-02-06 18:29 G 13751454.23 13751454.27 13751454.33 0.0532 0.0518 Pluto 32938-09-13 21:07 G 13751673.36 13751673.38 13751673.42 0.0079 0.0078 Jupiter 32939-03-15 20:09 G 13751856.12 13751856.34 13751856.57 0.0532 0.0127 Neptune 32939-07-07 09:36 G 13751969.81 13751969.90 13751970.02 0.0088 0.0080 Neptune 32940-07-08 19:55 G 13752337.18 13752337.33 13752337.52 0.0088 0.0066 Neptune 32941-07-11 06:43 G 13752704.59 13752704.78 13752705.01 0.0088 0.0051

Neptune 32942-07-13 17:45 G 13753072.01 13753072.24 13753072.48 0.0088 0.0036 Neptune 32943-07-16 04:05 G 13753439.43 13753439.67 13753439.93 0.0088 0.0022 Neptune 32944-07-17 14:53 G 13753806.87 13753807.12 13753807.38 0.0088 0.0007 Jupiter 32944-08-28 19:41 G 13753849.10 13753849.32 13753849.54 0.0493 0.0156 Neptune 32945-07-20 01:26 G 13754174.31 13754174.56 13754174.82 0.0088 0.0008 Jupiter 32945-09-28 22:19 G 13754245.27 13754245.43 13754245.59 0.0496 0.0350 Neptune 32946-07-22 11:45 G 13754541.75 13754541.99 13754542.25 0.0088 0.0023 Neptune 32947-07-24 21:50 G 13754909.20 13754909.41 13754909.66 0.0088 0.0038 Neptune 32948-07-26 08:53 G 13755276.66 13755276.87 13755277.07 0.0088 0.0052 Saturn 32948-08-22 12:57 G 13755303.80 13755304.04 13755304.28 0.0270 0.0054 Neptune 32949-07-28 18:43 G 13755644.13 13755644.28 13755644.46 0.0088 0.0067 Jupiter 32950-02-11 20:53 G 13755842.24 13755842.37 13755842.51 0.0533 0.0437 Neptune 32950-07-31 05:31 G 13756011.64 13756011.73 13756011.83 0.0088 0.0081 Jupiter 32951-03-20 23:31 G 13756244.27 13756244.48 13756244.70 0.0532 0.0219 Uranus 32954-02-28 03:21 G 13757319.43 13757319.64 13757319.86 0.0137 0.0072 Uranus 32955-03-04 17:02 G 13757688.95 13757689.21 13757689.46 0.0138 0.0002 Uranus 32956-03-08 06:57 G 13758058.58 13758058.79 13758059.01 0.0138 0.0074 Jupiter 32956-09-02 02:53 G 13758236.39 13758236.62 13758236.85 0.0493 0.0085 Jupiter 32957-10-03 06:43 G 13758632.65 13758632.78 13758632.90 0.0497 0.0419 32960-07-03 22:05 G 13759637.32 13759637.42 13759637.52 0.1703 0.1425 Mars Jupiter 32962-02-17 03:07 G 13760230.45 13760230.63 13760230.81 0.0534 0.0348 Saturn 32962-02-18 13:55 G 13760231.83 13760232.08 13760232.33 0.0292 0.0018 Jupiter 32963-03-26 05:17 G 13760632.53 13760632.72 13760632.91 0.0531 0.0311 Jupiter 32968-09-06 07:12 G 13762623.57 13762623.80 13762624.04 0.0493 0.0015 Jupiter 32969-10-07 13:41 G 13763020.03 13763020.07 13763020.13 0.0498 0.0485 Jupiter 32974-02-22 07:55 G 13764618.63 13764618.83 13764619.04 0.0534 0.0256 Jupiter 32975-03-31 07:55 G 13765020.68 13765020.83 13765020.99 0.0530 0.0398 Saturn 32977-08-17 16:19 G 13765890.96 13765891.18 13765891.41 0.0268 0.0111 Jupiter 32979-08-11 14:38 G 13766615.01 13766615.11 13766615.22 0.0493 0.0437 Jupiter 32980-09-10 15:21 G 13767010.90 13767011.14 13767011.37 0.0494 0.0060

Jupiter 32986-02-27 07:26 G 13769006.59 13769006.81 13769007.03 0.0533 0.0167

Jupiter 32987-04-05 04:48 G 13769408.61 13769408.70 13769408.80 0.0529 0.0478

Saturn 32991-02-12 21:50 G 13770818.26 13770818.41 13770818.57 0.0294 0.0228

Jupiter 32991-08-15 23:31 G 13771002.33 13771002.48 13771002.63 0.0493 0.0372

Saturn 32992-02-27 06:14 G 13771197.68 13771197.76 13771197.86 0.0290 0.0270

Jupiter 32992-09-15 00:29 G 13771398.30 13771398.52 13771398.75 0.0494 0.0133

Uranus 32993-08-29 13:41 G 13771746.88 13771747.07 13771747.28 0.0141 0.0085

Uranus 32994-09-03 08:38 G 13772116.60 13772116.86 13772117.11 0.0141 0.0006

Uranus 32995-09-08 02:09 G 13773394.67 13773394.90 13773395.13 0.0533 0.0074

## 34TH MILLENNIUM CE

## This is a list of transits of Earth in the 34th millennium CE.

FROM MAX- C START MAX END SUNRAD DEPTH S

TRANSIT

TIME

 Jupiter
 33003-08-21 07:26 G
 13775389.63
 13775389.81
 13775390.00
 0.0493
 0.0304

 Jupiter
 33004-09-20 08:09 G
 13775785.62
 13775785.84
 13775786.05
 0.0495
 0.0202

 Saturn
 33006-08-14 00:29 G
 13776478.51
 13776478.52
 13776478.54
 0.0267
 0.0266

 Saturn
 33007-08-26 00:43 G
 13776855.31
 13776855.53
 13776855.75
 0.0270
 0.0111

 Jupiter
 33010-03-10 12:57 G
 13777782.80
 13777783.04
 13777783.27
 0.0533
 0.0022

 Jupiter
 33015-08-25 14:53 G
 13779776.91
 13779777.12
 13779777.32
 0.0493
 0.0234

 Jupiter
 33016-09-24 15:50 G
 13780172.97
 13780173.16
 13781769.18
 0.0533
 0.0532

 Saturn
 33021-02-06 15:50 G
 13781783.68
 13781783.92
 13781784.16
 0.0292
 0.0057

Neptune 33022-01-05 16:48 G 13782102.11 13782102.20 13782102.28 0.0090 0.0084 Jupiter 33022-03-15 19:12 G 13782171.07 13782171.30 13782171.53 0.0533 0.0116 Neptune 33023-01-08 05:17 G 13782469.57 13782469.72 13782469.90 0.0090 0.0069 Neptune 33024-01-10 18:14 G 13782837.06 13782837.26 13782837.47 0.0090 0.0053 Neptune 33025-01-12 06:29 G 13783204.56 13783204.77 13783205.02 0.0090 0.0038 Neptune 33026-01-14 19:26 G 13783572.07 13783572.31 13783572.57 0.0090 0.0022 Neptune 33027-01-17 08:24 G 13783939.60 13783939.85 13783940.11 0.0090 0.0006 Jupiter 33027-08-29 19:41 G 13784164.10 13784164.32 13784164.54 0.0493 0.0165 Neptune 33028-01-19 21:07 G 13784307.13 13784307.38 13784307.64 0.0090 0.0010 Jupiter 33028-09-28 21:50 G 13784560.24 13784560.41 13784560.58 0.0496 0.0344 Neptune 33029-01-21 09:50 G 13784674.67 13784674.91 13784675.16 0.0090 0.0026 Neptune 33030-01-23 22:33 G 13785042.23 13785042.44 13785042.68 0.0090 0.0042 Neptune 33031-01-26 11:17 G 13785409.79 13785409.97 13785410.19 0.0090 0.0058 Neptune 33032-01-29 00:43 G 13785777.39 13785777.53 13785777.68 0.0090 0.0073 Neptune 33033-01-30 13:12 G 13786145.04 13786145.05 13786145.11 0.0090 0.0089 Jupiter 33033-02-11 20:53 G 13786157.24 13786157.37 13786157.49 0.0533 0.0447 Jupiter 33034-03-20 23:31 G 13786559.27 13786559.48 13786559.70 0.0532 0.0212 Saturn 33036-08-20 02:38 G 13787442.37 13787442.61 13787442.85 0.0269 0.0057 Uranus 33038-03-01 15:36 G 13788000.94 13788001.15 13788001.38 0.0137 0.0067 Uranus 33039-03-06 05:02 G 13788370.46 13788370.71 13788370.97 0.0137 0.0006 Jupiter 33039-09-03 03:21 G 13788551.41 13788551.64 13788551.87 0.0493 0.0093 Uranus 33040-03-09 18:43 G 13788740.09 13788740.28 13788740.51 0.0138 0.0079 Jupiter 33040-10-03 07:41 G 13788947.69 13788947.82 13788947.95 0.0497 0.0415 Jupiter 33045-02-16 20:53 G 13790545.20 13790545.37 13790545.54 0.0533 0.0364 Jupiter 33046-03-25 21:50 G 13790947.22 13790947.41 13790947.60 0.0531 0.0298 Saturn 33050-02-15 17:02 G 13792370.01 13792370.21 13792370.43 0.0294 0.0153 Jupiter 33051-09-07 12:29 G 13792938.78 13792939.02 13792939.25 0.0493 0.0023 Jupiter 33052-10-07 18:29 G 13793335.22 13793335.27 13793335.33 0.0498 0.0482 Jupiter 33057-02-21 23:02 G 13794933.27 13794933.46 13794933.67 0.0533 0.0275 Jupiter 33058-03-30 23:02 G 13795335.30 13795335.46 13795335.62 0.0530 0.0385

Jupiter 33062-08-11 19:12 G 13796930.21 13796930.30 13796930.40 0.0494 0.0447 Jupiter 33063-09-11 20:09 G 13797326.11 13797326.34 13797326.57 0.0493 0.0052 33065-01-01 02:53 G 13797803.42 13797803.62 13797803.81 0.1827 0.0077 Mars Saturn 33065-08-15 09:36 G 13798029.76 13798029.90 13798030.06 0.0267 0.0213 Saturn 33066-08-27 10:19 G 13798406.75 13798406.93 13798407.13 0.0271 0.0167 Jupiter 33069-02-27 01:55 G 13799321.36 13799321.58 13799321.80 0.0534 0.0182 Jupiter 33070-04-05 01:41 G 13799723.47 13799723.57 13799723.68 0.0529 0.0469 Jupiter 33074-08-16 03:21 G 13801317.50 13801317.64 13801317.79 0.0493 0.0380 Jupiter 33075-09-16 03:21 G 13801713.42 13801713.64 13801713.87 0.0494 0.0125 Uranus 33077-08-31 00:57 G 13802428.35 13802428.54 13802428.77 0.0142 0.0081 Uranus 33078-09-04 20:09 G 13802798.09 13802798.34 13802798.60 0.0141 0.0003 Uranus 33079-09-09 14:09 G 13803167.88 13803168.09 13803168.31 0.0141 0.0076 Saturn 33080-02-24 04:05 G 13803335.46 13803335.67 13803335.90 0.0291 0.0129 Jupiter 33081-03-04 08:24 G 13803709.62 13803709.85 13803710.08 0.0534 0.0085 Jupiter 33086-08-20 09:21 G 13805704.71 13805704.89 13805705.07 0.0493 0.0312 Jupiter 33087-09-20 09:21 G 13806100.67 13806100.89 13806101.10 0.0494 0.0195 Jupiter 33093-03-09 13:55 G 13808097.85 13808098.08 13808098.32 0.0533 0.0014 Saturn 33095-08-22 10:05 G 13808993.68 13808993.92 13808994.17 0.0269 0.0006 Pluto 33096-03-15 01:41 G 13809199.34 13809199.57 13809199.84 0.0065 0.0020 Jupiter 33098-08-24 17:02 G 13810092.01 13810092.21 13810092.42 0.0493 0.0242 Jupiter 33099-09-24 18:14 G 13810488.07 13810488.26 13810488.46 0.0495 0.0269 Neptune 33104-07-10 02:24 G 13812237.50 13812237.60 13812237.77 0.0088 0.0075 Jupiter 33105-03-15 13:41 G 13812485.84 13812486.07 13812486.30 0.0532 0.0101 Neptune 33105-07-12 13:12 G 13812604.88 13812605.05 13812605.26 0.0088 0.0060 Neptune 33106-07-14 23:45 G 13812972.29 13812972.49 13812972.73 0.0088 0.0045 Neptune 33107-07-17 10:48 G 13813339.71 13813339.95 13813340.19 0.0088 0.0030 Neptune 33108-07-18 21:21 G 13813707.14 13813707.39 13813707.64 0.0088 0.0015 Saturn 33109-02-18 09:36 G 13813921.67 13813921.90 13813922.14 0.0294 0.0081 Neptune 33109-07-21 07:55 G 13814074.57 13814074.83 13814075.09 0.0088 0.0001 Neptune 33110-07-23 18:14 G 13814442.01 13814442.26 13814442.52 0.0088 0.0015 Jupiter 33110-08-30 01:41 G 13814479.36 13814479.57 13814479.79 0.0493 0.0173 Neptune 33111-07-26 04:33 G 13814809.47 13814809.69 13814809.95 0.0088 0.0030 Jupiter 33111-09-30 04:48 G 13814875.53 13814875.70 13814875.87 0.0496 0.0340 Neptune 33112-07-27 14:53 G 13815176.92 13815177.12 13815177.37 0.0088 0.0045 Neptune 33113-07-30 01:41 G 13815544.39 13815544.57 13815544.77 0.0088 0.0059 Neptune 33114-08-01 11:45 G 13815911.87 13815911.99 13815912.14 0.0088 0.0074 Jupiter 33116-02-12 14:38 G 13816472.01 13816472.11 13816472.23 0.0533 0.0464 Jupiter 33117-03-20 16:05 G 13816873.95 13816874.17 13816874.38 0.0532 0.0196 Uranus 33121-02-26 14:53 G 13818313.08 13818313.12 13818313.21 0.0136 0.0133 Uranus 33122-03-03 03:36 G 13818682.44 13818682.65 13818682.90 0.0137 0.0062 Jupiter 33122-09-03 09:50 G 13818866.68 13818866.91 13818867.14 0.0493 0.0101 Uranus 33123-03-07 17:17 G 13819051.96 13819052.22 13819052.47 0.0137 0.0011 Jupiter 33123-10-04 13:12 G 13819262.92 13819263.05 13819263.18 0.0497 0.0409 Uranus 33124-03-11 06:57 G 13819421.59 13819421.79 13819422.00 0.0138 0.0083 Saturn 33124-08-17 15:50 G 13819580.98 13819581.16 13819581.37 0.0267 0.0164 Saturn 33125-08-29 17:31 G 13819958.09 13819958.23 13819958.37 0.0271 0.0218 Jupiter 33128-02-17 16:48 G 13820860.04 13820860.20 13820860.37 0.0533 0.0379 Jupiter 33129-03-25 18:57 G 13821262.10 13821262.29 13821262.49 0.0531 0.0287 Jupiter 33134-09-07 17:31 G 13823254.00 13823254.23 13823254.46 0.0493 0.0027 Jupiter 33135-10-08 22:05 G 13823650.36 13823650.42 13823650.49 0.0498 0.0476 Saturn 33139-02-26 19:12 G 13824887.13 13824887.30 13824887.49 0.0291 0.0197 Jupiter 33140-02-22 22:33 G 13825248.24 13825248.44 13825248.64 0.0534 0.0286 Jupiter 33141-03-31 00:43 G 13825650.38 13825650.53 13825650.70 0.0531 0.0380 Jupiter 33145-08-11 23:45 G 13827245.40 13827245.49 13827245.58 0.0493 0.0455 Jupiter 33146-09-11 23:31 G 13827641.24 13827641.48 13827641.71 0.0493 0.0046 Jupiter 33152-02-28 04:48 G 13829636.49 13829636.70 13829636.92 0.0534 0.0191 Jupiter 33153-04-05 05:17 G 13830038.61 13830038.72 13830038.83 0.0530 0.0466 Saturn 33154-08-24 14:38 G 13830544.87 13830545.11 13830545.35 0.0269 0.0044 Jupiter 33157-08-16 07:55 G 13831632.70 13831632.83 13831632.98 0.0493 0.0387 Jupiter 33158-09-16 08:24 G 13832028.62 13832028.85 13832029.07 0.0494 0.0120

Uranus 33161-09-01 12:00 G 13833109.80 13833110.00 13833110.23 0.0142 0.0077 Uranus 33162-09-06 07:12 G 13833479.55 13833479.80 13833480.05 0.0141 0.0002 Uranus 33163-09-11 01:12 G 13833849.34 13833849.55 13833849.76 0.0141 0.0080 Jupiter 33164-03-04 06:00 G 13834024.52 13834024.75 13834024.98 0.0533 0.0100 Mars 33165-07-04 07:12 G 13834511.61 13834511.80 13834511.99 0.1715 0.0324 Saturn 33168-02-20 21:21 G 13835473.14 13835473.39 13835473.63 0.0293 0.0017 Jupiter 33169-08-20 16:19 G 13836020.01 13836020.18 13836020.36 0.0493 0.0322 Jupiter 33170-09-20 17:45 G 13836416.03 13836416.24 13836416.46 0.0495 0.0191 Jupiter 33176-03-09 09:21 G 13838412.65 13838412.89 13838413.12 0.0533 0.0012 Jupiter 33181-08-25 00:57 G 13840407.34 13840407.54 13840407.74 0.0493 0.0251 Jupiter 33182-09-25 02:38 G 13840803.41 13840803.61 13840803.80 0.0495 0.0263 Saturn 33183-08-19 19:12 G 13841132.08 13841132.30 13841132.52 0.0268 0.0117 Pluto 33183-09-15 22:05 G 13841159.32 13841159.42 13841159.57 0.0079 0.0069 Saturn 33184-08-30 20:38 G 13841509.32 13841509.36 13841509.41 0.0271 0.0265 Neptune 33187-01-08 08:24 G 13842369.74 13842369.85 13842369.98 0.0090 0.0079 Neptune 33188-01-10 20:38 G 13842737.21 13842737.36 13842737.57 0.0090 0.0064 Jupiter 33188-03-14 12:14 G 13842800.78 13842801.01 13842801.24 0.0533 0.0090 Neptune 33189-01-12 09:50 G 13843104.71 13843104.91 13843105.15 0.0090 0.0048 Neptune 33190-01-14 22:33 G 13843472.22 13843472.44 13843472.70 0.0090 0.0032 Neptune 33191-01-17 11:31 G 13843839.74 13843839.98 13843840.24 0.0090 0.0016 Neptune 33192-01-20 00:29 G 13844207.26 13844207.52 13844207.77 0.0090 0.0001 Neptune 33193-01-21 12:57 G 13844574.80 13844575.04 13844575.30 0.0090 0.0017 Jupiter 33193-08-29 09:21 G 13844794.67 13844794.89 13844795.11 0.0493 0.0179 Neptune 33194-01-24 01:41 G 13844942.34 13844942.57 13844942.82 0.0090 0.0033 Jupiter 33194-09-29 10:48 G 13845190.79 13845190.95 13845191.13 0.0496 0.0336 Neptune 33195-01-26 14:24 G 13845309.90 13845310.10 13845310.34 0.0090 0.0049 Neptune 33196-01-29 02:53 G 13845677.47 13845677.62 13845677.83 0.0090 0.0065 Neptune 33197-01-30 16:19 G 13846045.08 13846045.18 13846045.31 0.0090 0.0080 Saturn 33197-02-13 19:12 G 13846059.17 13846059.30 13846059.44 0.0295 0.0242 Saturn 33198-02-28 05:17 G 13846438.62 13846438.72 13846438.84 0.0291 0.0259

Jupiter 33199-02-11 15:36 G 13846787.05 13846787.15 13846787.26 0.0533 0.0475 Jupiter 33200-03-19 18:29 G 13847189.06 13847189.27 13847189.49 0.0532 0.0189 Uranus 33205-02-27 05:17 G 13848994.62 13848994.72 13848994.81 0.0136 0.0126 Jupiter 33205-09-02 16:05 G 13849181.94 13849182.17 13849182.40 0.0493 0.0107 Uranus 33206-03-03 17:45 G 13849364.01 13849364.24 13849364.47 0.0137 0.0055 Jupiter 33206-10-03 18:29 G 13849578.14 13849578.27 13849578.41 0.0496 0.0405 Uranus 33207-03-08 06:43 G 13849733.53 13849733.78 13849734.03 0.0137 0.0016 Uranus 33208-03-11 20:09 G 13850103.17 13850103.34 13850103.55 0.0138 0.0090 Jupiter 33211-02-16 21:36 G 13851175.25 13851175.40 13851175.56 0.0533 0.0388 Jupiter 33212-03-25 00:29 G 13851577.33 13851577.52 13851577.73 0.0532 0.0284 Saturn 33213-08-25 15:21 G 13852095.91 13852096.14 13852096.38 0.0269 0.0088 Jupiter 33217-09-07 00:43 G 13853569.30 13853569.53 13853569.76 0.0493 0.0032 Jupiter 33218-10-08 05:17 G 13853965.66 13853965.72 13853965.80 0.0497 0.0476 Jupiter 33223-02-22 00:14 G 13855563.33 13855563.51 13855563.71 0.0533 0.0301 Jupiter 33224-03-30 00:14 G 13855965.35 13855965.51 13855965.68 0.0530 0.0368 Saturn 33227-02-22 04:48 G 13857024.46 13857024.70 13857024.95 0.0293 0.0043 Jupiter 33228-08-11 07:12 G 13857560.73 13857560.80 13857560.88 0.0494 0.0465 Jupiter 33229-09-11 09:36 G 13857956.67 13857956.90 13857957.13 0.0494 0.0040 Jupiter 33235-02-27 04:05 G 13859951.46 13859951.67 13859951.89 0.0533 0.0206 Jupiter 33236-04-04 02:38 G 13860353.49 13860353.61 13860353.73 0.0529 0.0455 Jupiter 33240-08-15 16:48 G 13861948.07 13861948.20 13861948.34 0.0494 0.0397 Jupiter 33241-09-15 18:29 G 13862344.04 13862344.27 13862344.49 0.0494 0.0113 Saturn 33242-08-20 18:57 G 13862683.05 13862683.29 13862683.52 0.0267 0.0074 Uranus 33245-09-01 20:24 G 13863791.15 13863791.35 13863791.58 0.0142 0.0075 Uranus 33246-09-06 15:50 G 13864160.91 13864161.16 13864161.41 0.0141 0.0005 Jupiter 33247-03-04 06:43 G 13864339.56 13864339.78 13864340.01 0.0533 0.0112 Uranus 33247-09-11 09:36 G 13864530.71 13864530.90 13864531.12 0.0141 0.0083 Jupiter 33252-08-20 02:09 G 13866335.42 13866335.59 13866335.76 0.0493 0.0326 Jupiter 33253-09-20 02:53 G 13866731.41 13866731.62 13866731.84 0.0494 0.0187 Saturn 33256-02-16 00:29 G 13867610.34 13867610.52 13867610.72 0.0295 0.0186

Jupiter 33259-03-09 12:57 G 13868727.81 13868728.04 13868728.28 0.0533 0.0018 Jupiter 33264-08-24 09:50 G 13870722.72 13870722.91 13870723.11 0.0493 0.0257 Jupiter 33265-09-24 10:19 G 13871118.74 13871118.93 13871119.13 0.0495 0.0260 Neptune 33268-07-09 09:21 G 13872137.85 13872137.89 13872138.00 0.0088 0.0084 Neptune 33269-07-11 20:09 G 13872505.20 13872505.34 13872505.52 0.0088 0.0069 Neptune 33270-07-14 06:57 G 13872872.60 13872872.79 13872873.01 0.0088 0.0054 Jupiter 33271-03-14 19:55 G 13873116.10 13873116.33 13873116.56 0.0533 0.0085 Neptune 33271-07-16 17:31 G 13873240.01 13873240.23 13873240.47 0.0088 0.0039 Saturn 33271-08-15 15:21 G 13873270.06 13873270.14 13873270.24 0.0266 0.0245 Neptune 33272-07-18 04:19 G 13873607.44 13873607.68 13873607.93 0.0088 0.0024 Saturn 33272-08-26 13:41 G 13873646.85 13873647.07 13873647.28 0.0269 0.0129 Neptune 33273-07-20 14:53 G 13873974.87 13873975.12 13873975.38 0.0088 0.0009 Neptune 33274-07-23 01:26 G 13874342.31 13874342.56 13874342.82 0.0088 0.0007 Neptune 33275-07-25 11:45 G 13874709.76 13874709.99 13874710.26 0.0088 0.0022 Neptune 33276-07-26 22:19 G 13875077.22 13875077.43 13875077.69 0.0088 0.0037 Jupiter 33276-08-28 18:57 G 13875110.08 13875110.29 13875110.51 0.0493 0.0183 Neptune 33277-07-29 08:38 G 13875444.68 13875444.86 13875445.09 0.0088 0.0052 Jupiter 33277-09-28 20:24 G 13875506.19 13875506.35 13875506.53 0.0496 0.0335 Neptune 33278-07-31 19:41 G 13875812.15 13875812.32 13875812.49 0.0088 0.0066 Neptune 33279-08-03 05:45 G 13876179.66 13876179.74 13876179.86 0.0088 0.0081 Jupiter 33282-02-10 21:21 G 13877102.31 13877102.39 13877102.49 0.0532 0.0488 Jupiter 33283-03-19 21:50 G 13877504.20 13877504.41 13877504.64 0.0532 0.0177 Saturn 33286-02-23 06:57 G 13878575.57 13878575.79 13878576.03 0.0293 0.0094 Jupiter 33288-09-02 02:53 G 13879497.39 13879497.62 13879497.85 0.0493 0.0114 Uranus 33289-02-27 18:57 G 13879676.19 13879676.29 13879676.43 0.0136 0.0121 Jupiter 33289-10-03 07:12 G 13879893.67 13879893.80 13879893.94 0.0497 0.0404 Uranus 33290-03-04 07:55 G 13880045.60 13880045.83 13880046.07 0.0137 0.0049 Uranus 33291-03-08 20:53 G 13880415.13 13880415.37 13880415.63 0.0137 0.0023 Uranus 33292-03-12 10:48 G 13880784.78 13880784.95 13880785.15 0.0138 0.0096 Jupiter 33294-02-16 01:41 G 13881490.42 13881490.57 13881490.72 0.0532 0.0400

Jupiter 33295-03-25 01:12 G 13881892.35 13881892.55 13881892.75 0.0531 0.0271 Jupiter 33300-09-07 12:14 G 13883884.77 13883885.01 13883885.24 0.0493 0.0040 Saturn 33301-08-22 15:36 G 13884233.91 13884234.15 13884234.40 0.0267 0.0036 Jupiter 33301-10-08 17:02 G 13884281.15 13884281.21 13884281.29 0.0497 0.0472 Jupiter 33306-02-22 03:36 G 13885878.46 13885878.65 13885878.84 0.0533 0.0310 Jupiter 33307-03-31 03:50 G 13886280.50 13886280.66 13886280.84 0.0531 0.0362 Jupiter 33311-08-12 18:57 G 13887876.22 13887876.29 13887876.36 0.0494 0.0470 Jupiter 33312-09-11 20:53 G 13888272.14 13888272.37 13888272.60 0.0493 0.0037 Saturn 33315-02-18 02:09 G 13889161.37 13889161.59 13889161.80 0.0295 0.0136 Jupiter 33318-02-27 09:07 G 13890266.67 13890266.88 13890267.10 0.0533 0.0215 Jupiter 33319-04-05 09:50 G 13890668.79 13890668.91 13890669.03 0.0530 0.0452 Jupiter 33323-08-17 04:05 G 13892263.54 13892263.67 13892263.81 0.0494 0.0402 Jupiter 33324-09-16 04:48 G 13892659.47 13892659.70 13892659.93 0.0494 0.0110 Uranus 33329-09-03 08:53 G 13894472.67 13894472.87 13894473.11 0.0142 0.0070 Jupiter 33330-03-04 16:05 G 13894654.95 13894655.17 13894655.40 0.0534 0.0118 Saturn 33330-08-17 11:17 G 13894820.83 13894820.97 13894821.13 0.0266 0.0208 Uranus 33330-09-08 04:19 G 13894842.43 13894842.68 13894842.93 0.0141 0.0009 Saturn 33331-08-29 09:21 G 13895197.70 13895197.89 13895198.09 0.0269 0.0167 Uranus 33331-09-12 21:50 G 13895212.23 13895212.41 13895212.63 0.0141 0.0088 Jupiter 33335-08-21 13:41 G 13896650.90 13896651.07 13896651.24 0.0493 0.0331 Jupiter 33336-09-20 14:24 G 13897046.88 13897047.10 13897047.32 0.0494 0.0186 Jupiter 33342-03-09 20:09 G 13899043.10 13899043.34 13899043.57 0.0533 0.0025 Pluto 33342-03-19 06:43 G 13899052.53 13899052.78 13899053.05 0.0065 0.0013 Saturn 33345-02-25 05:31 G 13900126.52 13900126.73 13900126.95 0.0293 0.0140 Jupiter 33347-08-25 20:53 G 13901038.17 13901038.37 13901038.57 0.0494 0.0264 Jupiter 33348-09-24 23:45 G 13901434.29 13901434.49 13901434.69 0.0495 0.0257 33349-01-03 04:33 G 13901534.50 13901534.69 13901534.88 0.1817 0.0210 Mars Neptune 33351-01-08 12:29 G 13902270.01 13902270.02 13902270.07 0.0090 0.0089 Neptune 33352-01-11 00:57 G 13902637.43 13902637.54 13902637.72 0.0090 0.0074 Neptune 33353-01-12 13:55 G 13903004.91 13903005.08 13903005.30 0.0090 0.0058

Neptune 33354-01-15 02:53 G 13903372.41 13903372.62 13903372.87 0.0090 0.0042 Jupiter 33354-03-15 00:14 G 13903431.28 13903431.51 13903431.74 0.0532 0.0074 Neptune 33355-01-17 16:05 G 13903739.92 13903740.17 13903740.42 0.0090 0.0025 Neptune 33356-01-20 04:48 G 13904107.44 13904107.70 13904107.96 0.0090 0.0009 Neptune 33357-01-21 17:31 G 13904474.97 13904475.23 13904475.49 0.0090 0.0007 Neptune 33358-01-24 06:00 G 13904842.51 13904842.75 13904843.01 0.0090 0.0024 Neptune 33359-01-26 18:29 G 13905210.06 13905210.27 13905210.52 0.0090 0.0040 Jupiter 33359-08-30 06:14 G 13905425.55 13905425.76 13905425.98 0.0493 0.0191 Neptune 33360-01-29 07:12 G 13905577.62 13905577.80 13905578.02 0.0090 0.0056 Saturn 33360-08-23 10:48 G 13905784.71 13905784.95 13905785.20 0.0267 0.0003 Jupiter 33360-09-29 09:21 G 13905821.73 13905821.89 13905822.07 0.0496 0.0331 Neptune 33361-01-30 20:09 G 13905945.21 13905945.34 13905945.51 0.0090 0.0072 Neptune 33362-02-02 08:38 G 13906312.83 13906312.86 13906312.94 0.0090 0.0088 Jupiter 33365-02-11 03:07 G 13907417.55 13907417.63 13907417.71 0.0532 0.0495 Jupiter 33366-03-20 03:07 G 13907819.40 13907819.63 13907819.85 0.0532 0.0170 Jupiter 33371-09-03 15:50 G 13909812.93 13909813.16 13909813.39 0.0493 0.0116 Jupiter 33372-10-03 18:57 G 13910209.17 13910209.29 13910209.44 0.0496 0.0403 Uranus 33373-03-01 09:50 G 13910357.78 13910357.91 13910358.06 0.0136 0.0114 Saturn 33374-02-18 23:17 G 13910712.24 13910712.47 13910712.71 0.0295 0.0092 Uranus 33374-03-05 22:33 G 13910727.21 13910727.44 13910727.69 0.0137 0.0043 Uranus 33375-03-10 12:00 G 13911096.75 13911097.00 13911097.25 0.0137 0.0030 Uranus 33376-03-14 01:55 G 13911466.42 13911466.58 13911466.76 0.0138 0.0103 Jupiter 33377-02-16 07:26 G 13911805.66 13911805.81 13911805.96 0.0533 0.0408 Jupiter 33378-03-25 08:53 G 13912207.67 13912207.87 13912208.07 0.0532 0.0267 Jupiter 33383-09-08 00:14 G 13914200.27 13914200.51 13914200.74 0.0493 0.0042 Jupiter 33384-10-08 04:05 G 13914596.60 13914596.67 13914596.75 0.0497 0.0471 Jupiter 33389-02-21 13:55 G 13916193.89 13916194.08 13916194.27 0.0533 0.0316 Saturn 33389-08-18 06:14 G 13916371.58 13916371.76 13916371.95 0.0266 0.0172 Jupiter 33390-03-30 15:21 G 13916595.97 13916596.14 13916596.31 0.0531 0.0360 Saturn 33390-08-30 03:50 G 13916748.51 13916748.66 13916748.83 0.0269 0.0203

Jupiter 33394-08-12 07:26 G 13918191.76 13918191.81 13918191.88 0.0494 0.0474 Jupiter 33395-09-12 09:36 G 13918587.67 13918587.90 13918588.13 0.0493 0.0035 Jupiter 33401-02-27 19:12 G 13920582.09 13920582.30 13920582.51 0.0533 0.0223 Jupiter 33402-04-05 17:02 G 13920984.09 13920984.21 13920984.34 0.0530 0.0444 Saturn 33404-02-28 01:41 G 13921677.38 13921677.57 13921677.76 0.0293 0.0182 Jupiter 33406-08-17 14:09 G 13922578.97 13922579.09 13922579.22 0.0494 0.0410 Jupiter 33407-09-17 17:31 G 13922975.01 13922975.23 13922975.46 0.0494 0.0106 Jupiter 33413-03-04 23:45 G 13924970.26 13924970.49 13924970.72 0.0533 0.0126 Uranus 33413-09-04 21:21 G 13925154.16 13925154.39 13925154.61 0.0142 0.0065 Uranus 33414-09-09 16:19 G 13925523.93 13925524.18 13925524.43 0.0141 0.0014 Uranus 33415-09-14 10:05 G 13925893.74 13925893.92 13925894.13 0.0141 0.0092 Jupiter 33418-08-22 00:14 G 13926966.34 13926966.51 13926966.68 0.0494 0.0339 Saturn 33419-08-26 05:17 G 13927335.48 13927335.72 13927335.97 0.0267 0.0037 Jupiter 33419-09-22 03:07 G 13927362.42 13927362.63 13927362.85 0.0495 0.0181 Jupiter 33425-03-10 02:09 G 13929358.36 13929358.59 13929358.82 0.0533 0.0031 Pluto 33429-09-19 05:45 G 13931012.58 13931012.74 13931012.95 0.0079 0.0056 Jupiter 33430-08-26 10:19 G 13931353.74 13931353.93 13931354.13 0.0494 0.0266 Jupiter 33431-09-26 12:43 G 13931749.84 13931750.03 13931750.24 0.0495 0.0257 Saturn 33433-02-20 19:26 G 13932263.08 13932263.31 13932263.56 0.0295 0.0050 Neptune 33433-07-13 03:36 G 13932405.55 13932405.65 13932405.79 0.0088 0.0078 Neptune 33434-07-15 14:09 G 13932772.93 13932773.09 13932773.29 0.0088 0.0063 Neptune 33435-07-18 00:43 G 13933140.34 13933140.53 13933140.77 0.0088 0.0048 Neptune 33436-07-19 11:17 G 13933507.75 13933507.97 13933508.23 0.0088 0.0033 Jupiter 33437-03-15 07:26 G 13933746.58 13933746.81 13933747.04 0.0533 0.0069 Neptune 33437-07-21 22:05 G 13933875.17 13933875.42 13933875.68 0.0088 0.0017 Neptune 33438-07-24 08:38 G 13934242.61 13934242.86 13934243.12 0.0088 0.0003 Neptune 33439-07-26 19:26 G 13934610.06 13934610.31 13934610.57 0.0088 0.0013 Neptune 33440-07-28 06:00 G 13934977.50 13934977.75 13934977.99 0.0088 0.0028 Neptune 33441-07-30 16:05 G 13935344.97 13935345.17 13935345.41 0.0088 0.0044 Neptune 33442-08-02 02:38 G 13935712.45 13935712.61 13935712.83 0.0088 0.0059 Jupiter 33442-08-30 19:26 G 13935741.10 13935741.31 13935741.53 0.0493 0.0194 Neptune 33443-08-04 13:12 G 13936079.94 13936080.05 13936080.21 0.0088 0.0074 Jupiter 33443-09-30 21:21 G 13936137.22 13936137.39 13936137.56 0.0495 0.0329 Jupiter 33448-02-12 12:57 G 13937732.98 13937733.04 13937733.13 0.0532 0.0503 Saturn 33448-08-20 01:41 G 13937922.36 13937922.57 13937922.78 0.0266 0.0136 Jupiter 33449-03-20 14:24 G 13938134.88 13938135.10 13938135.32 0.0532 0.0168 33449-07-07 00:14 G 13938243.32 13938243.51 13938243.70 0.1722 0.0127 Mars Saturn 33449-08-31 22:33 G 13938299.35 13938299.44 13938299.57 0.0269 0.0239 Jupiter 33454-09-04 04:48 G 13940128.47 13940128.70 13940128.93 0.0493 0.0118 Jupiter 33455-10-05 07:55 G 13940524.71 13940524.83 13940524.98 0.0496 0.0403 Uranus 33457-03-02 23:17 G 13941039.33 13941039.47 13941039.64 0.0137 0.0109 Uranus 33458-03-07 12:14 G 13941408.77 13941409.01 13941409.26 0.0137 0.0037 Uranus 33459-03-12 01:26 G 13941778.32 13941778.56 13941778.82 0.0137 0.0036 Jupiter 33460-02-17 19:12 G 13942121.16 13942121.30 13942121.45 0.0532 0.0416 Uranus 33460-03-15 15:50 G 13942148.01 13942148.16 13942148.33 0.0138 0.0108 Jupiter 33461-03-25 18:14 G 13942523.06 13942523.26 13942523.47 0.0531 0.0259 Saturn 33462-02-14 04:33 G 13942848.67 13942848.69 13942848.73 0.0297 0.0294 Saturn 33463-02-28 20:09 G 13943228.19 13943228.34 13943228.51 0.0293 0.0223 Jupiter 33466-09-08 11:45 G 13944515.75 13944515.99 13944516.22 0.0494 0.0047 Jupiter 33467-10-09 18:00 G 13944912.18 13944912.25 13944912.32 0.0498 0.0470 Jupiter 33472-02-22 23:45 G 13946509.31 13946509.49 13946509.68 0.0532 0.0323 Jupiter 33473-03-30 21:50 G 13946911.24 13946911.41 13946911.59 0.0530 0.0352 Jupiter 33477-08-12 16:33 G 13948507.15 13948507.19 13948507.24 0.0495 0.0483 Saturn 33478-08-27 00:43 G 13948886.29 13948886.53 13948886.76 0.0267 0.0073 Jupiter 33478-09-12 21:07 G 13948903.15 13948903.38 13948903.62 0.0494 0.0030 Jupiter 33484-02-28 01:26 G 13950897.35 13950897.56 13950897.77 0.0533 0.0230 Jupiter 33485-04-04 23:31 G 13951299.35 13951299.48 13951299.61 0.0530 0.0441 Jupiter 33489-08-17 03:36 G 13952894.53 13952894.65 13952894.78 0.0494 0.0412 Jupiter 33490-09-17 06:57 G 13953290.56 13953290.79 13953291.01 0.0494 0.0105 Saturn 33492-02-22 15:36 G 13953813.90 13953814.15 13953814.39 0.0295 0.0009

Jupiter 33496-03-04 05:45 G 13955285.52 13955285.74 13955285.97 0.0533 0.0133 Uranus 33496-08-31 15:36 G 13955466.13 13955466.15 13955466.23 0.0142 0.0140 Jupiter 33497-04-10 03:36 G 13955687.65 13955687.65 13955687.66 0.0529 0.0529 Uranus 33497-09-05 11:45 G 13955835.76 13955835.99 13955836.22 0.0142 0.0059 Uranus 33498-09-10 06:43 G 13956205.53 13956205.78 13956206.03 0.0141 0.0020 Uranus 33499-09-15 00:43 G 13956575.35 13956575.53 13956575.71 0.0141 0.0098 Jupiter 33501-08-22 13:12 G 13957281.89 13957282.05 13957282.23 0.0494 0.0343 Jupiter 33502-09-22 15:21 G 13957677.92 13957678.14 13957678.36 0.0494 0.0179 Saturn 33507-08-22 22:05 G 13959473.19 13959473.42 13959473.65 0.0266 0.0099 Jupiter 33508-03-10 12:29 G 13959673.78 13959674.02 13959674.25 0.0533 0.0036 Jupiter 33513-08-26 23:02 G 13961669.27 13961669.46 13961669.66 0.0493 0.0270 Jupiter 33514-09-27 01:12 G 13962065.35 13962065.55 13962065.75 0.0495 0.0255 Neptune 33516-01-12 06:29 G 13962537.68 13962537.77 13962537.87 0.0090 0.0083 Neptune 33517-01-13 19:26 G 13962905.14 13962905.31 13962905.48 0.0090 0.0067 Neptune 33518-01-16 08:09 G 13963272.63 13963272.84 13963273.05 0.0090 0.0051 Neptune 33519-01-18 20:53 G 13963640.14 13963640.37 13963640.61 0.0090 0.0035 Neptune 33520-01-21 09:36 G 13964007.66 13964007.90 13964008.16 0.0090 0.0019 Jupiter 33520-03-15 18:14 G 13964062.02 13964062.26 13964062.49 0.0532 0.0062 Neptune 33521-01-22 22:48 G 13964375.19 13964375.45 13964375.71 0.0090 0.0002 Saturn 33521-02-16 00:57 G 13964399.42 13964399.54 13964399.67 0.0297 0.0253 Neptune 33522-01-25 11:17 G 13964742.72 13964742.97 13964743.23 0.0090 0.0014 Saturn 33522-03-02 16:33 G 13964779.09 13964779.19 13964779.30 0.0293 0.0264 Neptune 33523-01-28 00:00 G 13965110.27 13965110.50 13965110.75 0.0090 0.0031 Neptune 33524-01-30 12:43 G 13965477.83 13965478.03 13965478.26 0.0090 0.0047 Neptune 33525-02-01 01:41 G 13965845.39 13965845.57 13965845.75 0.0090 0.0063 Jupiter 33525-08-31 04:48 G 13966056.49 13966056.70 13966056.92 0.0494 0.0201 Neptune 33526-02-03 14:38 G 13966212.99 13966213.11 13966213.23 0.0090 0.0079 Jupiter 33526-10-01 09:21 G 13966452.72 13966452.89 13966453.06 0.0496 0.0326 Jupiter 33531-02-13 00:29 G 13968048.46 13968048.52 13968048.59 0.0531 0.0507 Jupiter 33532-03-20 22:19 G 13968450.21 13968450.43 13968450.65 0.0532 0.0160

Saturn 33536-08-17 03:21 G 13970060.60 13970060.64 13970060.71 0.0264 0.0257 Saturn 33537-08-28 22:05 G 13970437.20 13970437.42 13970437.65 0.0267 0.0111 Jupiter 33537-09-04 14:24 G 13970443.87 13970444.10 13970444.32 0.0494 0.0125 Jupiter 33538-10-05 19:26 G 13970840.18 13970840.31 13970840.45 0.0497 0.0399 Uranus 33541-03-04 11:31 G 13971720.83 13971720.98 13971721.16 0.0136 0.0104 Uranus 33542-03-09 00:43 G 13972090.28 13972090.53 13972090.78 0.0137 0.0032 Jupiter 33543-02-18 00:43 G 13972436.40 13972436.53 13972436.68 0.0532 0.0422 Uranus 33543-03-13 13:55 G 13972459.85 13972460.08 13972460.33 0.0137 0.0040 Uranus 33544-03-17 04:33 G 13972829.54 13972829.69 13972829.83 0.0138 0.0113 Jupiter 33544-03-25 23:31 G 13972838.27 13972838.48 13972838.68 0.0531 0.0254 Jupiter 33549-09-09 00:14 G 13974831.28 13974831.51 13974831.74 0.0494 0.0048 Jupiter 33550-10-10 05:45 G 13975227.67 13975227.74 13975227.81 0.0497 0.0469 Saturn 33551-02-24 12:57 G 13975364.80 13975365.04 13975365.28 0.0295 0.0035 Jupiter 33555-02-23 04:19 G 13976824.50 13976824.68 13976824.86 0.0532 0.0331 Jupiter 33556-03-31 03:36 G 13977226.48 13977226.65 13977226.83 0.0531 0.0348 Jupiter 33560-08-13 05:31 G 13978822.69 13978822.73 13978822.77 0.0495 0.0486 Jupiter 33561-09-13 08:53 G 13979218.64 13979218.87 13979219.10 0.0494 0.0027 Saturn 33566-08-23 21:07 G 13981024.14 13981024.38 13981024.62 0.0266 0.0059 Jupiter 33567-02-28 09:50 G 13981212.70 13981212.91 13981213.12 0.0533 0.0236 Jupiter 33568-04-05 09:07 G 13981614.76 13981614.88 13981615.01 0.0530 0.0439 Jupiter 33572-08-17 15:07 G 13983210.01 13983210.13 13983210.26 0.0494 0.0417 Jupiter 33573-09-17 18:00 G 13983606.03 13983606.25 13983606.48 0.0494 0.0103 Jupiter 33579-03-05 16:19 G 13985600.95 13985601.18 13985601.40 0.0533 0.0140 Saturn 33580-02-17 23:31 G 13985950.31 13985950.48 13985950.66 0.0297 0.0209 Jupiter 33580-04-10 12:29 G 13986002.99 13986003.02 13986003.05 0.0529 0.0522 Uranus 33580-09-02 03:50 G 13986147.59 13986147.66 13986147.75 0.0142 0.0135 Uranus 33581-09-06 23:17 G 13986517.25 13986517.47 13986517.71 0.0142 0.0055 Uranus 33582-09-11 18:29 G 13986887.02 13986887.27 13986887.52 0.0141 0.0025 Uranus 33583-09-16 12:00 G 13987256.85 13987257.00 13987257.20 0.0141 0.0103 Jupiter 33584-08-21 20:38 G 13987597.20 13987597.36 13987597.52 0.0494 0.0350

Jupiter 33585-09-22 00:29 G 13987993.30 13987993.52 13987993.74 0.0495 0.0175 Pluto 33588-03-22 10:48 G 13988905.70 13988905.95 13988906.22 0.0065 0.0009 Jupiter 33591-03-10 20:53 G 13989989.13 13989989.37 13989989.60 0.0532 0.0043 Saturn 33595-08-19 03:36 G 13991611.52 13991611.65 13991611.80 0.0264 0.0216 Jupiter 33596-08-26 05:45 G 13991984.55 13991984.74 13991984.94 0.0494 0.0278 Saturn 33596-08-29 22:05 G 13991988.23 13991988.42 13991988.63 0.0267 0.0153 Neptune 33597-07-13 11:31 G 13992305.97 13992305.98 13992306.03 0.0088 0.0087 Jupiter 33597-09-26 10:05 G 13992380.73 13992380.92 13992381.13 0.0495 0.0251 Neptune 33598-07-15 22:19 G 13992673.31 13992673.43 13992673.60 0.0088 0.0072 Neptune 33599-07-18 08:53 G 13993040.70 13993040.87 13993041.09 0.0088 0.0057 Neptune 33600-07-19 19:55 G 13993408.11 13993408.33 13993408.56 0.0088 0.0041 Neptune 33601-07-22 06:29 G 13993775.53 13993775.77 13993776.02 0.0088 0.0026 Neptune 33602-07-24 17:02 G 13994142.96 13994143.21 13994143.48 0.0088 0.0011 Jupiter 33603-03-15 21:21 G 13994377.16 13994377.39 13994377.63 0.0532 0.0056 Neptune 33603-07-27 03:50 G 13994510.40 13994510.66 13994510.92 0.0088 0.0005 Neptune 33604-07-28 13:55 G 13994877.84 13994878.08 13994878.35 0.0088 0.0021 Neptune 33605-07-31 00:43 G 13995245.30 13995245.53 13995245.77 0.0088 0.0036 Neptune 33606-08-02 11:17 G 13995612.77 13995612.97 13995613.19 0.0088 0.0051 Neptune 33607-08-04 22:05 G 13995980.25 13995980.42 13995980.59 0.0088 0.0066 Neptune 33608-08-06 07:41 G 13996347.76 13996347.82 13996347.95 0.0088 0.0082 Jupiter 33608-08-30 16:05 G 13996371.96 13996372.17 13996372.38 0.0494 0.0203 Jupiter 33609-09-30 19:55 G 13996768.16 13996768.33 13996768.51 0.0496 0.0326 Saturn 33610-02-25 13:41 G 13996915.84 13996916.07 13996916.31 0.0295 0.0084 Jupiter 33614-02-12 02:38 G 13998363.57 13998363.61 13998363.67 0.0531 0.0516 Jupiter 33615-03-21 01:12 G 13998765.32 13998765.55 13998765.77 0.0532 0.0153 Jupiter 33620-09-04 00:57 G 14000759.32 14000759.54 14000759.77 0.0493 0.0129 Jupiter 33621-10-05 04:33 G 14001155.56 14001155.69 14001155.84 0.0496 0.0396 Uranus 33625-03-04 22:05 G 14002402.27 14002402.42 14002402.62 0.0136 0.0101 Saturn 33625-08-24 23:45 G 14002575.25 14002575.49 14002575.74 0.0266 0.0014 Jupiter 33626-02-17 06:43 G 14002751.64 14002751.78 14002751.91 0.0532 0.0430

Uranus 33626-03-09 11:17 G 14002771.72 14002771.97 14002772.22 0.0137 0.0029 Uranus 33627-03-14 00:43 G 14003141.29 14003141.53 14003141.77 0.0137 0.0043 Jupiter 33627-03-26 06:29 G 14003153.57 14003153.77 14003153.98 0.0532 0.0249 Uranus 33628-03-17 14:24 G 14003510.99 14003511.10 14003511.26 0.0138 0.0117 Jupiter 33632-09-08 09:36 G 14005146.67 14005146.90 14005147.14 0.0494 0.0053 Mars 33633-01-05 07:26 G 14005265.62 14005265.81 14005266.00 0.1808 0.0294 Jupiter 33633-10-09 14:38 G 14005543.04 14005543.11 14005543.19 0.0497 0.0467 Jupiter 33638-02-22 12:57 G 14007139.87 14007140.04 14007140.23 0.0532 0.0339 Saturn 33639-02-19 02:24 G 14007501.40 14007501.60 14007501.82 0.0297 0.0159 Jupiter 33639-03-31 11:31 G 14007541.80 14007541.98 14007542.16 0.0530 0.0341 Jupiter 33643-08-13 09:50 G 14009137.91 14009137.91 14009137.92 0.0495 0.0495 Jupiter 33644-09-12 14:53 G 14009533.89 14009534.12 14009534.36 0.0494 0.0022 Jupiter 33650-02-27 17:31 G 14011528.02 14011528.23 14011528.44 0.0532 0.0242 Jupiter 33651-04-05 14:24 G 14011929.97 14011930.10 14011930.24 0.0529 0.0433 Saturn 33654-08-20 07:12 G 14013162.61 14013162.80 14013162.99 0.0265 0.0172 Jupiter 33655-08-17 19:26 G 14013525.19 14013525.31 14013525.43 0.0495 0.0425 Saturn 33655-09-01 01:55 G 14013539.43 14013539.58 14013539.75 0.0267 0.0199 Jupiter 33656-09-17 00:00 G 14013921.27 14013921.50 14013921.73 0.0494 0.0096 Jupiter 33662-03-04 17:31 G 14015916.01 14015916.23 14015916.46 0.0532 0.0149 Jupiter 33663-04-10 13:26 G 14016318.03 14016318.06 14016318.12 0.0529 0.0518 Uranus 33664-09-02 13:55 G 14016829.00 14016829.08 14016829.19 0.0142 0.0131 Uranus 33665-09-07 09:50 G 14017198.68 14017198.91 14017199.15 0.0142 0.0051 Uranus 33666-09-12 05:02 G 14017568.47 14017568.71 14017568.96 0.0141 0.0028 Jupiter 33667-08-22 05:45 G 14017912.58 14017912.74 14017912.90 0.0494 0.0354 Uranus 33667-09-16 23:17 G 14017938.31 14017938.47 14017938.64 0.0141 0.0106 Jupiter 33668-09-21 09:36 G 14018308.69 14018308.90 14018309.12 0.0495 0.0173 Saturn 33669-02-26 18:29 G 14018467.06 14018467.27 14018467.49 0.0295 0.0137 Jupiter 33674-03-09 20:09 G 14020304.11 14020304.34 14020304.58 0.0532 0.0052 Pluto 33675-09-22 12:00 G 14020865.81 14020866.00 14020866.23 0.0079 0.0047 Jupiter 33679-08-26 15:07 G 14022299.94 14022300.13 14022300.32 0.0494 0.0283

Jupiter 33680-09-25 17:45 G 14022696.04 14022696.24 14022696.45 0.0495 0.0246 Neptune 33681-01-13 01:12 G 14022805.44 14022805.55 14022805.71 0.0090 0.0077 Neptune 33682-01-15 13:41 G 14023172.90 14023173.07 14023173.28 0.0090 0.0061 Neptune 33683-01-18 02:24 G 14023540.40 14023540.60 14023540.85 0.0090 0.0045 Neptune 33684-01-20 15:36 G 14023907.91 14023908.15 14023908.40 0.0090 0.0028 Saturn 33684-08-26 05:45 G 14024126.50 14024126.74 14024126.99 0.0266 0.0035 Neptune 33685-01-22 04:19 G 14024275.43 14024275.68 14024275.95 0.0090 0.0012 Neptune 33686-01-24 17:17 G 14024642.96 14024643.22 14024643.48 0.0090 0.0005 Jupiter 33686-03-15 00:57 G 14024692.31 14024692.54 14024692.78 0.0533 0.0047 Neptune 33687-01-27 06:00 G 14025010.51 14025010.75 14025011.01 0.0090 0.0022 Neptune 33688-01-29 18:29 G 14025378.06 14025378.27 14025378.52 0.0090 0.0039 Neptune 33689-01-31 07:26 G 14025745.62 14025745.81 14025746.03 0.0090 0.0055 Neptune 33690-02-02 20:09 G 14026113.19 14026113.34 14026113.51 0.0090 0.0071 Neptune 33691-02-05 09:07 G 14026480.83 14026480.88 14026480.94 0.0090 0.0087 Jupiter 33691-08-30 23:31 G 14026687.27 14026687.48 14026687.70 0.0494 0.0209 Jupiter 33692-09-30 02:53 G 14027083.44 14027083.62 14027083.79 0.0495 0.0321 Jupiter 33697-02-11 09:07 G 14028678.85 14028678.88 14028678.92 0.0531 0.0524 Saturn 33698-02-20 10:19 G 14029052.70 14029052.93 14029053.17 0.0296 0.0101 Jupiter 33698-03-20 07:12 G 14029080.58 14029080.80 14029081.03 0.0532 0.0146 Jupiter 33703-09-05 04:19 G 14031074.45 14031074.68 14031074.90 0.0494 0.0137 Jupiter 33704-10-05 09:07 G 14031470.74 14031470.88 14031471.03 0.0497 0.0391 Jupiter 33709-02-17 12:57 G 14033066.91 14033067.04 14033067.17 0.0532 0.0436 Uranus 33709-03-06 09:07 G 14033083.72 14033083.88 14033084.08 0.0136 0.0096 Uranus 33710-03-10 22:19 G 14033453.18 14033453.43 14033453.68 0.0137 0.0025 Jupiter 33710-03-26 10:48 G 14033468.74 14033468.95 14033469.16 0.0531 0.0242 Uranus 33711-03-15 11:17 G 14033822.74 14033822.97 14033823.22 0.0137 0.0047 Uranus 33712-03-19 00:57 G 14034192.44 14034192.54 14034192.68 0.0138 0.0121 Saturn 33713-08-22 13:41 G 14034713.86 14034714.07 14034714.29 0.0265 0.0123 Saturn 33714-09-03 09:36 G 14035090.82 14035090.90 14035090.99 0.0268 0.0250 Jupiter 33715-09-09 12:43 G 14035461.80 14035462.03 14035462.26 0.0494 0.0060

Jupiter 33716-10-09 18:43 G 14035858.21 14035858.28 14035858.37 0.0497 0.0464 Jupiter 33721-02-22 12:14 G 14037454.84 14037455.01 14037455.19 0.0532 0.0348 Jupiter 33722-03-31 09:50 G 14037856.73 14037856.91 14037857.10 0.0531 0.0333 Jupiter 33727-09-13 22:19 G 14039849.19 14039849.43 14039849.66 0.0494 0.0016 Saturn 33728-03-01 05:02 G 14040018.53 14040018.71 14040018.89 0.0295 0.0198 Jupiter 33733-02-27 13:55 G 14041842.88 14041843.08 14041843.29 0.0532 0.0255 33733-07-09 15:07 G 14041974.94 14041975.13 14041975.31 0.1730 0.0509 Mars Jupiter 33734-04-05 11:45 G 14042244.85 14042244.99 14042245.13 0.0530 0.0425 Jupiter 33738-08-18 02:38 G 14043840.50 14043840.61 14043840.72 0.0495 0.0432 Jupiter 33739-09-18 06:14 G 14044236.53 14044236.76 14044236.99 0.0494 0.0091 Saturn 33743-08-29 15:07 G 14045677.91 14045678.13 14045678.37 0.0267 0.0089 Jupiter 33745-03-04 17:31 G 14046231.01 14046231.23 14046231.45 0.0533 0.0160 Jupiter 33746-04-10 15:21 G 14046633.09 14046633.14 14046633.20 0.0529 0.0512 Uranus 33748-09-03 20:38 G 14047510.27 14047510.36 14047510.46 0.0142 0.0131 Uranus 33749-09-08 16:33 G 14047879.96 14047880.19 14047880.43 0.0142 0.0051 Jupiter 33750-08-22 11:17 G 14048227.82 14048227.97 14048228.14 0.0494 0.0361 Uranus 33750-09-13 11:45 G 14048249.75 14048249.99 14048250.25 0.0141 0.0029 Uranus 33751-09-18 06:14 G 14048619.61 14048619.76 14048619.93 0.0141 0.0107 Jupiter 33751-09-22 14:24 G 14048623.88 14048624.10 14048624.32 0.0494 0.0166 Saturn 33757-02-22 23:02 G 14050604.22 14050604.46 14050604.71 0.0296 0.0036 Jupiter 33757-03-10 00:00 G 14050619.27 14050619.50 14050619.73 0.0533 0.0061 Neptune 33762-07-16 06:29 G 14052573.69 14052573.77 14052573.89 0.0088 0.0081 Jupiter 33762-08-26 16:05 G 14052614.98 14052615.17 14052615.36 0.0494 0.0292 Neptune 33763-07-18 17:02 G 14052941.07 14052941.21 14052941.41 0.0088 0.0066 Jupiter 33763-09-26 19:26 G 14053011.11 14053011.31 14053011.52 0.0495 0.0240 Neptune 33764-07-20 04:19 G 14053308.48 14053308.68 14053308.90 0.0088 0.0050 Neptune 33765-07-22 14:53 G 14053675.90 14053676.12 14053676.37 0.0088 0.0035 Neptune 33766-07-25 01:41 G 14054043.33 14054043.57 14054043.83 0.0088 0.0019 Neptune 33767-07-27 12:29 G 14054410.76 14054411.02 14054411.28 0.0088 0.0003 Neptune 33768-07-28 22:48 G 14054778.21 14054778.45 14054778.72 0.0088 0.0013 Jupiter 33769-03-15 04:05 G 14055007.43 14055007.67 14055007.90 0.0532 0.0039 Neptune 33769-07-31 09:21 G 14055145.66 14055145.89 14055146.15 0.0088 0.0028 Neptune 33770-08-02 19:41 G 14055513.12 14055513.32 14055513.57 0.0088 0.0044 Neptune 33771-08-05 06:14 G 14055880.59 14055880.76 14055880.97 0.0088 0.0059 Neptune 33772-08-06 17:17 G 14056248.09 14056248.22 14056248.36 0.0088 0.0074 Saturn 33772-08-23 23:17 G 14056265.24 14056265.47 14056265.71 0.0265 0.0071 Jupiter 33774-08-31 00:14 G 14057002.30 14057002.51 14057002.72 0.0494 0.0218 Jupiter 33775-10-01 04:19 G 14057398.51 14057398.68 14057398.87 0.0496 0.0315 Jupiter 33781-03-20 02:53 G 14059395.39 14059395.62 14059395.84 0.0532 0.0134 Saturn 33786-02-17 02:09 G 14061190.48 14061190.59 14061190.72 0.0298 0.0259 Jupiter 33786-09-04 09:50 G 14061389.69 14061389.91 14061390.13 0.0494 0.0142 Saturn 33787-03-03 19:12 G 14061570.20 14061570.30 14061570.41 0.0294 0.0265 Jupiter 33787-10-05 14:24 G 14061785.95 14061786.10 14061786.24 0.0496 0.0387 Jupiter 33792-02-17 06:57 G 14063381.67 14063381.79 14063381.92 0.0531 0.0452 Uranus 33793-03-06 20:38 G 14063765.20 14063765.36 14063765.57 0.0136 0.0093 Jupiter 33793-03-25 04:48 G 14063783.49 14063783.70 14063783.91 0.0531 0.0230 Uranus 33794-03-11 09:36 G 14064134.66 14064134.90 14064135.16 0.0137 0.0021 Uranus 33795-03-15 22:48 G 14064504.22 14064504.45 14064504.69 0.0137 0.0052 Uranus 33796-03-19 12:14 G 14064873.92 14064874.01 14064874.14 0.0138 0.0125 Jupiter 33798-09-08 17:45 G 14065777.01 14065777.24 14065777.47 0.0494 0.0068 Jupiter 33799-10-09 22:19 G 14066173.35 14066173.43 14066173.53 0.0497 0.0457 Saturn 33801-08-20 09:07 G 14066852.75 14066852.88 14066853.01 0.0264 0.0225 Saturn 33802-09-01 02:53 G 14067229.42 14067229.62 14067229.83 0.0267 0.0145 Jupiter 33804-02-23 09:07 G 14067769.71 14067769.88 14067770.05 0.0532 0.0362 Jupiter 33805-03-31 08:09 G 14068171.65 14068171.84 14068172.02 0.0531 0.0324 Jupiter 33810-09-14 01:41 G 14070164.34 14070164.57 14070164.80 0.0494 0.0009 Saturn 33816-02-26 16:48 G 14072155.96 14072156.20 14072156.45 0.0295 0.0037 Jupiter 33816-02-28 14:38 G 14072157.91 14072158.11 14072158.32 0.0533 0.0266 Jupiter 33817-04-05 13:26 G 14072559.92 14072560.06 14072560.20 0.0530 0.0417 Jupiter 33821-08-18 02:24 G 14074155.50 14074155.60 14074155.70 0.0495 0.0442

Jupiter 33822-09-18 06:00 G 14074551.52 14074551.75 14074551.98 0.0494 0.0082 Jupiter 33828-03-04 18:57 G 14076546.07 14076546.29 14076546.51 0.0533 0.0169 Jupiter 33829-04-10 15:36 G 14076948.10 14076948.15 14076948.23 0.0529 0.0506 Saturn 33831-08-27 10:33 G 14077816.70 14077816.94 14077817.19 0.0266 0.0016 Uranus 33832-09-05 04:33 G 14078191.61 14078191.69 14078191.82 0.0142 0.0130 Jupiter 33833-08-22 10:33 G 14078542.79 14078542.94 14078543.09 0.0494 0.0371 Uranus 33833-09-10 00:57 G 14078561.31 14078561.54 14078561.78 0.0142 0.0049 Pluto 33834-03-26 18:43 G 14078759.02 14078759.28 14078759.54 0.0065 0.0004 Uranus 33834-09-14 20:24 G 14078931.11 14078931.35 14078931.60 0.0141 0.0031 Jupiter 33834-09-22 14:24 G 14078938.88 14078939.10 14078939.32 0.0494 0.0158 Uranus 33835-09-19 14:53 G 14079300.96 14079301.12 14079301.28 0.0141 0.0109 Jupiter 33840-03-09 17:45 G 14080934.01 14080934.24 14080934.48 0.0532 0.0077 Neptune 33845-01-14 09:07 G 14082705.82 14082705.88 14082705.96 0.0090 0.0086 Saturn 33845-02-19 21:07 G 14082742.19 14082742.38 14082742.57 0.0297 0.0184 Jupiter 33845-08-26 19:55 G 14082930.15 14082930.33 14082930.52 0.0494 0.0301 Neptune 33846-01-16 21:36 G 14083073.25 14083073.40 14083073.57 0.0090 0.0070 Jupiter 33846-09-26 23:45 G 14083326.29 14083326.49 14083326.70 0.0495 0.0235 Neptune 33847-01-19 10:05 G 14083440.73 14083440.92 14083441.14 0.0090 0.0054 Neptune 33848-01-21 23:02 G 14083808.23 14083808.46 14083808.70 0.0090 0.0037 Neptune 33849-01-23 11:31 G 14084175.74 14084175.98 14084176.24 0.0090 0.0021 Neptune 33850-01-26 00:29 G 14084543.27 14084543.52 14084543.78 0.0090 0.0004 Neptune 33851-01-28 13:12 G 14084910.81 14084911.05 14084911.32 0.0090 0.0014 Neptune 33852-01-31 02:09 G 14085278.36 14085278.59 14085278.84 0.0090 0.0030 Jupiter 33852-03-14 19:26 G 14085322.08 14085322.31 14085322.55 0.0532 0.0025 Neptune 33853-02-01 14:38 G 14085645.91 14085646.11 14085646.35 0.0090 0.0047 Neptune 33854-02-04 03:36 G 14086013.48 14086013.65 14086013.84 0.0090 0.0063 Neptune 33855-02-06 16:05 G 14086381.08 14086381.17 14086381.31 0.0090 0.0080 Jupiter 33857-08-31 04:33 G 14087317.48 14087317.69 14087317.90 0.0494 0.0227 Jupiter 33858-10-01 07:26 G 14087713.64 14087713.81 14087714.00 0.0495 0.0307 Saturn 33860-08-21 20:53 G 14088404.19 14088404.37 14088404.56 0.0265 0.0169

Saturn 33861-09-02 15:36 G 14088781.00 14088781.15 14088781.32 0.0267 0.0204 Jupiter 33864-03-19 22:19 G 14089710.20 14089710.43 14089710.66 0.0532 0.0120 Jupiter 33869-09-04 12:14 G 14091704.79 14091705.01 14091705.23 0.0494 0.0151 Jupiter 33870-10-05 15:21 G 14092101.00 14092101.14 14092101.30 0.0496 0.0380 Jupiter 33875-02-17 05:02 G 14093696.61 14093696.71 14093696.83 0.0532 0.0465 Saturn 33875-02-28 12:43 G 14093707.81 14093708.03 14093708.27 0.0295 0.0113 Jupiter 33876-03-25 04:19 G 14094098.47 14094098.68 14094098.89 0.0532 0.0220 Uranus 33877-03-08 09:07 G 14094446.70 14094446.88 14094447.09 0.0136 0.0087 Uranus 33878-03-12 22:05 G 14094816.17 14094816.42 14094816.68 0.0137 0.0016 Uranus 33879-03-17 11:02 G 14095185.74 14095185.96 14095186.20 0.0137 0.0057 Uranus 33880-03-21 00:29 G 14095555.46 14095555.52 14095555.62 0.0138 0.0130 Jupiter 33881-09-08 16:48 G 14096091.97 14096092.20 14096092.43 0.0493 0.0078 Jupiter 33882-10-09 21:07 G 14096488.29 14096488.38 14096488.48 0.0497 0.0450 Jupiter 33887-02-22 09:07 G 14098084.72 14098084.88 14098085.04 0.0532 0.0373 Jupiter 33888-03-30 07:55 G 14098486.65 14098486.83 14098487.02 0.0531 0.0316 Saturn 33890-08-28 22:05 G 14099368.18 14099368.42 14099368.66 0.0266 0.0041 Jupiter 33893-09-13 00:43 G 14100479.30 14100479.53 14100479.76 0.0494 0.0001 Jupiter 33899-02-27 08:24 G 14102472.65 14102472.85 14102473.04 0.0532 0.0284 Jupiter 33900-04-05 05:45 G 14102874.60 14102874.74 14102874.89 0.0530 0.0405 Saturn 33904-02-23 18:14 G 14104294.03 14104294.26 14104294.49 0.0297 0.0104 Jupiter 33904-08-18 05:02 G 14104470.62 14104470.71 14104470.80 0.0495 0.0453 Jupiter 33905-09-18 09:50 G 14104866.68 14104866.91 14104867.15 0.0494 0.0075 Jupiter 33911-03-05 09:36 G 14106860.69 14106860.90 14106861.12 0.0532 0.0189 Jupiter 33912-04-10 06:29 G 14107262.69 14107262.77 14107262.86 0.0530 0.0493 Jupiter 33916-08-22 13:55 G 14108857.94 14108858.08 14108858.23 0.0495 0.0383 Uranus 33916-09-06 14:09 G 14108872.99 14108873.09 14108873.21 0.0142 0.0126 33917-01-08 11:31 G 14108996.79 14108996.98 14108997.17 0.1799 0.0324 Mars Uranus 33917-09-11 10:05 G 14109242.69 14109242.92 14109243.17 0.0142 0.0047 Jupiter 33917-09-22 17:45 G 14109254.02 14109254.24 14109254.46 0.0494 0.0150 Uranus 33918-09-16 05:31 G 14109612.49 14109612.73 14109612.98 0.0141 0.0033 Saturn 33919-08-25 08:09 G 14109955.62 14109955.84 14109956.07 0.0265 0.0113 Uranus 33919-09-21 00:00 G 14109982.35 14109982.50 14109982.66 0.0141 0.0111 Saturn 33920-09-05 03:50 G 14110332.63 14110332.66 14110332.72 0.0268 0.0262 Pluto 33921-09-26 23:45 G 14110719.25 14110719.49 14110719.75 0.0079 0.0021 Jupiter 33923-03-10 11:31 G 14111248.75 14111248.98 14111249.21 0.0533 0.0092 Neptune 33927-07-20 02:53 G 14112841.49 14112841.62 14112841.76 0.0088 0.0074 Neptune 33928-07-21 13:12 G 14113208.89 14113209.05 14113209.27 0.0088 0.0059 Jupiter 33928-08-26 22:33 G 14113245.26 14113245.44 14113245.62 0.0494 0.0310 Neptune 33929-07-24 00:29 G 14113576.30 14113576.52 14113576.75 0.0088 0.0043 Jupiter 33929-09-27 01:12 G 14113641.34 14113641.55 14113641.76 0.0494 0.0226 Neptune 33930-07-26 11:17 G 14113943.73 14113943.97 14113944.22 0.0088 0.0027 Neptune 33931-07-28 21:50 G 14114311.16 14114311.41 14114311.67 0.0088 0.0012 Neptune 33932-07-30 08:24 G 14114678.60 14114678.85 14114679.12 0.0088 0.0005 Neptune 33933-08-01 19:12 G 14115046.05 14115046.30 14115046.56 0.0088 0.0020 Saturn 33934-03-03 10:19 G 14115259.74 14115259.93 14115260.11 0.0294 0.0191 Neptune 33934-08-04 05:17 G 14115413.50 14115413.72 14115413.97 0.0088 0.0036 Jupiter 33935-03-15 17:31 G 14115637.00 14115637.23 14115637.46 0.0533 0.0010 Neptune 33935-08-06 16:19 G 14115780.97 14115781.18 14115781.39 0.0088 0.0051 Neptune 33936-08-08 02:24 G 14116148.46 14116148.60 14116148.79 0.0088 0.0067 Neptune 33937-08-10 13:26 G 14116515.97 14116516.06 14116516.14 0.0088 0.0082 33938-07-09 15:21 G 14116849.10 14116849.14 14116849.18 0.1744 0.1703 Mars Jupiter 33940-08-31 03:50 G 14117632.46 14117632.66 14117632.87 0.0494 0.0237 Jupiter 33941-10-01 06:29 G 14118028.59 14118028.77 14118028.96 0.0495 0.0299 Jupiter 33947-03-20 22:05 G 14120025.19 14120025.42 14120025.65 0.0532 0.0111 Saturn 33949-08-31 08:38 G 14120919.63 14120919.86 14120920.09 0.0267 0.0097 Jupiter 33952-09-04 12:00 G 14122019.78 14122020.00 14122020.22 0.0494 0.0162 Jupiter 33953-10-05 15:07 G 14122415.99 14122416.13 14122416.29 0.0496 0.0374 Jupiter 33958-02-16 23:31 G 14124011.39 14124011.48 14124011.58 0.0531 0.0483 Jupiter 33959-03-25 20:53 G 14124413.16 14124413.37 14124413.59 0.0532 0.0204 Uranus 33961-03-09 20:53 G 14125128.18 14125128.37 14125128.58 0.0136 0.0083

Uranus 33962-03-14 09:50 G 14125497.66 14125497.91 14125498.17 0.0137 0.0012 Saturn 33963-02-25 14:38 G 14125845.86 14125846.11 14125846.35 0.0296 0.0026 Uranus 33963-03-18 22:33 G 14125867.23 14125867.44 14125867.68 0.0137 0.0061 Uranus 33964-03-22 12:29 G 14126236.98 14126237.02 14126237.09 0.0138 0.0134 Jupiter 33964-09-08 20:53 G 14126407.14 14126407.37 14126407.60 0.0494 0.0087 Jupiter 33965-10-10 01:41 G 14126803.47 14126803.57 14126803.67 0.0496 0.0446 Jupiter 33970-02-22 00:43 G 14128399.38 14128399.53 14128399.69 0.0532 0.0394 Jupiter 33971-03-30 22:19 G 14128801.24 14128801.43 14128801.62 0.0531 0.0299 Jupiter 33976-09-13 05:02 G 14130794.48 14130794.71 14130794.94 0.0494 0.0011 Saturn 33978-08-26 17:45 G 14131507.01 14131507.24 14131507.49 0.0265 0.0059 Jupiter 33982-02-27 01:41 G 14132787.39 14132787.57 14132787.77 0.0532 0.0301 Jupiter 33983-04-05 00:43 G 14133189.38 14133189.53 14133189.69 0.0531 0.0393 Jupiter 33987-08-18 07:55 G 14134785.76 14134785.83 14134785.92 0.0495 0.0463 Jupiter 33988-09-17 12:29 G 14135181.79 14135182.02 14135182.25 0.0494 0.0066 Saturn 33992-02-19 13:12 G 14136431.94 14136432.05 14136432.19 0.0297 0.0256 Saturn 33993-03-05 06:14 G 14136811.66 14136811.76 14136811.86 0.0294 0.0267 Jupiter 33994-03-04 06:57 G 14137175.57 14137175.79 14137176.00 0.0533 0.0203 Jupiter 33995-04-10 06:00 G 14137577.66 14137577.75 14137577.85 0.0530 0.0486 Jupiter 33999-08-22 15:07 G 14139173.00 14139173.13 14139173.27 0.0494 0.0393 Uranus 34000-09-07 02:09 G 14139554.47 14139554.59 14139554.72 0.0142 0.0122 Jupiter 34000-09-21 18:00 G 14139569.03 14139569.25 14139569.48 0.0494 0.0141

## 35TH MILLENNIUM CE

This is a list of transits of Earth in the 35th millennium CE.

FROM MAX- C START MAX END SUNRAD DEPTH S

Uranus 34001-09-11 21:50 G 14139924.17 14139924.41 14139924.66 0.0142 0.0042 Uranus 34002-09-16 17:02 G 14140293.97 14140294.21 14140294.46 0.0141 0.0037 Uranus 34003-09-21 11:02 G 14140663.83 14140663.96 14140664.12 0.0141 0.0116 Jupiter 34006-03-09 11:45 G 14141563.77 14141563.99 14141564.23 0.0533 0.0104 Saturn 34007-08-21 22:19 G 14142094.31 14142094.43 14142094.58 0.0264 0.0220 Saturn 34008-09-01 16:33 G 14142471.00 14142471.19 14142471.40 0.0267 0.0150 Neptune 34010-01-17 06:00 G 14142973.64 14142973.75 14142973.88 0.0090 0.0079 Neptune 34011-01-19 18:14 G 14143341.10 14143341.26 14143341.47 0.0090 0.0063 Jupiter 34011-08-26 23:31 G 14143560.31 14143560.48 14143560.66 0.0494 0.0321 Neptune 34012-01-22 06:57 G 14143708.58 14143708.79 14143709.02 0.0090 0.0046 Jupiter 34012-09-26 02:24 G 14143956.40 14143956.60 14143956.82 0.0494 0.0219 Neptune 34013-01-23 19:41 G 14144076.08 14144076.32 14144076.57 0.0090 0.0029 Neptune 34014-01-26 08:09 G 14144443.59 14144443.84 14144444.10 0.0090 0.0013 Neptune 34015-01-28 21:07 G 14144811.12 14144811.38 14144811.64 0.0090 0.0005 Neptune 34016-01-31 09:36 G 14145178.66 14145178.90 14145179.16 0.0090 0.0021 Neptune 34017-02-01 22:19 G 14145546.21 14145546.43 14145546.68 0.0090 0.0038 34017-07-12 04:19 G 14145706.52 14145706.68 14145706.85 0.1738 0.0851 Mars Neptune 34018-02-04 11:17 G 14145913.78 14145913.97 14145914.19 0.0090 0.0055 Jupiter 34018-03-14 11:45 G 14145951.76 14145951.99 14145952.23 0.0532 0.0013 Neptune 34019-02-07 00:00 G 14146281.37 14146281.50 14146281.67 0.0090 0.0072 Neptune 34020-02-09 13:12 G 14146649.01 14146649.05 14146649.10 0.0090 0.0088 Saturn 34022-02-27 09:07 G 14147397.64 14147397.88 14147398.12 0.0296 0.0051 Jupiter 34023-08-31 08:09 G 14147947.64 14147947.84 14147948.04 0.0494 0.0249 Jupiter 34024-09-30 12:14 G 14148343.82 14148344.01 14148344.20 0.0495 0.0293 Jupiter 34030-03-19 14:09 G 14150339.86 14150340.09 14150340.32 0.0532 0.0092 Jupiter 34035-09-04 17:02 G 14152334.99 14152335.21 14152335.43 0.0494 0.0173 Jupiter 34036-10-04 20:38 G 14152731.21 14152731.36 14152731.52 0.0495 0.0366 Saturn 34037-08-28 01:12 G 14153058.30 14153058.55 14153058.79 0.0266 0.0008

Jupiter 34041-02-15 18:43 G 14154326.21 14154326.28 14154326.36 0.0531 0.0500 Jupiter 34042-03-24 16:19 G 14154727.96 14154728.18 14154728.40 0.0532 0.0189 Uranus 34045-03-10 07:55 G 14155809.63 14155809.83 14155810.05 0.0136 0.0080 Uranus 34046-03-14 20:38 G 14156179.11 14156179.36 14156179.62 0.0137 0.0008 Uranus 34047-03-19 09:50 G 14156548.69 14156548.91 14156549.14 0.0137 0.0065 Jupiter 34047-09-09 01:12 G 14156722.32 14156722.55 14156722.78 0.0494 0.0095 Jupiter 34048-10-09 04:48 G 14157118.60 14157118.70 14157118.81 0.0496 0.0439 Saturn 34051-02-21 06:43 G 14157983.60 14157983.78 14157983.98 0.0297 0.0181 Jupiter 34053-02-20 22:19 G 14158714.29 14158714.43 14158714.59 0.0532 0.0408 Jupiter 34054-03-29 21:50 G 14159116.22 14159116.41 14159116.61 0.0532 0.0290 Jupiter 34059-09-13 07:26 G 14161109.58 14161109.81 14161110.05 0.0493 0.0023 Jupiter 34065-02-26 03:07 G 14163102.45 14163102.63 14163102.83 0.0532 0.0314 Jupiter 34066-04-04 03:07 G 14163504.47 14163504.63 14163504.79 0.0531 0.0386 Saturn 34066-08-23 03:21 G 14163645.46 14163645.64 14163645.83 0.0264 0.0172 Saturn 34067-09-03 21:36 G 14164022.25 14164022.40 14164022.57 0.0267 0.0200 Jupiter 34070-08-17 11:31 G 14165100.92 14165100.98 14165101.05 0.0495 0.0473 Jupiter 34071-09-17 16:05 G 14165496.93 14165497.17 14165497.40 0.0494 0.0059 Jupiter 34077-03-03 04:33 G 14167490.48 14167490.69 14167490.90 0.0532 0.0221 Jupiter 34078-04-09 01:41 G 14167892.47 14167892.57 14167892.68 0.0530 0.0473 Pluto 34080-03-29 00:29 G 14168612.28 14168612.52 14168612.79 0.0066 0.0014 Saturn 34081-02-28 23:31 G 14168949.26 14168949.48 14168949.71 0.0296 0.0121 Jupiter 34082-08-21 19:55 G 14169488.20 14169488.33 14169488.46 0.0495 0.0407 Jupiter 34083-09-22 01:12 G 14169884.32 14169884.55 14169884.77 0.0494 0.0134 Uranus 34084-09-07 13:41 G 14170235.93 14170236.07 14170236.21 0.0142 0.0118 Uranus 34085-09-12 09:07 G 14170605.65 14170605.88 14170606.14 0.0142 0.0039 Uranus 34086-09-17 04:05 G 14170975.44 14170975.67 14170975.92 0.0141 0.0041 Uranus 34087-09-21 22:19 G 14171345.30 14171345.43 14171345.57 0.0141 0.0119 Jupiter 34089-03-08 07:12 G 14171878.57 14171878.80 14171879.03 0.0532 0.0122 Neptune 34091-07-19 12:00 G 14172741.94 14172742.00 14172742.10 0.0088 0.0083 Neptune 34092-07-20 22:48 G 14173109.31 14173109.45 14173109.64 0.0088 0.0068

Neptune 34093-07-23 09:50 G 14173476.72 14173476.91 14173477.14 0.0088 0.0052 Neptune 34094-07-25 20:53 G 14173844.15 14173844.37 14173844.62 0.0088 0.0036 Jupiter 34094-08-26 05:31 G 14173875.56 14173875.73 14173875.90 0.0495 0.0333 Neptune 34095-07-28 07:41 G 14174211.58 14174211.82 14174212.08 0.0088 0.0020 Jupiter 34095-09-26 09:36 G 14174271.70 14174271.90 14174272.12 0.0494 0.0212 Neptune 34096-07-29 18:57 G 14174579.03 14174579.29 14174579.54 0.0088 0.0004 Saturn 34096-08-29 04:48 G 14174609.46 14174609.70 14174609.94 0.0266 0.0041 Neptune 34097-08-01 05:31 G 14174946.47 14174946.73 14174946.98 0.0088 0.0012 Neptune 34098-08-03 15:50 G 14175313.93 14175314.16 14175314.42 0.0088 0.0028 Neptune 34099-08-06 02:24 G 14175681.39 14175681.60 14175681.84 0.0088 0.0044 Neptune 34100-08-08 12:43 G 14176048.87 14176049.03 14176049.24 0.0088 0.0060 Jupiter 34101-03-14 09:07 G 14176266.65 14176266.88 14176267.11 0.0532 0.0023 Neptune 34101-08-10 23:17 G 14176416.37 14176416.47 14176416.63 0.0088 0.0076 Jupiter 34106-08-31 14:38 G 14178262.92 14178263.11 14178263.31 0.0494 0.0257 Jupiter 34107-10-01 18:14 G 14178659.07 14178659.26 14178659.45 0.0495 0.0287 Saturn 34110-02-23 19:55 G 14179535.11 14179535.33 14179535.57 0.0297 0.0112 Jupiter 34113-03-19 14:24 G 14180654.87 14180655.10 14180655.34 0.0533 0.0082 Jupiter 34118-09-04 22:19 G 14182650.22 14182650.43 14182650.65 0.0494 0.0181 Jupiter 34119-10-06 00:57 G 14183046.38 14183046.54 14183046.70 0.0495 0.0361 Jupiter 34124-02-16 21:50 G 14184641.36 14184641.41 14184641.48 0.0531 0.0512 Jupiter 34125-03-24 20:24 G 14185043.14 14185043.35 14185043.57 0.0532 0.0182 Saturn 34125-08-25 05:45 G 14185196.53 14185196.74 14185196.96 0.0264 0.0126 Saturn 34126-09-06 00:00 G 14185573.41 14185573.50 14185573.60 0.0267 0.0246 Uranus 34129-03-11 16:48 G 14186491.01 14186491.20 14186491.43 0.0137 0.0078 Uranus 34130-03-16 05:45 G 14186860.49 14186860.74 14186861.00 0.0137 0.0005 Jupiter 34130-09-09 07:12 G 14187037.57 14187037.80 14187038.03 0.0494 0.0103 Uranus 34131-03-20 18:29 G 14187230.06 14187230.27 14187230.50 0.0137 0.0067 Jupiter 34131-10-10 11:02 G 14187433.85 14187433.96 14187434.07 0.0496 0.0435 Jupiter 34136-02-22 00:14 G 14189029.38 14189029.51 14189029.65 0.0531 0.0424 Jupiter 34137-03-29 21:21 G 14189431.19 14189431.39 14189431.59 0.0531 0.0275

Saturn 34140-03-03 09:07 G 14190500.69 14190500.88 14190501.07 0.0296 0.0184 Jupiter 34142-09-13 15:36 G 14191424.92 14191425.15 14191425.38 0.0494 0.0029 Jupiter 34148-02-27 03:07 G 14193417.45 14193417.63 14193417.82 0.0531 0.0330 Jupiter 34149-04-03 23:45 G 14193819.34 14193819.49 14193819.67 0.0531 0.0372 Jupiter 34153-08-17 18:00 G 14195416.21 14195416.25 14195416.29 0.0496 0.0486 Jupiter 34154-09-18 00:43 G 14195812.30 14195812.53 14195812.77 0.0494 0.0051 Saturn 34155-09-01 05:17 G 14196160.49 14196160.72 14196160.96 0.0265 0.0085 Jupiter 34160-03-03 04:19 G 14197805.47 14197805.68 14197805.89 0.0532 0.0234 Jupiter 34161-04-09 02:09 G 14198207.49 14198207.59 14198207.71 0.0530 0.0465 Jupiter 34165-08-22 04:33 G 14199803.57 14199803.69 14199803.82 0.0495 0.0414 Jupiter 34166-09-22 09:36 G 14200199.67 14200199.90 14200200.12 0.0494 0.0129 Pluto 34167-09-30 09:36 G 14200572.65 14200572.90 14200573.16 0.0079 0.0002 Uranus 34168-09-09 00:00 G 14200917.37 14200917.50 14200917.66 0.0142 0.0115 Saturn 34169-02-25 03:50 G 14201086.42 14201086.66 14201086.90 0.0297 0.0051 Uranus 34169-09-13 19:55 G 14201287.08 14201287.33 14201287.58 0.0142 0.0035 Uranus 34170-09-18 14:53 G 14201656.88 14201657.12 14201657.36 0.0141 0.0044 Uranus 34171-09-23 08:38 G 14202026.75 14202026.86 14202027.00 0.0141 0.0123 Jupiter 34172-03-08 09:07 G 14202193.66 14202193.88 14202194.11 0.0533 0.0134 Neptune 34174-01-17 15:36 G 14202874.11 14202874.15 14202874.20 0.0090 0.0088 Neptune 34175-01-20 03:36 G 14203241.52 14203241.65 14203241.83 0.0090 0.0072 Neptune 34176-01-22 16:19 G 14203608.99 14203609.18 14203609.40 0.0090 0.0055 Neptune 34177-01-24 04:48 G 14203976.48 14203976.70 14203976.95 0.0090 0.0038 Jupiter 34177-08-26 13:41 G 14204190.91 14204191.07 14204191.24 0.0494 0.0340 Neptune 34178-01-26 17:45 G 14204343.99 14204344.24 14204344.49 0.0090 0.0021 Jupiter 34178-09-26 17:02 G 14204587.00 14204587.21 14204587.43 0.0494 0.0206 Neptune 34179-01-29 06:14 G 14204711.50 14204711.76 14204712.02 0.0090 0.0004 Neptune 34180-01-31 18:57 G 14205079.03 14205079.29 14205079.54 0.0090 0.0013 Neptune 34181-02-02 07:41 G 14205446.57 14205446.82 14205447.06 0.0090 0.0030 Neptune 34182-02-04 20:09 G 14205814.13 14205814.34 14205814.57 0.0090 0.0047 Neptune 34183-02-07 08:53 G 14206181.71 14206181.87 14206182.07 0.0090 0.0064 Neptune 34184-02-09 21:21 G 14206549.30 14206549.39 14206549.52 0.0090 0.0081 Jupiter 34184-03-13 15:07 G 14206581.90 14206582.13 14206582.37 0.0533 0.0033 Saturn 34184-08-26 05:02 G 14206747.48 14206747.71 14206747.95 0.0264 0.0084 Jupiter 34189-08-30 23:17 G 14208578.28 14208578.47 14208578.67 0.0494 0.0264 Jupiter 34190-10-01 02:24 G 14208974.42 14208974.60 14208974.80 0.0495 0.0284 Jupiter 34196-03-18 18:00 G 14210970.02 14210970.25 14210970.48 0.0532 0.0066 Saturn 34198-02-18 17:31 G 14211672.19 14211672.23 14211672.28 0.0299 0.0293 Saturn 34199-03-05 13:41 G 14212051.94 14212052.07 14212052.23 0.0296 0.0241 34201-01-10 18:00 G 14212728.06 14212728.25 14212728.44 0.1790 0.0263 Mars Jupiter 34201-09-05 06:57 G 14212965.58 14212965.79 14212966.01 0.0494 0.0191 Jupiter 34202-10-06 12:14 G 14213361.85 14213362.01 14213362.17 0.0496 0.0357 Jupiter 34207-02-17 02:38 G 14214956.59 14214956.61 14214956.65 0.0530 0.0525 Jupiter 34208-03-24 21:21 G 14215358.17 14215358.39 14215358.62 0.0532 0.0168 Uranus 34213-03-13 00:57 G 14217172.35 14217172.54 14217172.77 0.0136 0.0076 Saturn 34213-08-22 12:00 G 14217334.90 14217335.00 14217335.10 0.0263 0.0239 Jupiter 34213-09-09 16:48 G 14217352.98 14217353.20 14217353.43 0.0494 0.0112 Uranus 34214-03-17 13:41 G 14217541.82 14217542.07 14217542.33 0.0137 0.0004 Saturn 34214-09-03 03:21 G 14217711.43 14217711.64 14217711.86 0.0265 0.0125 Jupiter 34214-10-10 21:50 G 14217749.31 14217749.41 14217749.53 0.0496 0.0431 Uranus 34215-03-22 02:24 G 14217911.39 14217911.60 14217911.83 0.0137 0.0069 Jupiter 34219-02-22 03:07 G 14219344.50 14219344.63 14219344.76 0.0531 0.0435 Jupiter 34220-03-29 23:45 G 14219746.29 14219746.49 14219746.69 0.0532 0.0266 34222-07-12 02:38 G 14220580.51 14220580.61 14220580.71 0.1752 0.1474 Mars Jupiter 34225-09-14 02:24 G 14221740.37 14221740.60 14221740.83 0.0494 0.0033 Saturn 34228-02-28 06:57 G 14222637.55 14222637.79 14222638.04 0.0297 0.0004 Jupiter 34231-02-27 06:57 G 14223732.61 14223732.79 14223732.97 0.0532 0.0340 Jupiter 34232-04-04 05:17 G 14224134.56 14224134.72 14224134.89 0.0531 0.0366 Jupiter 34236-08-18 05:02 G 14225731.69 14225731.71 14225731.73 0.0496 0.0493 Jupiter 34237-09-18 10:48 G 14226127.71 14226127.95 14226128.18 0.0494 0.0045 Jupiter 34243-03-04 12:29 G 14228120.81 14228121.02 14228121.23 0.0532 0.0243

Saturn 34243-08-29 02:09 G 14228298.35 14228298.59 14228298.84 0.0264 0.0045 Jupiter 34244-04-09 11:17 G 14228522.86 14228522.97 14228523.09 0.0531 0.0461 Jupiter 34248-08-22 15:36 G 14230119.03 14230119.15 14230119.27 0.0495 0.0420 Jupiter 34249-09-22 20:09 G 14230515.12 14230515.34 14230515.57 0.0494 0.0126 Uranus 34252-09-10 07:12 G 14231598.67 14231598.80 14231598.96 0.0142 0.0114 Uranus 34253-09-15 03:07 G 14231968.39 14231968.63 14231968.88 0.0142 0.0034 Uranus 34254-09-19 22:05 G 14232338.19 14232338.42 14232338.67 0.0141 0.0046 Jupiter 34255-03-09 16:33 G 14232508.97 14232509.19 14232509.42 0.0532 0.0146 Uranus 34255-09-24 16:05 G 14232708.07 14232708.17 14232708.30 0.0141 0.0124 Neptune 34256-07-22 09:07 G 14233009.77 14233009.88 14233010.03 0.0088 0.0076 Saturn 34257-02-20 17:02 G 14233223.08 14233223.21 14233223.35 0.0299 0.0245 Neptune 34257-07-24 20:09 G 14233377.16 14233377.34 14233377.54 0.0088 0.0060 Saturn 34258-03-07 13:26 G 14233603.03 14233603.06 14233603.13 0.0296 0.0289 Neptune 34258-07-27 06:57 G 14233744.58 14233744.79 14233745.02 0.0088 0.0044 Neptune 34259-07-29 18:00 G 14234112.01 14234112.25 14234112.50 0.0088 0.0028 Neptune 34260-07-31 05:02 G 14234479.45 14234479.71 14234479.97 0.0088 0.0012 Jupiter 34260-08-26 22:48 G 14234506.29 14234506.45 14234506.61 0.0495 0.0350 Neptune 34261-08-02 15:50 G 14234846.90 14234847.16 14234847.42 0.0088 0.0004 Jupiter 34261-09-27 04:33 G 14234902.48 14234902.69 14234902.91 0.0495 0.0201 Neptune 34262-08-05 02:38 G 14235214.36 14235214.61 14235214.86 0.0088 0.0020 Neptune 34263-08-07 12:43 G 14235581.82 14235582.03 14235582.29 0.0088 0.0037 Neptune 34264-08-09 00:00 G 14235949.29 14235949.50 14235949.71 0.0088 0.0052 Neptune 34265-08-11 10:19 G 14236316.77 14236316.93 14236317.09 0.0088 0.0068 Neptune 34266-08-13 20:38 G 14236684.31 14236684.36 14236684.45 0.0088 0.0084 Jupiter 34267-03-14 20:38 G 14236897.13 14236897.36 14236897.59 0.0532 0.0043 Saturn 34272-08-23 08:24 G 14238885.70 14238885.85 14238886.01 0.0263 0.0202 Jupiter 34272-08-31 09:07 G 14238893.69 14238893.88 14238894.08 0.0495 0.0273 Saturn 34273-09-03 23:17 G 14239262.29 14239262.47 14239262.67 0.0265 0.0164 Jupiter 34273-10-01 14:24 G 14239289.92 14239290.10 14239290.30 0.0495 0.0279 Jupiter 34279-03-19 22:33 G 14241285.21 14241285.44 14241285.67 0.0532 0.0058

Jupiter 34284-09-04 19:41 G 14243281.10 14243281.32 14243281.53 0.0494 0.0194 Jupiter 34285-10-06 00:00 G 14243677.35 14243677.50 14243677.67 0.0495 0.0356 Saturn 34287-03-01 05:45 G 14244188.50 14244188.74 14244188.98 0.0297 0.0049 Jupiter 34291-03-25 03:36 G 14245673.43 14245673.65 14245673.87 0.0532 0.0161 Jupiter 34296-09-09 05:02 G 14247668.49 14247668.71 14247668.94 0.0494 0.0116 Uranus 34297-03-13 09:07 G 14247853.69 14247853.88 14247854.12 0.0136 0.0074 Jupiter 34297-10-10 08:53 G 14248064.76 14248064.87 14248064.99 0.0496 0.0429 Uranus 34298-03-17 21:50 G 14248223.16 14248223.41 14248223.67 0.0137 0.0001 Uranus 34299-03-22 10:19 G 14248592.73 14248592.93 14248593.16 0.0137 0.0072 34301-07-15 17:02 G 14249438.07 14249438.21 14249438.35 0.1746 0.1172 Mars Jupiter 34302-02-22 12:29 G 14249659.90 14249660.02 14249660.15 0.0531 0.0443 Saturn 34302-08-30 22:05 G 14249849.17 14249849.42 14249849.66 0.0264 0.0008 Jupiter 34303-03-31 10:19 G 14250061.72 14250061.93 14250062.13 0.0532 0.0262 Jupiter 34308-09-14 14:38 G 14252055.88 14252056.11 14252056.34 0.0494 0.0037 Jupiter 34314-02-27 17:45 G 14254048.06 14254048.24 14254048.41 0.0531 0.0350 Jupiter 34315-04-05 13:26 G 14254449.89 14254450.06 14254450.23 0.0531 0.0357 Saturn 34316-02-23 13:41 G 14254773.90 14254774.07 14254774.26 0.0299 0.0202 Jupiter 34320-09-18 22:19 G 14256443.19 14256443.43 14256443.66 0.0494 0.0039 Pluto 34325-04-01 20:09 G 14258099.21 14258099.34 14258099.48 0.0065 0.0056 Jupiter 34326-03-04 21:36 G 14258436.20 14258436.40 14258436.61 0.0531 0.0251 Pluto 34326-04-03 09:21 G 14258465.67 14258465.89 14258466.13 0.0066 0.0030 Jupiter 34327-04-10 17:02 G 14258838.09 14258838.21 14258838.33 0.0530 0.0452 Jupiter 34331-08-24 00:43 G 14260434.42 14260434.53 14260434.65 0.0496 0.0429 Saturn 34331-08-26 04:05 G 14260436.49 14260436.67 14260436.87 0.0263 0.0166 Saturn 34332-09-05 18:43 G 14260813.13 14260813.28 14260813.45 0.0265 0.0200 Jupiter 34332-09-23 08:09 G 14260830.61 14260830.84 14260831.06 0.0495 0.0120 Uranus 34336-09-11 12:43 G 14262279.90 14262280.03 14262280.20 0.0142 0.0115 Uranus 34337-09-16 08:53 G 14262649.63 14262649.87 14262650.12 0.0142 0.0034 Jupiter 34338-03-09 23:02 G 14262824.24 14262824.46 14262824.68 0.0532 0.0152 Uranus 34338-09-21 03:50 G 14263019.43 14263019.66 14263019.91 0.0141 0.0046 Neptune 34339-01-21 13:12 G 14263141.96 14263142.05 14263142.18 0.0089 0.0081 Uranus 34339-09-25 21:50 G 14263389.32 14263389.41 14263389.55 0.0141 0.0125 Neptune 34340-01-24 01:55 G 14263509.42 14263509.58 14263509.78 0.0090 0.0064 Neptune 34341-01-25 14:38 G 14263876.90 14263877.11 14263877.34 0.0090 0.0047 Neptune 34342-01-28 03:07 G 14264244.40 14264244.63 14264244.88 0.0090 0.0030 Neptune 34343-01-30 15:50 G 14264611.91 14264612.16 14264612.42 0.0090 0.0013 Jupiter 34343-08-28 12:00 G 14264821.85 14264822.00 14264822.17 0.0495 0.0353 Neptune 34344-02-02 04:33 G 14264979.43 14264979.69 14264979.95 0.0090 0.0005 Jupiter 34344-09-27 18:14 G 14265218.04 14265218.26 14265218.47 0.0495 0.0200 Neptune 34345-02-03 17:02 G 14265346.96 14265347.21 14265347.46 0.0090 0.0022 Neptune 34346-02-06 05:45 G 14265714.51 14265714.74 14265714.98 0.0090 0.0039 Saturn 34346-03-03 01:41 G 14265739.33 14265739.57 14265739.80 0.0298 0.0092 Neptune 34347-02-08 18:14 G 14266082.07 14266082.26 14266082.47 0.0090 0.0056 Neptune 34348-02-11 07:12 G 14266449.66 14266449.80 14266449.95 0.0090 0.0073 Jupiter 34350-03-15 03:07 G 14267212.40 14267212.63 14267212.86 0.0532 0.0049 Jupiter 34355-09-01 22:33 G 14269209.25 14269209.44 14269209.64 0.0495 0.0277 Jupiter 34356-10-02 02:53 G 14269605.43 14269605.62 14269605.82 0.0495 0.0276 Saturn 34361-08-31 17:31 G 14271399.99 14271400.23 14271400.48 0.0264 0.0029 Jupiter 34362-03-20 09:21 G 14271600.66 14271600.89 14271601.13 0.0532 0.0054 Jupiter 34367-09-06 08:53 G 14273596.65 14273596.87 14273597.08 0.0494 0.0197 Jupiter 34368-10-06 13:12 G 14273992.89 14273993.05 14273993.21 0.0495 0.0353 Jupiter 34374-03-25 14:24 G 14275988.88 14275989.10 14275989.33 0.0532 0.0153 Saturn 34375-02-24 08:09 G 14276324.64 14276324.84 14276325.05 0.0299 0.0163 Jupiter 34379-09-10 15:21 G 14277983.92 14277984.14 14277984.37 0.0495 0.0123 Jupiter 34380-10-10 21:50 G 14278380.30 14278380.41 14278380.53 0.0496 0.0427 Uranus 34381-03-14 18:43 G 14278535.08 14278535.28 14278535.52 0.0136 0.0071 Uranus 34382-03-19 07:12 G 14278904.55 14278904.80 14278905.06 0.0137 0.0003 Uranus 34383-03-23 20:09 G 14279274.14 14279274.34 14279274.56 0.0137 0.0074 Jupiter 34385-02-22 00:29 G 14279975.41 14279975.52 14279975.65 0.0530 0.0448 Jupiter 34386-03-30 18:29 G 14280377.07 14280377.27 14280377.48 0.0531 0.0255

Saturn 34390-08-26 23:31 G 14281987.28 14281987.48 14281987.70 0.0262 0.0131 Saturn 34391-09-07 13:55 G 14282363.98 14282364.08 14282364.20 0.0265 0.0235 Jupiter 34391-09-15 01:41 G 14282371.33 14282371.57 14282371.80 0.0495 0.0043 Jupiter 34397-02-27 00:57 G 14284363.37 14284363.54 14284363.71 0.0531 0.0356 Jupiter 34398-04-04 19:55 G 14284765.16 14284765.33 14284765.51 0.0531 0.0353 Jupiter 34403-09-19 12:00 G 14286758.76 14286759.00 14286759.23 0.0494 0.0039 Saturn 34405-03-03 21:07 G 14287290.17 14287290.38 14287290.60 0.0298 0.0134 Jupiter 34409-03-04 04:05 G 14288751.47 14288751.67 14288751.88 0.0531 0.0258 Jupiter 34410-04-10 00:14 G 14289153.40 14289153.51 14289153.64 0.0531 0.0450 Pluto 34413-10-03 22:48 G 14290426.23 14290426.45 14290426.70 0.0079 0.0032 Jupiter 34414-08-23 14:24 G 14290750.00 14290750.10 14290750.22 0.0496 0.0434 Jupiter 34415-09-23 21:07 G 14291146.16 14291146.38 14291146.61 0.0494 0.0118 Neptune 34420-07-22 19:55 G 14292910.29 14292910.33 14292910.43 0.0088 0.0085 Saturn 34420-09-01 13:41 G 14292950.83 14292951.07 14292951.31 0.0264 0.0066 Uranus 34420-09-11 19:26 G 14292961.17 14292961.31 14292961.48 0.0142 0.0113 Jupiter 34421-03-09 09:21 G 14293139.67 14293139.89 14293140.11 0.0532 0.0158 Neptune 34421-07-25 06:57 G 14293277.65 14293277.79 14293277.97 0.0088 0.0069 Uranus 34421-09-16 15:36 G 14293330.90 14293331.15 14293331.40 0.0142 0.0033 Neptune 34422-07-27 17:45 G 14293645.06 14293645.24 14293645.47 0.0088 0.0053 Uranus 34422-09-21 10:19 G 14293700.70 14293700.93 14293701.18 0.0141 0.0047 Neptune 34423-07-30 05:17 G 14294012.48 14294012.72 14294012.95 0.0088 0.0036 Uranus 34423-09-26 04:33 G 14294070.59 14294070.69 14294070.82 0.0141 0.0125 Neptune 34424-07-31 15:50 G 14294379.92 14294380.16 14294380.42 0.0088 0.0020 Neptune 34425-08-03 02:53 G 14294747.36 14294747.62 14294747.88 0.0088 0.0004 Neptune 34426-08-05 13:26 G 14295114.82 14295115.06 14295115.33 0.0088 0.0013 Jupiter 34426-08-28 01:26 G 14295137.40 14295137.56 14295137.72 0.0495 0.0357 Neptune 34427-08-08 00:14 G 14295482.28 14295482.51 14295482.77 0.0088 0.0029 Jupiter 34427-09-28 06:57 G 14295533.58 14295533.79 14295534.01 0.0494 0.0198 Neptune 34428-08-09 10:48 G 14295849.74 14295849.95 14295850.19 0.0088 0.0045 Neptune 34429-08-11 21:36 G 14296217.23 14296217.40 14296217.60 0.0088 0.0061

Neptune 34430-08-14 08:09 G 14296584.73 14296584.84 14296584.98 0.0088 0.0077 Jupiter 34433-03-14 15:07 G 14297527.90 14297528.13 14297528.37 0.0532 0.0057 Saturn 34434-02-25 03:07 G 14297875.41 14297875.63 14297875.85 0.0299 0.0124 Jupiter 34438-09-01 07:26 G 14299524.63 14299524.81 14299525.01 0.0495 0.0284 Jupiter 34439-10-02 14:09 G 14299920.90 14299921.09 14299921.28 0.0495 0.0272 Jupiter 34445-03-19 19:41 G 14301916.09 14301916.32 14301916.56 0.0531 0.0048 Saturn 34449-08-27 20:09 G 14303538.12 14303538.34 14303538.58 0.0262 0.0094 Jupiter 34450-09-05 17:45 G 14303912.03 14303912.24 14303912.45 0.0495 0.0204 Jupiter 34451-10-07 00:29 G 14304308.36 14304308.52 14304308.69 0.0496 0.0351 Jupiter 34457-03-24 20:24 G 14306304.13 14306304.35 14306304.58 0.0531 0.0149 Jupiter 34462-09-10 04:48 G 14308299.47 14308299.70 14308299.92 0.0495 0.0124 Jupiter 34463-10-11 10:48 G 14308695.83 14308695.95 14308696.06 0.0496 0.0427 Saturn 34464-03-04 16:33 G 14308841.00 14308841.19 14308841.40 0.0298 0.0175 Uranus 34465-03-15 05:02 G 14309216.48 14309216.71 14309216.93 0.0136 0.0067 Uranus 34466-03-19 17:17 G 14309585.97 14309586.22 14309586.48 0.0137 0.0005 Uranus 34467-03-24 06:29 G 14309955.57 14309955.77 14309955.99 0.0137 0.0078 Jupiter 34468-02-22 06:00 G 14310290.64 14310290.75 14310290.87 0.0530 0.0456 Jupiter 34469-03-30 00:29 G 14310692.32 14310692.52 14310692.73 0.0531 0.0250 Jupiter 34474-09-14 14:24 G 14312686.87 14312687.10 14312687.33 0.0494 0.0046 Saturn 34478-08-22 23:17 G 14314125.44 14314125.47 14314125.53 0.0262 0.0257 Saturn 34479-09-03 11:31 G 14314501.76 14314501.98 14314502.21 0.0264 0.0104 Jupiter 34480-02-27 09:50 G 14314678.74 14314678.91 14314679.08 0.0531 0.0363 Jupiter 34481-04-04 06:00 G 14315080.58 14315080.75 14315080.93 0.0531 0.0350 34485-01-12 02:24 G 14316459.41 14316459.60 14316459.79 0.1782 0.0124 Mars Jupiter 34486-09-19 00:00 G 14317074.27 14317074.50 14317074.73 0.0494 0.0036 Jupiter 34492-03-03 15:50 G 14319066.96 14319067.16 14319067.36 0.0531 0.0264 Saturn 34493-02-26 00:14 G 14319426.28 14319426.51 14319426.75 0.0299 0.0081 Jupiter 34493-04-09 10:48 G 14319468.83 14319468.95 14319469.08 0.0530 0.0444 Jupiter 34497-08-22 21:36 G 14321065.30 14321065.40 14321065.51 0.0496 0.0441 Jupiter 34498-09-23 06:00 G 14321461.52 14321461.75 14321461.98 0.0495 0.0113

Neptune 34503-01-22 00:00 G 14323042.50 14323042.50 14323042.50 0.0089 0.0089 Neptune 34504-01-24 12:00 G 14323409.87 14323410.00 14323410.17 0.0090 0.0073 Jupiter 34504-03-09 20:09 G 14323455.12 14323455.34 14323455.56 0.0531 0.0163 Uranus 34504-09-13 04:19 G 14323642.54 14323642.68 14323642.86 0.0142 0.0111 Neptune 34505-01-26 00:43 G 14323777.35 14323777.53 14323777.75 0.0090 0.0056 Uranus 34505-09-18 00:29 G 14324012.27 14324012.52 14324012.77 0.0142 0.0031 Neptune 34506-01-28 13:12 G 14324144.83 14324145.05 14324145.30 0.0090 0.0039 34506-07-14 13:41 G 14324311.94 14324312.07 14324312.21 0.1760 0.1255 Mars Uranus 34506-09-22 19:12 G 14324382.07 14324382.30 14324382.55 0.0141 0.0049 Neptune 34507-01-31 01:41 G 14324512.34 14324512.57 14324512.84 0.0090 0.0022 Uranus 34507-09-27 13:12 G 14324751.97 14324752.05 14324752.18 0.0141 0.0128 Neptune 34508-02-02 14:38 G 14324879.85 14324880.11 14324880.37 0.0090 0.0004 Saturn 34508-08-29 18:43 G 14325089.04 14325089.28 14325089.52 0.0263 0.0055 Neptune 34509-02-04 03:07 G 14325247.38 14325247.63 14325247.89 0.0090 0.0014 Jupiter 34509-08-28 07:55 G 14325452.68 14325452.83 14325452.99 0.0496 0.0365 Neptune 34510-02-06 15:36 G 14325614.91 14325615.15 14325615.39 0.0090 0.0031 Jupiter 34510-09-28 15:50 G 14325848.95 14325849.16 14325849.38 0.0495 0.0193 Neptune 34511-02-09 04:19 G 14325982.46 14325982.68 14325982.90 0.0090 0.0048 Neptune 34512-02-11 16:19 G 14326350.03 14326350.18 14326350.38 0.0090 0.0066 Neptune 34513-02-13 05:02 G 14326717.64 14326717.71 14326717.84 0.0090 0.0083 Jupiter 34516-03-14 20:24 G 14327843.12 14327843.35 14327843.58 0.0531 0.0062 Jupiter 34521-09-01 19:12 G 14329840.12 14329840.30 14329840.50 0.0495 0.0287 Jupiter 34522-10-03 02:09 G 14330236.40 14330236.59 14330236.78 0.0495 0.0272 Saturn 34523-03-07 15:21 G 14330391.99 14330392.14 14330392.31 0.0298 0.0220 Jupiter 34528-03-19 23:17 G 14332231.24 14332231.47 14332231.70 0.0532 0.0040 Jupiter 34533-09-06 05:31 G 14334227.53 14334227.73 14334227.95 0.0495 0.0209 Jupiter 34534-10-07 11:02 G 14334623.80 14334623.96 14334624.13 0.0495 0.0348 Saturn 34537-08-25 00:00 G 14335676.36 14335676.50 14335676.64 0.0262 0.0216 Saturn 34538-09-05 12:00 G 14336052.80 14336053.00 14336053.21 0.0264 0.0146 Jupiter 34540-03-25 04:05 G 14336619.45 14336619.67 14336619.90 0.0532 0.0143

Jupiter 34545-09-10 15:07 G 14338614.91 14338615.13 14338615.36 0.0494 0.0129 Jupiter 34546-10-11 20:38 G 14339011.25 14339011.36 14339011.49 0.0496 0.0425 Uranus 34548-03-12 02:53 G 14339528.59 14339528.62 14339528.66 0.0136 0.0135 Uranus 34549-03-16 14:53 G 14339897.90 14339898.12 14339898.35 0.0136 0.0064 Uranus 34550-03-21 03:21 G 14340267.39 14340267.64 14340267.90 0.0137 0.0009 Jupiter 34551-02-22 16:05 G 14340606.06 14340606.17 14340606.29 0.0530 0.0463 Uranus 34551-03-25 16:33 G 14340637.00 14340637.19 14340637.41 0.0137 0.0082 Saturn 34552-02-29 00:43 G 14340977.28 14340977.53 14340977.77 0.0299 0.0034 Jupiter 34552-03-30 10:05 G 14341007.71 14341007.92 14341008.13 0.0531 0.0244 Jupiter 34557-09-14 20:38 G 14343002.12 14343002.36 14343002.59 0.0495 0.0053 Jupiter 34563-02-27 19:41 G 14344994.16 14344994.32 14344994.50 0.0531 0.0368 Jupiter 34564-04-04 13:55 G 14345395.90 14345396.08 14345396.25 0.0530 0.0345 Saturn 34567-08-31 19:55 G 14346640.08 14346640.33 14346640.57 0.0263 0.0014 Jupiter 34569-09-19 06:00 G 14347389.52 14347389.75 14347389.98 0.0495 0.0029 Pluto 34571-04-05 02:24 G 14347952.43 14347952.60 14347952.80 0.0065 0.0046 Pluto 34572-04-05 15:36 G 14348318.97 14348319.15 14348319.38 0.0066 0.0041 Jupiter 34575-03-04 19:12 G 14349382.11 14349382.30 14349382.51 0.0531 0.0273 Jupiter 34576-04-09 13:41 G 14349783.94 14349784.07 14349784.20 0.0530 0.0438 Jupiter 34580-08-23 07:12 G 14351380.71 14351380.80 14351380.91 0.0496 0.0446 Saturn 34581-02-21 18:57 G 14351563.20 14351563.29 14351563.39 0.0300 0.0276 Jupiter 34581-09-23 16:19 G 14351776.95 14351777.18 14351777.41 0.0495 0.0111 Saturn 34582-03-08 18:29 G 14351943.18 14351943.27 14351943.37 0.0298 0.0271 34585-07-17 04:33 G 14353169.59 14353169.69 14353169.79 0.1754 0.1478 Mars Neptune 34585-07-25 18:29 G 14353178.16 14353178.27 14353178.40 0.0088 0.0077 Neptune 34586-07-28 05:02 G 14353545.54 14353545.71 14353545.91 0.0088 0.0061 Jupiter 34587-03-09 21:07 G 14353770.16 14353770.38 14353770.60 0.0531 0.0173 Neptune 34587-07-30 15:50 G 14353912.96 14353913.16 14353913.40 0.0088 0.0045 Neptune 34588-08-01 02:53 G 14354280.38 14354280.62 14354280.87 0.0088 0.0028 Uranus 34588-09-13 15:21 G 14354323.98 14354324.14 14354324.31 0.0142 0.0107 Neptune 34589-08-03 13:41 G 14354647.82 14354648.07 14354648.33 0.0088 0.0012 Uranus 34589-09-18 11:02 G 14354693.72 14354693.96 14354694.22 0.0142 0.0027 Neptune 34590-08-06 00:43 G 14355015.28 14355015.53 14355015.79 0.0088 0.0005 Uranus 34590-09-23 05:45 G 14355063.52 14355063.74 14355063.99 0.0141 0.0053 Neptune 34591-08-08 11:17 G 14355382.73 14355382.97 14355383.23 0.0088 0.0021 Uranus 34591-09-28 00:00 G 14355433.42 14355433.50 14355433.60 0.0141 0.0131 Neptune 34592-08-09 22:05 G 14355750.20 14355750.42 14355750.67 0.0088 0.0038 Jupiter 34592-08-27 18:14 G 14355768.10 14355768.26 14355768.41 0.0496 0.0371 Neptune 34593-08-12 08:53 G 14356117.68 14356117.87 14356118.09 0.0088 0.0054 Jupiter 34593-09-28 01:12 G 14356164.34 14356164.55 14356164.77 0.0495 0.0189 Neptune 34594-08-14 19:41 G 14356485.18 14356485.32 14356485.49 0.0088 0.0070 Neptune 34595-08-17 06:29 G 14356852.73 14356852.77 14356852.83 0.0088 0.0086 Saturn 34596-08-26 03:07 G 14357227.45 14357227.63 14357227.81 0.0262 0.0172 Saturn 34597-09-06 15:50 G 14357603.99 14357604.16 14357604.32 0.0264 0.0192 Jupiter 34599-03-15 00:29 G 14358158.29 14358158.52 14358158.75 0.0532 0.0072 Jupiter 34604-09-02 04:05 G 14360155.48 14360155.67 14360155.86 0.0495 0.0292 Jupiter 34605-10-03 10:05 G 14360551.73 14360551.92 14360552.12 0.0495 0.0268 Saturn 34611-03-03 06:43 G 14362528.53 14362528.78 14362529.02 0.0298 0.0023 Jupiter 34611-03-21 06:57 G 14362546.56 14362546.79 14362547.02 0.0532 0.0033 Jupiter 34616-09-06 09:07 G 14364542.67 14364542.88 14364543.09 0.0495 0.0217 Jupiter 34617-10-07 15:50 G 14364939.00 14364939.16 14364939.33 0.0496 0.0343 Jupiter 34623-03-26 10:48 G 14366934.72 14366934.95 14366935.18 0.0531 0.0137 Saturn 34626-09-03 00:29 G 14368191.27 14368191.52 14368191.76 0.0263 0.0033 Jupiter 34628-09-10 18:14 G 14368930.04 14368930.26 14368930.49 0.0495 0.0137 Jupiter 34629-10-12 01:12 G 14369326.44 14369326.55 14369326.68 0.0496 0.0421 Uranus 34632-03-13 11:31 G 14370209.94 14370209.98 14370210.05 0.0136 0.0132 Uranus 34633-03-17 23:45 G 14370579.27 14370579.49 14370579.72 0.0137 0.0062 Jupiter 34634-02-22 17:31 G 14370921.13 14370921.23 14370921.34 0.0530 0.0474 Uranus 34634-03-22 12:43 G 14370948.77 14370949.03 14370949.28 0.0137 0.0011 Uranus 34635-03-27 02:09 G 14371318.39 14371318.59 14371318.80 0.0137 0.0084 Jupiter 34635-03-31 10:05 G 14371322.71 14371322.92 14371323.13 0.0531 0.0235

Saturn 34640-02-25 03:07 G 14373114.48 14373114.63 14373114.81 0.0300 0.0217 Jupiter 34640-09-15 04:33 G 14373317.46 14373317.69 14373317.93 0.0495 0.0058 Jupiter 34641-10-16 11:45 G 14373713.98 14373713.99 14373714.01 0.0497 0.0496 Jupiter 34646-02-27 18:14 G 14375309.10 14375309.26 14375309.42 0.0530 0.0381 Jupiter 34647-04-05 12:00 G 14375710.82 14375711.00 14375711.18 0.0531 0.0335 Jupiter 34652-09-19 13:41 G 14377704.84 14377705.07 14377705.30 0.0494 0.0023 Saturn 34655-08-29 09:07 G 14378778.67 14378778.88 14378779.10 0.0262 0.0124 Saturn 34656-09-08 22:19 G 14379155.34 14379155.43 14379155.54 0.0265 0.0242 Jupiter 34658-03-04 19:55 G 14379697.14 14379697.33 14379697.53 0.0531 0.0286 Jupiter 34659-04-10 15:36 G 14380099.02 14380099.15 14380099.29 0.0531 0.0431 Pluto 34659-10-08 08:38 G 14380279.70 14380279.86 14380280.08 0.0079 0.0053 Jupiter 34663-08-24 13:55 G 14381695.99 14381696.08 14381696.17 0.0496 0.0453 Jupiter 34664-09-23 22:19 G 14382092.20 14382092.43 14382092.66 0.0494 0.0104 Neptune 34668-01-24 22:19 G 14383310.35 14383310.43 14383310.56 0.0089 0.0082 Neptune 34669-01-26 11:02 G 14383677.80 14383677.96 14383678.16 0.0089 0.0065 Neptune 34670-01-28 23:31 G 14384045.29 14384045.48 14384045.72 0.0090 0.0048 Saturn 34670-03-04 18:00 G 14384080.01 14384080.25 14384080.48 0.0298 0.0086 Jupiter 34670-03-10 01:26 G 14384085.35 14384085.56 14384085.78 0.0531 0.0182 Neptune 34671-01-31 12:29 G 14384412.79 14384413.02 14384413.27 0.0090 0.0030 Jupiter 34671-04-15 20:38 G 14384487.34 14384487.36 14384487.39 0.0530 0.0526 Neptune 34672-02-03 01:12 G 14384780.30 14384780.55 14384780.81 0.0090 0.0013 Uranus 34672-09-15 02:38 G 14385005.44 14385005.61 14385005.78 0.0142 0.0103 Neptune 34673-02-04 13:41 G 14385147.82 14385148.07 14385148.33 0.0090 0.0006 Uranus 34673-09-19 22:19 G 14385375.18 14385375.43 14385375.68 0.0142 0.0023 Neptune 34674-02-07 02:09 G 14385515.35 14385515.59 14385515.85 0.0090 0.0023 Uranus 34674-09-24 17:02 G 14385744.98 14385745.21 14385745.45 0.0141 0.0056 Neptune 34675-02-09 14:38 G 14385882.90 14385883.11 14385883.36 0.0090 0.0041 Jupiter 34675-08-28 19:41 G 14386083.18 14386083.32 14386083.47 0.0496 0.0381 Uranus 34675-09-29 11:02 G 14386114.91 14386114.96 14386115.05 0.0141 0.0135 Neptune 34676-02-12 03:07 G 14386250.45 14386250.63 14386250.85 0.0090 0.0058 Jupiter 34676-09-28 02:53 G 14386479.41 14386479.62 14386479.84 0.0495 0.0182 Neptune 34677-02-13 15:50 G 14386618.04 14386618.16 14386618.32 0.0090 0.0075 Jupiter 34682-03-15 05:31 G 14388473.50 14388473.73 14388473.96 0.0531 0.0079 Saturn 34685-09-04 07:41 G 14389742.59 14389742.82 14389743.06 0.0263 0.0083 Jupiter 34687-09-02 04:33 G 14390470.51 14390470.69 14390470.88 0.0495 0.0303 Jupiter 34688-10-02 12:00 G 14390866.80 14390867.00 14390867.20 0.0495 0.0261 Jupiter 34694-03-20 04:19 G 14392861.45 14392861.68 14392861.91 0.0531 0.0020 Saturn 34699-02-26 17:31 G 14394666.02 14394666.23 14394666.45 0.0300 0.0147 Jupiter 34699-09-06 15:07 G 14394857.92 14394858.13 14394858.34 0.0495 0.0225 Jupiter 34700-10-07 21:50 G 14395254.25 14395254.41 14395254.59 0.0495 0.0340 Jupiter 34706-03-26 05:45 G 14397249.52 14397249.74 14397249.97 0.0531 0.0122 Jupiter 34711-09-12 00:14 G 14399245.29 14399245.51 14399245.74 0.0495 0.0146 Jupiter 34712-10-12 06:14 G 14399641.64 14399641.76 14399641.89 0.0496 0.0415 Saturn 34714-08-31 18:29 G 14400330.03 14400330.27 14400330.51 0.0263 0.0072 Uranus 34716-03-14 19:55 G 14400891.26 14400891.33 14400891.40 0.0136 0.0131 Jupiter 34717-02-22 15:07 G 14401236.05 14401236.13 14401236.22 0.0530 0.0488 Uranus 34717-03-19 07:55 G 14401260.61 14401260.83 14401261.07 0.0136 0.0060 Uranus 34718-03-23 20:38 G 14401630.11 14401630.36 14401630.62 0.0137 0.0013 Jupiter 34718-03-31 08:24 G 14401637.64 14401637.85 14401638.07 0.0531 0.0224 Uranus 34719-03-28 10:05 G 14401999.73 14401999.92 14402000.13 0.0137 0.0085 Jupiter 34723-09-16 08:53 G 14403632.64 14403632.87 14403633.10 0.0494 0.0065 Jupiter 34724-10-16 14:38 G 14404029.09 14404029.11 14404029.16 0.0496 0.0490 Jupiter 34729-02-27 19:12 G 14405624.15 14405624.30 14405624.46 0.0531 0.0393 Saturn 34729-03-07 10:33 G 14405631.74 14405631.94 14405632.15 0.0298 0.0158 Jupiter 34730-04-05 14:09 G 14406025.91 14406026.09 14406026.27 0.0531 0.0327 Jupiter 34735-09-20 13:41 G 14408019.83 14408020.07 14408020.30 0.0494 0.0016 Jupiter 34741-03-04 22:33 G 14410012.25 14410012.44 14410012.64 0.0531 0.0295 Jupiter 34742-04-10 17:31 G 14410414.09 14410414.23 14410414.37 0.0530 0.0425 Saturn 34743-08-27 04:19 G 14410917.57 14410917.68 14410917.82 0.0262 0.0227 Saturn 34744-09-06 17:17 G 14411294.02 14411294.22 14411294.44 0.0264 0.0137

Jupiter 34746-08-24 13:12 G 14412010.97 14412011.05 14412011.13 0.0496 0.0465 Jupiter 34747-09-24 21:50 G 14412407.19 14412407.41 14412407.64 0.0495 0.0095 Neptune 34749-07-27 05:45 G 14413078.72 14413078.74 14413078.82 0.0088 0.0086 Neptune 34750-07-29 17:17 G 14413446.07 14413446.22 14413446.38 0.0088 0.0069 Neptune 34751-08-01 03:50 G 14413813.47 14413813.66 14413813.88 0.0088 0.0053 Neptune 34752-08-02 14:24 G 14414180.88 14414181.10 14414181.35 0.0088 0.0037 Jupiter 34753-03-09 21:21 G 14414400.17 14414400.39 14414400.61 0.0531 0.0199 Neptune 34753-08-05 01:41 G 14414548.32 14414548.57 14414548.83 0.0088 0.0020 Jupiter 34754-04-15 15:21 G 14414802.09 14414802.14 14414802.20 0.0530 0.0514 Neptune 34754-08-07 12:29 G 14414915.76 14414916.02 14414916.28 0.0088 0.0003 Neptune 34755-08-09 23:17 G 14415283.21 14415283.47 14415283.73 0.0088 0.0013 Neptune 34756-08-11 09:50 G 14415650.67 14415650.91 14415651.16 0.0088 0.0030 Uranus 34756-09-16 12:00 G 14415686.84 14415687.00 14415687.20 0.0142 0.0101 Neptune 34757-08-13 20:09 G 14416018.15 14416018.34 14416018.59 0.0088 0.0047 Uranus 34757-09-21 08:09 G 14416056.59 14416056.84 14416057.09 0.0142 0.0020 Saturn 34758-03-01 11:45 G 14416217.76 14416217.99 14416218.23 0.0299 0.0071 Neptune 34758-08-16 07:12 G 14416385.64 14416385.80 14416386.00 0.0088 0.0063 Jupiter 34758-08-28 23:31 G 14416398.34 14416398.48 14416398.62 0.0496 0.0391 Uranus 34758-09-26 03:07 G 14416426.40 14416426.63 14416426.86 0.0141 0.0059 Neptune 34759-08-18 18:00 G 14416753.15 14416753.25 14416753.37 0.0088 0.0079 Jupiter 34759-09-29 07:55 G 14416794.61 14416794.83 14416795.04 0.0495 0.0175 Uranus 34759-09-30 21:07 G 14416796.35 14416796.38 14416796.44 0.0141 0.0138 Jupiter 34765-03-14 22:05 G 14418788.19 14418788.42 14418788.65 0.0531 0.0097 34769-01-15 12:43 G 14420190.83 14420191.03 14420191.22 0.1773 0.0094 Mars Jupiter 34770-09-02 09:07 G 14420785.71 14420785.88 14420786.07 0.0495 0.0314 Jupiter 34771-10-03 15:50 G 14421181.97 14421182.16 14421182.37 0.0495 0.0253 Saturn 34773-09-02 05:31 G 14421881.48 14421881.73 14421881.98 0.0263 0.0016 Jupiter 34777-03-19 23:45 G 14423176.26 14423176.49 14423176.72 0.0532 0.0005 Jupiter 34782-09-06 18:00 G 14425173.05 14425173.25 14425173.46 0.0495 0.0234 Jupiter 34783-10-08 00:00 G 14425569.33 14425569.50 14425569.67 0.0495 0.0331

Saturn 34788-03-09 06:57 G 14427183.66 14427183.79 14427183.95 0.0297 0.0237 Jupiter 34789-03-25 05:02 G 14427564.48 14427564.71 14427564.94 0.0532 0.0111 34790-07-17 00:00 G 14428043.35 14428043.50 14428043.65 0.1769 0.1064 Mars Jupiter 34794-09-10 23:17 G 14429560.25 14429560.47 14429560.70 0.0494 0.0158 Jupiter 34795-10-12 05:02 G 14429956.58 14429956.71 14429956.84 0.0496 0.0406 Jupiter 34800-02-22 15:36 G 14431551.08 14431551.15 14431551.23 0.0530 0.0501 Uranus 34800-03-15 02:53 G 14431572.55 14431572.62 14431572.71 0.0136 0.0129 Uranus 34801-03-19 14:53 G 14431941.90 14431942.12 14431942.36 0.0136 0.0059 Jupiter 34801-03-30 08:53 G 14431952.66 14431952.87 14431953.09 0.0531 0.0215 Uranus 34802-03-24 03:36 G 14432311.40 14432311.65 14432311.91 0.0137 0.0014 Saturn 34802-08-28 15:07 G 14432468.95 14432469.13 14432469.32 0.0262 0.0173 Uranus 34803-03-28 16:48 G 14432681.02 14432681.20 14432681.41 0.0137 0.0087 Saturn 34803-09-09 04:48 G 14432845.54 14432845.70 14432845.87 0.0264 0.0194 Jupiter 34806-09-15 07:41 G 14433947.59 14433947.82 14433948.05 0.0494 0.0077 Jupiter 34807-10-16 13:55 G 14434344.04 14434344.08 14434344.14 0.0496 0.0483 Jupiter 34812-02-27 14:09 G 14435938.95 14435939.09 14435939.24 0.0530 0.0412 Jupiter 34813-04-04 07:26 G 14436340.62 14436340.81 14436341.00 0.0531 0.0311 Saturn 34817-03-03 09:50 G 14437769.66 14437769.91 14437770.15 0.0299 0.0012 Pluto 34817-04-08 10:48 G 14437805.74 14437805.95 14437806.20 0.0065 0.0031 34818-04-10 00:43 G 14438172.41 14438172.53 14438172.68 0.0066 0.0056 Pluto Jupiter 34818-09-19 17:02 G 14438334.98 14438335.21 14438335.45 0.0495 0.0008 Jupiter 34824-03-03 14:38 G 14440326.92 14440327.11 14440327.30 0.0531 0.0316 Jupiter 34825-04-09 08:09 G 14440728.70 14440728.84 14440728.99 0.0530 0.0409 Jupiter 34829-08-23 15:50 G 14442326.11 14442326.16 14442326.23 0.0497 0.0480 Jupiter 34830-09-24 01:41 G 14442722.34 14442722.57 14442722.80 0.0494 0.0085 Saturn 34832-09-03 17:02 G 14443432.97 14443433.21 14443433.46 0.0263 0.0041 Neptune 34833-01-26 21:07 G 14443578.26 14443578.38 14443578.55 0.0089 0.0074 Neptune 34834-01-29 09:36 G 14443945.72 14443945.90 14443946.12 0.0090 0.0057 Neptune 34835-01-31 22:33 G 14444313.22 14444313.44 14444313.69 0.0090 0.0039 Neptune 34836-02-03 11:31 G 14444680.73 14444680.98 14444681.23 0.0090 0.0021

Jupiter 34836-03-08 14:38 G 14444714.90 14444715.11 14444715.33 0.0531 0.0218 Neptune 34837-02-05 00:00 G 14445048.25 14445048.50 14445048.76 0.0090 0.0004 Jupiter 34837-04-14 10:19 G 14445116.86 14445116.93 14445117.00 0.0530 0.0502 Neptune 34838-02-07 12:29 G 14445415.77 14445416.02 14445416.28 0.0090 0.0015 Neptune 34839-02-10 01:12 G 14445783.31 14445783.55 14445783.79 0.0090 0.0032 Neptune 34840-02-12 13:26 G 14446150.87 14446151.06 14446151.30 0.0090 0.0050 Uranus 34840-09-16 19:12 G 14446368.13 14446368.30 14446368.49 0.0142 0.0099 Neptune 34841-02-14 01:41 G 14446518.43 14446518.57 14446518.77 0.0090 0.0068 Jupiter 34841-08-28 01:55 G 14446713.44 14446713.58 14446713.71 0.0496 0.0402 Uranus 34841-09-21 15:21 G 14446737.89 14446738.14 14446738.39 0.0142 0.0019 Neptune 34842-02-16 14:24 G 14446886.05 14446886.10 14446886.21 0.0090 0.0085 Uranus 34842-09-26 10:05 G 14447107.71 14447107.92 14447108.16 0.0141 0.0061 Jupiter 34842-09-28 09:21 G 14447109.67 14447109.89 14447110.11 0.0494 0.0165 Uranus 34843-10-01 04:48 G 14447477.67 14447477.70 14447477.74 0.0141 0.0139 Saturn 34846-02-25 06:29 G 14448355.61 14448355.77 14448355.93 0.0300 0.0227 Jupiter 34848-03-13 19:26 G 14449103.08 14449103.31 14449103.54 0.0532 0.0112 Jupiter 34853-09-01 08:24 G 14451100.68 14451100.85 14451101.03 0.0495 0.0327 Jupiter 34854-10-02 14:38 G 14451496.91 14451497.11 14451497.32 0.0495 0.0242 Jupiter 34860-03-18 23:17 G 14453491.24 14453491.47 14453491.70 0.0532 0.0008 Saturn 34861-08-30 01:55 G 14454020.36 14454020.58 14454020.80 0.0263 0.0117 Saturn 34862-09-10 15:50 G 14454397.09 14454397.16 14454397.24 0.0265 0.0251 Jupiter 34865-09-05 17:02 G 14455488.01 14455488.21 14455488.42 0.0495 0.0247 Jupiter 34866-10-06 23:02 G 14455884.29 14455884.46 14455884.64 0.0495 0.0323 Jupiter 34872-03-23 22:19 G 14457879.21 14457879.43 14457879.66 0.0531 0.0091 Saturn 34876-03-05 07:55 G 14459321.60 14459321.83 14459322.06 0.0299 0.0095 Jupiter 34877-09-10 02:09 G 14459875.38 14459875.59 14459875.82 0.0495 0.0170 Jupiter 34878-10-11 08:53 G 14460271.74 14460271.87 14460272.01 0.0496 0.0400 Jupiter 34883-02-21 08:38 G 14461865.83 14461865.86 14461865.90 0.0529 0.0522 Uranus 34884-03-15 11:02 G 14462253.88 14462253.96 14462254.05 0.0136 0.0127 Jupiter 34884-03-28 23:31 G 14462267.27 14462267.48 14462267.70 0.0531 0.0194

Uranus 34885-03-19 23:02 G 14462623.23 14462623.46 14462623.70 0.0136 0.0057 Uranus 34886-03-24 11:31 G 14462992.73 14462992.98 14462993.24 0.0137 0.0016 Uranus 34887-03-29 00:29 G 14463362.34 14463362.52 14463362.73 0.0137 0.0088 Jupiter 34889-09-14 11:17 G 14464262.74 14464262.97 14464263.20 0.0495 0.0088 Jupiter 34890-10-15 17:17 G 14464659.16 14464659.22 14464659.29 0.0496 0.0475 Saturn 34891-09-06 03:36 G 14464984.43 14464984.65 14464984.88 0.0263 0.0097 Jupiter 34895-02-26 07:41 G 14466253.69 14466253.82 14466253.96 0.0530 0.0431 Jupiter 34896-04-03 01:12 G 14466655.36 14466655.55 14466655.74 0.0531 0.0296 Jupiter 34901-09-19 19:41 G 14468650.08 14468650.32 14468650.55 0.0494 0.0011 Pluto 34904-10-09 18:57 G 14469766.18 14469766.29 14469766.46 0.0079 0.0067 Saturn 34905-02-28 05:31 G 14469907.52 14469907.73 14469907.95 0.0299 0.0142 Jupiter 34907-03-04 10:48 G 14470641.77 14470641.95 14470642.13 0.0531 0.0333 Jupiter 34908-04-09 06:14 G 14471043.61 14471043.76 14471043.92 0.0531 0.0398 Jupiter 34912-08-23 16:33 G 14472641.18 14472641.19 14472641.23 0.0496 0.0493 Jupiter 34913-09-24 01:26 G 14473037.33 14473037.56 14473037.79 0.0494 0.0073 Neptune 34914-07-30 04:33 G 14473346.59 14473346.69 14473346.82 0.0088 0.0078 Neptune 34915-08-01 15:07 G 14473713.97 14473714.13 14473714.34 0.0088 0.0062 Neptune 34916-08-03 02:24 G 14474081.39 14474081.60 14474081.83 0.0088 0.0045 Neptune 34917-08-05 13:12 G 14474448.81 14474449.05 14474449.30 0.0088 0.0028 Neptune 34918-08-08 00:00 G 14474816.25 14474816.50 14474816.77 0.0088 0.0012 Jupiter 34919-03-09 14:24 G 14475029.89 14475030.10 14475030.31 0.0531 0.0232 Neptune 34919-08-10 10:48 G 14475183.70 14475183.95 14475184.21 0.0088 0.0006 Jupiter 34920-04-14 10:19 G 14475431.85 14475431.93 14475432.01 0.0530 0.0495 Neptune 34920-08-11 21:36 G 14475551.15 14475551.40 14475551.66 0.0088 0.0022 Saturn 34920-09-01 11:17 G 14475571.73 14475571.97 14475572.21 0.0263 0.0062 Neptune 34921-08-14 08:09 G 14475918.63 14475918.84 14475919.09 0.0088 0.0039 Neptune 34922-08-16 18:29 G 14476286.10 14476286.27 14476286.50 0.0088 0.0056 Neptune 34923-08-19 05:45 G 14476653.61 14476653.74 14476653.90 0.0088 0.0072 Jupiter 34924-08-28 02:09 G 14477028.47 14477028.59 14477028.72 0.0496 0.0416 Uranus 34924-09-18 01:12 G 14477049.38 14477049.55 14477049.74 0.0142 0.0099

Uranus 34925-09-22 21:21 G 14477419.14 14477419.39 14477419.65 0.0142 0.0019 Jupiter 34925-09-28 09:50 G 14477424.69 14477424.91 14477425.13 0.0494 0.0155 Uranus 34926-09-27 16:19 G 14477788.97 14477789.18 14477789.42 0.0141 0.0062 Uranus 34927-10-02 10:48 G 14478158.94 14478158.95 14478159.00 0.0141 0.0140 Jupiter 34931-03-14 14:09 G 14479417.87 14479418.09 14479418.32 0.0531 0.0134 Saturn 34935-03-09 03:50 G 14480873.48 14480873.66 14480873.87 0.0298 0.0176 Jupiter 34936-09-01 11:02 G 14481415.79 14481415.96 14481416.13 0.0496 0.0341 Jupiter 34937-10-02 19:12 G 14481812.09 14481812.30 14481812.51 0.0495 0.0234 Jupiter 34943-03-19 15:50 G 14483805.92 14483806.16 14483806.39 0.0531 0.0031 Jupiter 34948-09-05 20:53 G 14485803.17 14485803.37 14485803.57 0.0495 0.0261 Saturn 34949-08-27 23:45 G 14486159.35 14486159.49 14486159.64 0.0262 0.0212 Jupiter 34949-10-07 03:50 G 14486199.48 14486199.66 14486199.84 0.0495 0.0313 Saturn 34950-09-08 12:00 G 14486535.81 14486536.00 14486536.21 0.0264 0.0152 Jupiter 34955-03-24 16:48 G 14488193.97 14488194.20 14488194.43 0.0532 0.0073 Jupiter 34960-09-10 06:00 G 14490190.53 14490190.75 14490190.97 0.0495 0.0180 Jupiter 34961-10-11 12:00 G 14490586.86 14490587.00 14490587.14 0.0495 0.0392 Saturn 34964-03-02 00:43 G 14491459.30 14491459.53 14491459.78 0.0299 0.0063 Jupiter 34967-03-29 21:21 G 14492582.17 14492582.39 14492582.61 0.0532 0.0181 Uranus 34968-03-16 19:41 G 14492935.24 14492935.32 14492935.43 0.0136 0.0125 Uranus 34969-03-21 07:41 G 14493304.60 14493304.82 14493305.07 0.0136 0.0054 Uranus 34970-03-25 20:24 G 14493674.10 14493674.35 14493674.60 0.0137 0.0018 Uranus 34971-03-30 09:36 G 14494043.71 14494043.90 14494044.09 0.0137 0.0091 Jupiter 34972-09-14 13:26 G 14494577.83 14494578.06 14494578.29 0.0494 0.0100 Jupiter 34973-10-15 18:14 G 14494974.19 14494974.26 14494974.34 0.0496 0.0466 Jupiter 34978-02-26 07:41 G 14496568.70 14496568.82 14496568.95 0.0530 0.0447 Jupiter 34979-04-04 02:24 G 14496970.40 14496970.60 14496970.80 0.0532 0.0286 Saturn 34979-09-03 17:45 G 14497123.00 14497123.24 14497123.49 0.0263 0.0012 Jupiter 34984-09-18 21:50 G 14498965.18 14498965.41 14498965.65 0.0494 0.0018 Jupiter 34990-03-03 08:38 G 14500956.69 14500956.86 14500957.04 0.0530 0.0354 Jupiter 34991-04-09 01:55 G 14501358.42 14501358.58 14501358.75 0.0531 0.0380

Saturn 34994-03-10 21:07 G 14502425.26 14502425.38 14502425.52 0.0298 0.0251

Jupiter 34996-09-23 06:43 G 14503352.55 14503352.78 14503353.02 0.0495 0.0064

Neptune 34997-01-27 07:55 G 14503478.76 14503478.83 14503478.95 0.0089 0.0083

Neptune 34998-01-29 20:53 G 14503846.20 14503846.37 14503846.55 0.0090 0.0065

Neptune 34999-02-01 08:53 G 14504213.68 14504213.87 14504214.11 0.0090 0.0048

Neptune 35000-02-03 21:50 G 14504581.18 14504581.41 14504581.66 0.0090 0.0030

## 36TH MILLENNIUM CE

## This is a list of transits of Earth in the 36th millennium CE.

FROM MAX- C START MAX END SUNRAD DEPTH S
TRANSIT

Neptune 35001-02-06 10:33 G 14504948.69 14504948.94 14504949.20 0.0090 0.0012

Neptune 35002-02-08 23:17 G 14505316.21 14505316.47 14505316.73 0.0090 0.0006

Jupiter 35002-03-09 10:05 G 14505344.72 14505344.92 14505345.13 0.0531 0.0253

Neptune 35003-02-11 12:00 G 14505683.75 14505684.00 14505684.25 0.0090 0.0024

Jupiter 35003-04-15 03:36 G 14505746.56 14505746.65 14505746.76 0.0530 0.0478

Neptune 35004-02-14 00:14 G 14506051.29 14506051.51 14506051.75 0.0090 0.0042

Neptune 35005-02-15 12:43 G 14506418.86 14506419.03 14506419.24 0.0090 0.0060

Neptune 35006-02-18 01:26 G 14506786.44 14506786.56 14506786.70 0.0090 0.0077

Jupiter 35007-08-29 06:00 G 14507343.64 14507343.75 14507343.87 0.0497 0.0431

Saturn 35008-09-19 08:38 G 14507710.52 14507710.70 14507710.91 0.0262 0.0163

Uranus 35008-09-28 15:50 G 14507739.94 14507740.16 14507740.39 0.0495 0.0145

Saturn 35009-09-10 17:31 G 14508087.08 14508087.23 14508087.40 0.0264 0.0202

Uranus 35009-09-24 04:48 G 14508100.45 14508100.70 14508100.96 0.0142 0.0018 Uranus 35010-09-29 00:00 G 14508470.27 14508470.50 14508470.73 0.0141 0.0062 Jupiter 35014-03-14 10:33 G 14509732.72 14509732.94 14509733.17 0.0531 0.0151 Jupiter 35019-09-02 16:33 G 14511731.03 14511731.19 14511731.36 0.0496 0.0351 Jupiter 35020-10-03 00:29 G 14512127.32 14512127.52 14512127.73 0.0495 0.0227 Saturn 35023-03-05 16:05 G 14513010.93 14513011.17 14513011.41 0.0299 0.0010 Jupiter 35026-03-19 14:24 G 14514120.87 14514121.10 14514121.34 0.0532 0.0046 Jupiter 35031-09-07 01:26 G 14516118.37 14516118.56 14516118.76 0.0495 0.0273 Jupiter 35032-10-07 07:26 G 14516514.63 14516514.81 14516515.00 0.0495 0.0305 Jupiter 35038-03-24 19:26 G 14518509.08 14518509.31 14518509.55 0.0532 0.0062 Saturn 35038-09-05 21:36 G 14518674.15 14518674.40 14518674.64 0.0263 0.0037 Jupiter 35043-09-11 11:02 G 14520505.75 14520505.96 14520506.18 0.0495 0.0190 Jupiter 35044-10-11 16:33 G 14520902.06 14520902.19 14520902.35 0.0495 0.0387 Jupiter 35050-03-29 20:53 G 14522897.15 14522897.37 14522897.60 0.0531 0.0164 Saturn 35052-02-27 07:26 G 14523596.67 14523596.81 14523596.97 0.0301 0.0234 Uranus 35052-03-18 05:17 G 14523616.63 14523616.72 14523616.85 0.0136 0.0123 Mars 35053-01-18 00:14 G 14523922.32 14523922.51 14523922.70 0.1765 0.0342 Uranus 35053-03-22 17:17 G 14523986.00 14523986.22 14523986.47 0.0136 0.0052 Uranus 35054-03-27 06:00 G 14524355.50 14524355.75 14524356.01 0.0137 0.0021 Uranus 35055-03-31 18:43 G 14524725.11 14524725.28 14524725.48 0.0137 0.0094 Jupiter 35055-09-15 19:12 G 14524893.08 14524893.30 14524893.53 0.0495 0.0112 Jupiter 35056-10-16 02:38 G 14525289.53 14525289.61 14525289.70 0.0496 0.0461 Jupiter 35061-02-26 08:38 G 14526883.75 14526883.86 14526883.97 0.0529 0.0464 Jupiter 35062-04-03 23:31 G 14527285.28 14527285.48 14527285.68 0.0531 0.0268 Pluto 35063-04-12 17:31 G 14527658.99 14527659.23 14527659.48 0.0065 0.0021 Saturn 35067-09-01 06:43 G 14529261.57 14529261.78 14529262.01 0.0262 0.0118 Jupiter 35067-09-20 05:02 G 14529280.48 14529280.71 14529280.95 0.0495 0.0029 Saturn 35068-09-11 19:26 G 14529638.23 14529638.31 14529638.40 0.0264 0.0247 Jupiter 35073-03-03 07:55 G 14531271.67 14531271.83 14531272.00 0.0530 0.0368 Jupiter 35074-04-09 00:57 G 14531673.38 14531673.54 14531673.71 0.0531 0.0369

35074-07-19 07:55 G 14531774.67 14531774.83 14531774.99 0.1777 0.0960 Mars Neptune 35078-07-30 15:36 G 14533247.14 14533247.15 14533247.21 0.0088 0.0087 Neptune 35079-08-02 02:53 G 14533614.48 14533614.62 14533614.79 0.0088 0.0070 Jupiter 35079-09-24 14:38 G 14533667.88 14533668.11 14533668.34 0.0495 0.0056 Neptune 35080-08-03 14:09 G 14533981.89 14533982.09 14533982.30 0.0088 0.0053 Neptune 35081-08-06 00:43 G 14534349.31 14534349.53 14534349.78 0.0088 0.0037 Saturn 35082-03-07 01:55 G 14534562.35 14534562.58 14534562.82 0.0299 0.0076 Neptune 35082-08-08 11:31 G 14534716.74 14534716.98 14534717.24 0.0088 0.0020 Neptune 35083-08-10 22:33 G 14535084.18 14535084.44 14535084.70 0.0088 0.0003 Neptune 35084-08-12 09:21 G 14535451.64 14535451.89 14535452.15 0.0088 0.0014 Jupiter 35085-03-08 11:02 G 14535659.76 14535659.96 14535660.16 0.0531 0.0266 Neptune 35085-08-14 19:55 G 14535819.09 14535819.33 14535819.58 0.0088 0.0031 Jupiter 35086-04-14 06:00 G 14536061.65 14536061.75 14536061.86 0.0531 0.0470 Neptune 35086-08-17 06:29 G 14536186.57 14536186.77 14536187.00 0.0088 0.0048 Neptune 35087-08-19 17:02 G 14536554.06 14536554.21 14536554.40 0.0088 0.0065 Neptune 35088-08-21 04:05 G 14536921.59 14536921.67 14536921.78 0.0088 0.0081 Jupiter 35090-08-28 13:41 G 14537658.97 14537659.07 14537659.18 0.0496 0.0440 Jupiter 35091-09-28 22:33 G 14538055.22 14538055.44 14538055.67 0.0494 0.0137 Uranus 35092-09-19 18:43 G 14538412.10 14538412.28 14538412.47 0.0142 0.0095 Uranus 35093-09-24 14:38 G 14538781.86 14538782.11 14538782.36 0.0142 0.0014 Uranus 35094-09-29 09:36 G 14539151.68 14539151.90 14539152.13 0.0141 0.0065 Jupiter 35097-03-13 15:21 G 14540047.92 14540048.14 14540048.36 0.0532 0.0162 Saturn 35097-09-06 21:36 G 14540225.17 14540225.40 14540225.64 0.0263 0.0081 Jupiter 35102-09-03 00:14 G 14542046.36 14542046.51 14542046.67 0.0496 0.0360 Jupiter 35103-10-04 08:09 G 14542442.63 14542442.84 14542443.05 0.0495 0.0220 Jupiter 35109-03-19 18:14 G 14544436.02 14544436.26 14544436.49 0.0531 0.0061 Saturn 35111-03-01 13:26 G 14545147.87 14545148.06 14545148.27 0.0301 0.0175 Jupiter 35114-09-07 08:09 G 14546433.65 14546433.84 14546434.04 0.0496 0.0284 Jupiter 35115-10-08 16:48 G 14546830.02 14546830.20 14546830.39 0.0495 0.0299 Jupiter 35121-03-24 21:21 G 14548824.16 14548824.39 14548824.62 0.0531 0.0046

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Neptune 35170-02-18 12:00 G 14566686.84 14566687.00 14566687.16 0.0090 0.0069 Saturn 35170-03-02 14:38 G 14566698.89 14566699.11 14566699.33 0.0301 0.0124 Neptune 35171-02-21 00:14 G 14567054.47 14567054.51 14567054.59 0.0090 0.0087 Jupiter 35173-08-28 20:38 G 14567974.27 14567974.36 14567974.46 0.0497 0.0452 Jupiter 35174-09-29 08:38 G 14568370.63 14568370.86 14568371.08 0.0495 0.0130 Uranus 35176-09-21 06:14 G 14569093.57 14569093.76 14569093.96 0.0142 0.0091 Uranus 35177-09-26 02:09 G 14569463.34 14569463.59 14569463.84 0.0142 0.0011 Uranus 35178-09-30 20:53 G 14569833.15 14569833.37 14569833.60 0.0141 0.0069 Jupiter 35180-03-13 21:50 G 14570363.19 14570363.41 14570363.63 0.0530 0.0174 Jupiter 35185-09-02 08:09 G 14572361.69 14572361.84 14572362.00 0.0497 0.0372 Saturn 35185-09-04 02:38 G 14572363.37 14572363.61 14572363.85 0.0261 0.0038 Jupiter 35186-10-03 18:43 G 14572758.07 14572758.28 14572758.49 0.0495 0.0214 Jupiter 35192-03-18 22:33 G 14574751.21 14574751.44 14574751.68 0.0531 0.0071 Jupiter 35197-09-06 19:55 G 14576749.14 14576749.33 14576749.52 0.0496 0.0289 Jupiter 35198-10-08 04:48 G 14577145.52 14577145.70 14577145.89 0.0495 0.0297 Saturn 35200-03-10 05:02 G 14577664.53 14577664.71 14577664.92 0.0299 0.0182 Jupiter 35204-03-24 02:24 G 14579139.37 14579139.60 14579139.83 0.0531 0.0038 Jupiter 35209-09-11 06:57 G 14581136.58 14581136.79 14581137.00 0.0495 0.0207 Jupiter 35210-10-12 13:41 G 14581532.93 14581533.07 14581533.23 0.0495 0.0376 Saturn 35214-08-30 05:02 G 14582950.56 14582950.71 14582950.87 0.0261 0.0203 Saturn 35215-09-10 14:53 G 14583326.92 14583327.12 14583327.31 0.0262 0.0157 Jupiter 35216-03-29 07:55 G 14583527.61 14583527.83 14583528.06 0.0532 0.0146 Uranus 35220-03-19 23:02 G 14584979.36 14584979.46 14584979.61 0.0136 0.0118 Uranus 35221-03-24 11:17 G 14585348.74 14585348.97 14585349.22 0.0137 0.0047 Jupiter 35221-09-15 17:17 G 14585523.99 14585524.22 14585524.45 0.0495 0.0122 Uranus 35222-03-28 23:45 G 14585718.25 14585718.49 14585718.75 0.0137 0.0026 Jupiter 35222-10-17 00:00 G 14585920.42 14585920.50 14585920.59 0.0496 0.0456 Uranus 35223-04-02 12:29 G 14586087.86 14586088.02 14586088.21 0.0137 0.0099 Jupiter 35227-02-26 22:19 G 14587514.35 14587514.43 14587514.52 0.0529 0.0486 Jupiter 35228-04-03 12:00 G 14587915.80 14587916.00 14587916.21 0.0531 0.0250

Saturn 35229-03-03 11:17 G 14588249.74 14588249.97 14588250.21 0.0301 0.0080 Jupiter 35233-09-20 00:43 G 14589911.29 14589911.53 14589911.76 0.0495 0.0042 Jupiter 35239-03-04 01:26 G 14591902.41 14591902.56 14591902.72 0.0529 0.0387 Jupiter 35240-04-08 15:50 G 14592303.99 14592304.16 14592304.34 0.0530 0.0354 Neptune 35243-08-02 13:55 G 14593514.99 14593515.08 14593515.21 0.0088 0.0079 Neptune 35244-08-04 00:57 G 14593882.38 14593882.54 14593882.74 0.0088 0.0062 Saturn 35244-09-04 21:36 G 14593914.16 14593914.40 14593914.65 0.0261 0.0005 Neptune 35245-08-06 12:14 G 14594249.80 14594250.01 14594250.24 0.0088 0.0045 Jupiter 35245-09-24 11:17 G 14594298.74 14594298.97 14594299.20 0.0495 0.0044 Neptune 35246-08-08 23:02 G 14594617.23 14594617.46 14594617.72 0.0088 0.0028 Neptune 35247-08-11 10:19 G 14594984.68 14594984.93 14594985.19 0.0088 0.0011 Neptune 35248-08-12 20:53 G 14595352.12 14595352.37 14595352.63 0.0088 0.0007 Neptune 35249-08-15 07:55 G 14595719.58 14595719.83 14595720.08 0.0088 0.0023 Neptune 35250-08-17 18:00 G 14596087.04 14596087.25 14596087.50 0.0088 0.0041 Jupiter 35251-03-09 01:26 G 14596290.37 14596290.56 14596290.76 0.0530 0.0287 Neptune 35251-08-20 05:17 G 14596454.53 14596454.72 14596454.92 0.0088 0.0057 Jupiter 35252-04-13 17:31 G 14596692.11 14596692.23 14596692.35 0.0530 0.0454 Neptune 35252-08-21 15:36 G 14596822.03 14596822.15 14596822.30 0.0088 0.0074 Jupiter 35256-08-28 09:36 G 14598289.82 14598289.90 14598290.00 0.0498 0.0457 Jupiter 35257-09-28 21:50 G 14598686.19 14598686.41 14598686.64 0.0495 0.0129 Saturn 35259-03-12 01:12 G 14599215.40 14599215.55 14599215.72 0.0300 0.0225 Uranus 35260-09-21 18:00 G 14599775.06 14599775.25 14599775.46 0.0142 0.0087 Uranus 35261-09-26 13:41 G 14600144.82 14600145.07 14600145.33 0.0142 0.0006 Uranus 35262-10-01 08:24 G 14600514.64 14600514.85 14600515.07 0.0141 0.0074 Jupiter 35263-03-14 04:05 G 14600678.46 14600678.67 14600678.89 0.0531 0.0182 Jupiter 35268-09-01 21:50 G 14602677.27 14602677.41 14602677.57 0.0497 0.0376 Jupiter 35269-10-03 07:41 G 14603073.61 14603073.82 14603074.03 0.0495 0.0211 Saturn 35273-08-31 00:00 G 14604501.33 14604501.50 14604501.70 0.0260 0.0169 Saturn 35274-09-11 09:21 G 14604877.74 14604877.89 14604878.07 0.0262 0.0192 Jupiter 35275-03-19 08:53 G 14605066.64 14605066.87 14605067.10 0.0531 0.0077

Jupiter 35280-09-06 09:07 G 14607064.70 14607064.88 14607065.07 0.0496 0.0294 Jupiter 35281-10-07 17:31 G 14607461.05 14607461.23 14607461.43 0.0495 0.0295 Jupiter 35287-03-24 14:09 G 14609454.86 14609455.09 14609455.32 0.0531 0.0031 Saturn 35288-03-04 06:00 G 14609800.51 14609800.75 14609800.99 0.0301 0.0040 Jupiter 35292-09-10 16:19 G 14611451.97 14611452.18 14611452.39 0.0496 0.0215 Jupiter 35293-10-12 01:26 G 14611848.42 14611848.56 14611848.72 0.0496 0.0374 Jupiter 35299-03-29 18:14 G 14613843.04 14613843.26 14613843.49 0.0531 0.0139 Saturn 35303-09-07 16:33 G 14615464.95 14615465.19 14615465.44 0.0261 0.0032 Uranus 35304-03-21 06:00 G 14615660.65 14615660.75 14615660.90 0.0136 0.0118 Jupiter 35304-09-16 02:53 G 14615839.40 14615839.62 14615839.85 0.0496 0.0130 Uranus 35305-03-25 18:14 G 14616030.03 14616030.26 14616030.51 0.0137 0.0046 Jupiter 35305-10-17 12:14 G 14616235.92 14616236.01 14616236.11 0.0496 0.0453 Uranus 35306-03-30 06:29 G 14616399.53 14616399.77 14616400.03 0.0137 0.0027 Uranus 35307-04-03 19:41 G 14616769.15 14616769.32 14616769.50 0.0137 0.0100 Pluto 35309-04-16 01:41 G 14617512.32 14617512.57 14617512.83 0.0066 0.0006 Jupiter 35310-02-27 06:57 G 14617829.71 14617829.79 14617829.88 0.0528 0.0492 Jupiter 35311-04-04 19:12 G 14618231.09 14618231.30 14618231.51 0.0531 0.0244 Jupiter 35316-09-20 14:38 G 14620226.88 14620227.11 14620227.34 0.0495 0.0043 Saturn 35317-02-26 15:50 G 14620386.14 14620386.16 14620386.19 0.0302 0.0300 Saturn 35318-03-13 20:24 G 14620766.24 14620766.35 14620766.46 0.0300 0.0265 Jupiter 35322-03-04 08:24 G 14622217.70 14622217.85 14622218.01 0.0529 0.0394 Jupiter 35323-04-09 23:02 G 14622619.29 14622619.46 14622619.64 0.0531 0.0349 Neptune 35326-01-31 17:17 G 14623647.16 14623647.22 14623647.34 0.0090 0.0084 Neptune 35327-02-03 05:45 G 14624014.59 14624014.74 14624014.94 0.0090 0.0066 Neptune 35328-02-05 18:14 G 14624382.06 14624382.26 14624382.49 0.0090 0.0048 Jupiter 35328-09-25 00:57 G 14624614.30 14624614.54 14624614.77 0.0495 0.0041 Neptune 35329-02-07 06:57 G 14624749.55 14624749.79 14624750.04 0.0090 0.0030 Neptune 35330-02-09 19:12 G 14625117.05 14625117.30 14625117.56 0.0090 0.0012 Neptune 35331-02-12 07:55 G 14625484.58 14625484.83 14625485.09 0.0090 0.0007 Neptune 35332-02-14 20:09 G 14625852.11 14625852.34 14625852.60 0.0090 0.0025 Saturn 35332-09-01 19:55 G 14626052.12 14626052.33 14626052.55 0.0260 0.0133 Neptune 35333-02-16 08:53 G 14626219.66 14626219.87 14626220.11 0.0090 0.0043 Saturn 35333-09-13 04:33 G 14626428.58 14626428.69 14626428.82 0.0262 0.0227 Neptune 35334-02-18 21:36 G 14626587.22 14626587.40 14626587.60 0.0090 0.0061 Jupiter 35334-03-09 11:45 G 14626605.80 14626605.99 14626606.18 0.0530 0.0293 Neptune 35335-02-21 10:05 G 14626954.82 14626954.92 14626955.06 0.0090 0.0079 Jupiter 35335-04-15 04:33 G 14627007.57 14627007.69 14627007.81 0.0531 0.0452 35337-01-20 12:29 G 14627653.84 14627654.02 14627654.20 0.1756 0.0613 Mars Jupiter 35339-08-29 23:17 G 14628605.39 14628605.47 14628605.56 0.0497 0.0460 Jupiter 35340-09-29 11:17 G 14629001.74 14629001.97 14629002.20 0.0495 0.0126 Uranus 35344-09-23 03:36 G 14630456.46 14630456.65 14630456.87 0.0142 0.0084 Uranus 35345-09-27 23:45 G 14630826.23 14630826.49 14630826.74 0.0142 0.0004 Jupiter 35346-03-14 17:02 G 14630993.99 14630994.21 14630994.43 0.0530 0.0188 Uranus 35346-10-02 18:14 G 14631196.06 14631196.26 14631196.49 0.0141 0.0077 Saturn 35347-03-06 23:45 G 14631351.25 14631351.49 14631351.74 0.0301 0.0002 Jupiter 35351-09-03 06:14 G 14632992.62 14632992.76 14632992.91 0.0497 0.0384 Jupiter 35352-10-03 17:45 G 14633389.04 14633389.24 14633389.46 0.0495 0.0207 Jupiter 35358-03-19 21:21 G 14635382.16 14635382.39 14635382.62 0.0530 0.0081 Mars 35358-07-21 14:09 G 14635505.92 14635506.09 14635506.25 0.1786 0.0937 Saturn 35362-09-08 12:14 G 14637015.77 14637016.01 14637016.25 0.0261 0.0067 Jupiter 35363-09-07 17:31 G 14637380.05 14637380.23 14637380.42 0.0497 0.0301 Jupiter 35364-10-08 04:33 G 14637776.50 14637776.69 14637776.88 0.0496 0.0291 Jupiter 35370-03-24 21:36 G 14639770.17 14639770.40 14639770.63 0.0531 0.0025 Jupiter 35375-09-12 05:31 G 14641767.53 14641767.73 14641767.95 0.0496 0.0218 Saturn 35376-02-28 10:48 G 14641936.84 14641936.95 14641937.08 0.0302 0.0261 Jupiter 35376-10-12 15:21 G 14642163.99 14642164.14 14642164.29 0.0496 0.0374 Jupiter 35382-03-30 00:29 G 14644158.30 14644158.52 14644158.75 0.0531 0.0134 Jupiter 35387-09-16 16:48 G 14646154.98 14646155.20 14646155.43 0.0496 0.0133 Uranus 35388-03-21 13:41 G 14646341.95 14646342.07 14646342.21 0.0136 0.0115 Jupiter 35388-10-17 00:57 G 14646551.45 14646551.54 14646551.64 0.0496 0.0451

Uranus 35389-03-26 01:12 G 14646711.32 14646711.55 14646711.80 0.0136 0.0045 Uranus 35390-03-30 13:41 G 14647080.82 14647081.07 14647081.32 0.0137 0.0028 Uranus 35391-04-04 02:24 G 14647450.44 14647450.60 14647450.78 0.0137 0.0101 Saturn 35391-09-03 17:02 G 14647602.98 14647603.21 14647603.44 0.0260 0.0096 Jupiter 35393-02-26 16:05 G 14648145.11 14648145.17 14648145.25 0.0529 0.0500 Jupiter 35394-04-04 05:17 G 14648546.52 14648546.72 14648546.93 0.0531 0.0240 35396-10-16 17:31 G 14649472.98 14649473.23 14649473.49 0.0079 0.0016 Pluto Jupiter 35399-09-21 03:21 G 14650542.41 14650542.64 14650542.87 0.0495 0.0046 Jupiter 35405-03-04 21:07 G 14652533.23 14652533.38 14652533.53 0.0529 0.0400 Saturn 35406-03-08 19:55 G 14652902.09 14652902.33 14652902.58 0.0301 0.0040 Jupiter 35406-04-10 11:02 G 14652934.78 14652934.96 14652935.13 0.0530 0.0345 Neptune 35408-08-05 11:17 G 14653782.84 14653782.97 14653783.14 0.0088 0.0071 Neptune 35409-08-07 22:33 G 14654150.25 14654150.44 14654150.66 0.0088 0.0054 Neptune 35410-08-10 09:36 G 14654517.68 14654517.90 14654518.15 0.0088 0.0037 Neptune 35411-08-12 20:38 G 14654885.12 14654885.36 14654885.62 0.0088 0.0020 Jupiter 35411-09-26 09:21 G 14654929.66 14654929.89 14654930.13 0.0495 0.0036 Neptune 35412-08-14 07:55 G 14655252.57 14655252.83 14655253.09 0.0088 0.0002 Neptune 35413-08-16 18:29 G 14655620.02 14655620.27 14655620.53 0.0088 0.0015 Neptune 35414-08-19 05:31 G 14655987.49 14655987.73 14655987.97 0.0088 0.0032 Neptune 35415-08-21 16:19 G 14656354.97 14656355.18 14656355.39 0.0088 0.0049 Neptune 35416-08-23 02:09 G 14656722.45 14656722.59 14656722.79 0.0088 0.0067 Jupiter 35417-03-10 00:43 G 14656921.34 14656921.53 14656921.72 0.0530 0.0296 Neptune 35417-08-25 13:41 G 14657089.99 14657090.07 14657090.15 0.0088 0.0083 Jupiter 35418-04-15 14:38 G 14657323.00 14657323.11 14657323.24 0.0530 0.0448 Saturn 35420-08-30 01:55 G 14658190.53 14658190.58 14658190.64 0.0260 0.0253 Saturn 35421-09-10 09:50 G 14658566.69 14658566.91 14658567.14 0.0261 0.0104 Jupiter 35422-08-30 05:45 G 14658920.67 14658920.74 14658920.82 0.0498 0.0469 Jupiter 35423-09-30 19:41 G 14659317.10 14659317.32 14659317.55 0.0495 0.0121 Uranus 35428-09-24 10:33 G 14661137.75 14661137.94 14661138.16 0.0142 0.0083 Jupiter 35429-03-15 00:14 G 14661309.30 14661309.51 14661309.73 0.0530 0.0195

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Neptune 35494-02-10 05:17 G 14685017.48 14685017.72 14685017.98 0.0090 0.0021 Saturn 35494-03-03 09:36 G 14685038.71 14685038.90 14685039.11 0.0302 0.0168 Jupiter 35494-09-25 20:24 G 14685245.12 14685245.35 14685245.59 0.0495 0.0033 Neptune 35495-02-12 17:45 G 14685384.98 14685385.24 14685385.50 0.0090 0.0002 Neptune 35496-02-15 06:14 G 14685752.51 14685752.76 14685753.02 0.0090 0.0016 Neptune 35497-02-16 18:29 G 14686120.05 14686120.27 14686120.53 0.0090 0.0035 Neptune 35498-02-19 06:43 G 14686487.60 14686487.78 14686488.01 0.0090 0.0053 Neptune 35499-02-21 19:41 G 14686855.18 14686855.32 14686855.50 0.0090 0.0071 Neptune 35500-02-24 08:09 G 14687222.83 14687222.84 14687222.91 0.0090 0.0089 Jupiter 35500-03-10 03:21 G 14687236.46 14687236.64 14687236.84 0.0529 0.0308 Jupiter 35501-04-15 17:17 G 14687638.09 14687638.22 14687638.35 0.0530 0.0441 Jupiter 35505-08-30 16:33 G 14689236.14 14689236.19 14689236.27 0.0498 0.0476 Jupiter 35506-10-01 06:29 G 14689632.55 14689632.77 14689633.00 0.0495 0.0117 Saturn 35509-09-07 18:29 G 14690705.03 14690705.27 14690705.52 0.0261 0.0015 Jupiter 35512-03-15 05:17 G 14691624.50 14691624.72 14691624.93 0.0530 0.0204 Uranus 35512-09-25 17:17 G 14691819.02 14691819.22 14691819.43 0.0142 0.0082 Uranus 35513-09-30 13:26 G 14692188.80 14692189.06 14692189.31 0.0142 0.0002 Uranus 35514-10-05 08:09 G 14692558.65 14692558.84 14692559.07 0.0141 0.0080 Jupiter 35517-09-04 04:05 G 14693623.54 14693623.67 14693623.82 0.0497 0.0394 Jupiter 35518-10-05 16:05 G 14694019.95 14694020.17 14694020.38 0.0495 0.0202 Saturn 35524-03-11 22:33 G 14696004.23 14696004.44 14696004.67 0.0301 0.0140 Jupiter 35524-03-20 10:48 G 14696012.72 14696012.95 14696013.18 0.0530 0.0096 Jupiter 35529-09-08 10:33 G 14698010.76 14698010.94 14698011.12 0.0497 0.0315 Jupiter 35530-10-09 21:21 G 14698407.20 14698407.39 14698407.59 0.0496 0.0284 Jupiter 35536-03-25 14:24 G 14700400.87 14700401.10 14700401.34 0.0531 0.0016 Saturn 35538-09-03 04:48 G 14701292.52 14701292.70 14701292.89 0.0260 0.0170 Saturn 35539-09-14 13:26 G 14701668.90 14701669.06 14701669.23 0.0261 0.0190 Jupiter 35541-09-12 20:38 G 14702398.15 14702398.36 14702398.56 0.0496 0.0231 35542-01-20 12:14 G 14702528.00 14702528.01 14702528.02 0.1742 0.1736 Mars Jupiter 35542-10-14 06:57 G 14702794.64 14702794.79 14702794.96 0.0496 0.0367

Jupiter 35548-03-30 13:41 G 14704788.84 14704789.07 14704789.30 0.0530 0.0119 Saturn 35553-03-05 16:05 G 14706589.95 14706590.17 14706590.40 0.0302 0.0109 Jupiter 35553-09-17 07:55 G 14706785.61 14706785.83 14706786.05 0.0496 0.0145 Jupiter 35554-10-18 17:45 G 14707182.15 14707182.24 14707182.34 0.0496 0.0447 Pluto 35555-04-20 08:09 G 14707365.59 14707365.84 14707366.11 0.0066 0.0005 Uranus 35556-03-24 07:12 G 14707704.66 14707704.80 14707704.95 0.0136 0.0110 Uranus 35557-03-28 18:29 G 14708074.04 14708074.27 14708074.52 0.0136 0.0040 Uranus 35558-04-02 06:57 G 14708443.55 14708443.79 14708444.04 0.0137 0.0033 Jupiter 35559-02-28 04:33 G 14708775.66 14708775.69 14708775.74 0.0528 0.0517 Uranus 35559-04-06 19:41 G 14708813.18 14708813.32 14708813.50 0.0137 0.0106 Jupiter 35560-04-04 15:07 G 14709176.92 14709177.13 14709177.34 0.0531 0.0226 Jupiter 35565-09-21 18:14 G 14711173.03 14711173.26 14711173.49 0.0496 0.0060 Saturn 35568-09-08 23:31 G 14712256.24 14712256.48 14712256.72 0.0261 0.0033 Jupiter 35571-03-05 04:33 G 14713163.56 14713163.69 14713163.84 0.0529 0.0421 Jupiter 35572-04-09 18:00 G 14713565.06 14713565.25 14713565.43 0.0531 0.0330 Neptune 35572-08-05 21:50 G 14713683.33 14713683.41 14713683.53 0.0088 0.0080 Neptune 35573-08-08 08:53 G 14714050.71 14714050.87 14714051.07 0.0088 0.0063 Neptune 35574-08-10 19:55 G 14714418.13 14714418.33 14714418.57 0.0088 0.0046 Neptune 35575-08-13 07:26 G 14714785.56 14714785.81 14714786.05 0.0088 0.0028 Neptune 35576-08-14 18:14 G 14715153.00 14715153.26 14715153.52 0.0088 0.0011 Neptune 35577-08-17 05:17 G 14715520.46 14715520.72 14715520.98 0.0088 0.0007 Jupiter 35577-09-26 03:36 G 14715560.42 14715560.65 14715560.89 0.0495 0.0027 Neptune 35578-08-19 16:05 G 14715887.93 14715888.17 14715888.42 0.0088 0.0024 Neptune 35579-08-22 02:53 G 14716255.39 14716255.62 14716255.85 0.0088 0.0041 Neptune 35580-08-23 13:12 G 14716622.88 14716623.05 14716623.26 0.0088 0.0059 Neptune 35581-08-25 23:45 G 14716990.39 14716990.49 14716990.64 0.0088 0.0076 Jupiter 35583-03-10 08:38 G 14717551.68 14717551.86 14717552.05 0.0530 0.0317 Saturn 35583-03-14 08:38 G 14717555.69 14717555.86 14717556.05 0.0300 0.0202 Jupiter 35584-04-14 23:17 G 14717953.35 14717953.47 14717953.61 0.0530 0.0436 Jupiter 35588-08-29 18:57 G 14719551.25 14719551.29 14719551.34 0.0498 0.0487

Jupiter 35589-09-30 08:53 G 14719947.64 14719947.87 14719948.09 0.0495 0.0109 Jupiter 35595-03-15 11:45 G 14721939.78 14721939.99 14721940.20 0.0530 0.0212 Uranus 35596-09-26 01:41 G 14722500.37 14722500.57 14722500.79 0.0142 0.0080 Saturn 35597-09-04 10:33 G 14722843.72 14722843.94 14722844.16 0.0260 0.0123 Uranus 35597-09-30 21:50 G 14722870.16 14722870.41 14722870.66 0.0142 0.0001 Saturn 35598-09-15 19:41 G 14723220.23 14723220.32 14723220.42 0.0262 0.0239 Uranus 35598-10-05 16:48 G 14723240.00 14723240.20 14723240.42 0.0141 0.0081 Jupiter 35600-09-03 05:17 G 14723938.59 14723938.72 14723938.85 0.0497 0.0406 Jupiter 35601-10-04 18:00 G 14724335.03 14724335.25 14724335.46 0.0495 0.0195 Jupiter 35607-03-20 10:19 G 14726327.71 14726327.93 14726328.16 0.0530 0.0110 Saturn 35612-03-07 04:33 G 14728141.45 14728141.69 14728141.93 0.0302 0.0041 Jupiter 35612-09-07 16:19 G 14728326.01 14728326.18 14728326.36 0.0497 0.0325 Jupiter 35613-10-09 04:33 G 14728722.50 14728722.69 14728722.88 0.0496 0.0279 Jupiter 35619-03-25 11:02 G 14730715.72 14730715.96 14730716.19 0.0530 0.0007 35621-01-23 01:26 G 14731385.40 14731385.56 14731385.73 0.1748 0.0904 Mars Jupiter 35624-09-12 03:21 G 14732713.44 14732713.64 14732713.84 0.0496 0.0240 Jupiter 35625-10-13 13:12 G 14733109.90 14733110.05 14733110.22 0.0496 0.0361 Saturn 35627-09-11 07:26 G 14733807.58 14733807.81 14733808.04 0.0261 0.0085 Jupiter 35631-03-30 12:29 G 14735103.79 14735104.02 14735104.25 0.0531 0.0106 Jupiter 35636-09-16 12:57 G 14737100.82 14737101.04 14737101.26 0.0496 0.0154 Jupiter 35637-10-17 22:05 G 14737497.32 14737497.42 14737497.53 0.0496 0.0440 Uranus 35640-03-24 16:05 G 14738386.04 14738386.17 14738386.34 0.0136 0.0108 Saturn 35641-02-28 18:57 G 14738727.25 14738727.29 14738727.35 0.0302 0.0295 Uranus 35641-03-29 04:05 G 14738755.43 14738755.67 14738755.92 0.0136 0.0037 Saturn 35642-03-15 23:31 G 14739107.38 14739107.48 14739107.58 0.0300 0.0273 Uranus 35642-04-02 16:33 G 14739124.95 14739125.19 14739125.44 0.0137 0.0036 35642-07-23 18:14 G 14739237.10 14739237.26 14739237.42 0.1795 0.1010 Mars Pluto 35642-10-21 02:53 G 14739326.37 14739326.62 14739326.88 0.0079 0.0002 Jupiter 35643-04-04 17:31 G 14739492.02 14739492.23 14739492.45 0.0531 0.0217 Uranus 35643-04-07 05:31 G 14739494.60 14739494.73 14739494.90 0.0137 0.0109 Jupiter 35648-09-20 18:29 G 14741488.04 14741488.27 14741488.50 0.0495 0.0071 Jupiter 35654-03-04 08:09 G 14743478.71 14743478.84 14743478.97 0.0529 0.0432 Neptune 35655-02-04 01:26 G 14743815.49 14743815.56 14743815.65 0.0089 0.0085 Jupiter 35655-04-09 21:21 G 14743880.20 14743880.39 14743880.57 0.0531 0.0323 Neptune 35656-02-06 13:41 G 14744182.92 14744183.07 14744183.26 0.0089 0.0067 Saturn 35656-09-05 18:29 G 14744395.03 14744395.27 14744395.51 0.0261 0.0071 Neptune 35657-02-08 01:55 G 14744550.39 14744550.58 14744550.82 0.0090 0.0049 Neptune 35658-02-10 14:09 G 14744917.87 14744918.09 14744918.35 0.0090 0.0031 Neptune 35659-02-13 03:07 G 14745285.37 14745285.63 14745285.89 0.0090 0.0012 Neptune 35660-02-15 15:36 G 14745652.89 14745653.15 14745653.41 0.0090 0.0007 Jupiter 35660-09-25 03:21 G 14745875.41 14745875.64 14745875.87 0.0495 0.0015 Neptune 35661-02-17 03:36 G 14746020.41 14746020.65 14746020.91 0.0090 0.0025 Neptune 35662-02-19 16:05 G 14746387.96 14746388.17 14746388.41 0.0090 0.0044 Neptune 35663-02-22 04:33 G 14746755.52 14746755.69 14746755.89 0.0090 0.0062 Neptune 35664-02-24 17:31 G 14747123.12 14747123.23 14747123.35 0.0090 0.0080 Jupiter 35666-03-09 06:29 G 14747866.59 14747866.77 14747866.95 0.0529 0.0335 Jupiter 35667-04-14 19:26 G 14748268.18 14748268.31 14748268.46 0.0530 0.0423 Saturn 35671-03-09 22:05 G 14749693.18 14749693.42 14749693.67 0.0301 0.0037 Jupiter 35672-09-29 13:41 G 14750262.84 14750263.07 14750263.30 0.0495 0.0100 Jupiter 35678-03-14 06:00 G 14752254.55 14752254.75 14752254.96 0.0530 0.0232 Jupiter 35679-04-19 19:55 G 14752656.31 14752656.33 14752656.38 0.0530 0.0523 Uranus 35680-09-26 12:57 G 14753181.84 14753182.04 14753182.26 0.0142 0.0076 Uranus 35681-10-01 09:07 G 14753551.62 14753551.88 14753552.13 0.0142 0.0005 Uranus 35682-10-06 04:05 G 14753921.48 14753921.67 14753921.89 0.0141 0.0085 Jupiter 35683-09-03 09:36 G 14754253.77 14754253.90 14754254.02 0.0498 0.0419 Jupiter 35684-10-03 22:48 G 14754650.23 14754650.45 14754650.66 0.0495 0.0185 Saturn 35685-09-01 08:24 G 14754982.73 14754982.85 14754982.98 0.0260 0.0221 Saturn 35686-09-12 17:02 G 14755359.01 14755359.21 14755359.43 0.0261 0.0139 Jupiter 35690-03-19 06:00 G 14756642.53 14756642.75 14756642.98 0.0530 0.0127 Jupiter 35695-09-07 19:55 G 14758641.16 14758641.33 14758641.51 0.0497 0.0336

Jupiter 35696-10-08 06:57 G 14759037.60 14759037.79 14759037.99 0.0495 0.0270 Saturn 35700-03-03 15:50 G 14760278.99 14760279.16 14760279.34 0.0301 0.0213 Jupiter 35702-03-25 10:19 G 14761030.70 14761030.93 14761031.16 0.0531 0.0016 Jupiter 35707-09-13 02:24 G 14763028.40 14763028.60 14763028.80 0.0496 0.0254 Jupiter 35708-10-13 12:00 G 14763424.84 14763425.00 14763425.17 0.0495 0.0351 Jupiter 35714-03-30 13:26 G 14765418.84 14765419.06 14765419.30 0.0531 0.0095 Saturn 35715-09-09 04:05 G 14765946.42 14765946.67 14765946.92 0.0261 0.0017 Jupiter 35719-09-17 11:31 G 14767415.77 14767415.98 14767416.20 0.0496 0.0168 Jupiter 35720-10-17 20:53 G 14767812.26 14767812.37 14767812.49 0.0496 0.0432 Uranus 35724-03-26 03:07 G 14769067.47 14769067.63 14769067.80 0.0136 0.0104 Uranus 35725-03-30 14:38 G 14769436.88 14769437.11 14769437.37 0.0136 0.0034 Uranus 35726-04-04 03:21 G 14769806.41 14769806.64 14769806.90 0.0137 0.0040 Jupiter 35726-04-04 12:14 G 14769806.79 14769807.01 14769807.23 0.0531 0.0197 \* Uranus 35727-04-08 16:48 G 14770176.06 14770176.20 14770176.35 0.0137 0.0113 Saturn 35730-03-12 19:12 G 14771245.08 14771245.30 14771245.53 0.0301 0.0119 Jupiter 35731-09-21 21:21 G 14771803.16 14771803.39 14771803.62 0.0496 0.0083 Jupiter 35737-03-04 01:41 G 14773793.46 14773793.57 14773793.69 0.0528 0.0454 Neptune 35737-08-08 18:43 G 14773951.14 14773951.28 14773951.43 0.0088 0.0072 Jupiter 35738-04-09 12:29 G 14774194.84 14774195.02 14774195.22 0.0530 0.0304 Neptune 35738-08-11 05:31 G 14774318.54 14774318.73 14774318.95 0.0088 0.0055 Neptune 35739-08-13 16:05 G 14774685.96 14774686.17 14774686.43 0.0088 0.0038 Neptune 35740-08-15 03:36 G 14775053.40 14775053.65 14775053.91 0.0088 0.0020 Neptune 35741-08-17 14:38 G 14775420.86 14775421.11 14775421.37 0.0088 0.0003 Neptune 35742-08-20 01:41 G 14775788.31 14775788.57 14775788.82 0.0088 0.0015 Neptune 35743-08-22 12:14 G 14776155.79 14776156.01 14776156.27 0.0088 0.0033 Jupiter 35743-09-26 06:57 G 14776190.55 14776190.79 14776191.02 0.0495 0.0005 Neptune 35744-08-23 23:17 G 14776523.27 14776523.47 14776523.69 0.0088 0.0050 Saturn 35744-09-03 18:29 G 14776534.09 14776534.27 14776534.47 0.0260 0.0166 Neptune 35745-08-26 09:50 G 14776890.77 14776890.91 14776891.10 0.0088 0.0068 Saturn 35745-09-15 03:36 G 14776910.50 14776910.65 14776910.83 0.0262 0.0196

Neptune 35746-08-28 20:38 G 14777258.32 14777258.36 14777258.45 0.0088 0.0085 Jupiter 35749-03-09 00:00 G 14778181.33 14778181.50 14778181.68 0.0529 0.0355 Jupiter 35750-04-14 13:41 G 14778582.93 14778583.07 14778583.22 0.0531 0.0408 Jupiter 35755-09-30 15:36 G 14780577.92 14780578.15 14780578.38 0.0495 0.0089 Saturn 35759-03-06 15:07 G 14781830.92 14781831.13 14781831.36 0.0301 0.0127 Jupiter 35761-03-14 02:38 G 14782569.41 14782569.61 14782569.82 0.0530 0.0250 Jupiter 35762-04-19 18:29 G 14782971.22 14782971.27 14782971.33 0.0530 0.0513 Uranus 35764-09-28 01:55 G 14783863.36 14783863.58 14783863.80 0.0142 0.0071 Uranus 35765-10-02 21:50 G 14784233.16 14784233.41 14784233.67 0.0142 0.0010 Jupiter 35766-09-03 08:53 G 14784568.77 14784568.87 14784568.99 0.0497 0.0434 Uranus 35766-10-07 16:48 G 14784603.02 14784603.20 14784603.41 0.0141 0.0090 Jupiter 35767-10-04 21:07 G 14784965.16 14784965.38 14784965.60 0.0495 0.0172 Jupiter 35773-03-19 05:31 G 14786957.50 14786957.73 14786957.95 0.0531 0.0143 Saturn 35774-09-10 14:24 G 14787497.85 14787498.10 14787498.34 0.0261 0.0039 Jupiter 35778-09-07 18:29 G 14788956.11 14788956.27 14788956.44 0.0497 0.0351 Jupiter 35779-10-09 05:45 G 14789352.54 14789352.74 14789352.93 0.0495 0.0258 Jupiter 35785-03-24 04:19 G 14791345.45 14791345.68 14791345.91 0.0530 0.0039 Saturn 35789-03-14 18:14 G 14792797.09 14792797.26 14792797.45 0.0301 0.0206 Jupiter 35790-09-12 04:05 G 14793343.48 14793343.67 14793343.87 0.0497 0.0270 Jupiter 35791-10-13 15:07 G 14793739.97 14793740.13 14793740.31 0.0496 0.0341 Jupiter 35797-03-29 05:02 G 14795733.47 14795733.71 14795733.94 0.0530 0.0072 Pluto 35801-04-23 16:05 G 14797218.94 14797219.17 14797219.44 0.0066 0.0019 Jupiter 35802-09-17 14:09 G 14797730.87 14797731.09 14797731.31 0.0496 0.0183 Saturn 35803-09-07 04:33 G 14798085.47 14798085.69 14798085.92 0.0260 0.0111 Jupiter 35803-10-19 00:14 G 14798127.39 14798127.51 14798127.63 0.0496 0.0422 Saturn 35804-09-17 14:09 G 14798462.04 14798462.09 14798462.17 0.0262 0.0253 Uranus 35808-03-27 12:00 G 14799748.85 14799749.00 14799749.18 0.0136 0.0103 Uranus 35809-04-01 00:14 G 14800118.26 14800118.51 14800118.76 0.0136 0.0031 Jupiter 35809-04-04 05:02 G 14800121.50 14800121.71 14800121.93 0.0531 0.0178 Uranus 35810-04-05 12:43 G 14800487.79 14800488.03 14800488.28 0.0137 0.0042

Uranus 35811-04-10 01:26 G 14800857.44 14800857.56 14800857.72 0.0137 0.0115 Jupiter 35814-09-21 23:31 G 14802118.25 14802118.48 14802118.71 0.0496 0.0096 Saturn 35818-03-09 15:07 G 14803382.89 14803383.13 14803383.37 0.0301 0.0039 Neptune 35820-02-07 22:33 G 14804083.33 14804083.44 14804083.59 0.0089 0.0077 Jupiter 35820-03-03 20:53 G 14804108.28 14804108.37 14804108.48 0.0528 0.0474 Neptune 35821-02-09 10:48 G 14804450.78 14804450.95 14804451.17 0.0089 0.0059 Jupiter 35821-04-09 09:07 G 14804509.69 14804509.88 14804510.08 0.0531 0.0289 Neptune 35822-02-11 23:31 G 14804818.26 14804818.48 14804818.72 0.0089 0.0040 Neptune 35823-02-14 12:00 G 14805185.76 14805186.00 14805186.26 0.0090 0.0022 Neptune 35824-02-17 00:29 G 14805553.27 14805553.52 14805553.78 0.0090 0.0003 Neptune 35825-02-18 12:57 G 14805920.79 14805921.04 14805921.30 0.0090 0.0016 35826-01-23 03:21 G 14806259.53 14806259.64 14806259.76 0.1735 0.1350 Mars Neptune 35826-02-21 01:12 G 14806288.32 14806288.55 14806288.80 0.0090 0.0035 Jupiter 35826-09-26 06:14 G 14806505.53 14806505.76 14806506.00 0.0495 0.0016 Neptune 35827-02-23 13:55 G 14806655.88 14806656.08 14806656.29 0.0090 0.0053 Neptune 35828-02-26 01:55 G 14807023.45 14807023.58 14807023.75 0.0090 0.0072 Jupiter 35832-03-08 22:33 G 14808496.28 14808496.44 14808496.61 0.0529 0.0373 Jupiter 35833-04-14 12:57 G 14808897.89 14808898.04 14808898.20 0.0531 0.0396 Saturn 35833-09-12 23:45 G 14809049.26 14809049.49 14809049.72 0.0261 0.0095 Jupiter 35838-09-30 14:53 G 14810892.89 14810893.12 14810893.35 0.0495 0.0076 Jupiter 35844-03-13 22:05 G 14812884.23 14812884.42 14812884.63 0.0529 0.0274 Jupiter 35845-04-19 11:45 G 14813285.91 14813285.99 14813286.07 0.0530 0.0494 Saturn 35847-03-03 11:45 G 14813968.91 14813968.99 14813969.09 0.0302 0.0280 Saturn 35848-03-17 16:33 G 14814349.14 14814349.19 14814349.25 0.0300 0.0291 Uranus 35848-09-29 15:07 G 14814544.92 14814545.13 14814545.36 0.0142 0.0066 Jupiter 35849-09-03 09:36 G 14814883.81 14814883.90 14814884.00 0.0498 0.0452 Uranus 35849-10-04 11:02 G 14814914.72 14814914.96 14814915.22 0.0142 0.0016 Jupiter 35850-10-05 00:14 G 14815280.29 14815280.51 14815280.73 0.0495 0.0160 Uranus 35850-10-09 06:29 G 14815284.59 14815284.77 14815284.96 0.0141 0.0096 Jupiter 35856-03-18 22:33 G 14817272.22 14817272.44 14817272.66 0.0530 0.0167

Jupiter 35861-09-07 20:24 G 14819271.20 14819271.35 14819271.51 0.0497 0.0369 Saturn 35862-09-08 13:26 G 14819636.82 14819637.06 14819637.31 0.0260 0.0056 Jupiter 35862-10-09 09:21 G 14819667.69 14819667.89 14819668.09 0.0495 0.0247 Jupiter 35868-03-23 22:05 G 14821660.19 14821660.42 14821660.65 0.0530 0.0059 Jupiter 35873-09-12 06:57 G 14823658.60 14823658.79 14823658.98 0.0497 0.0282 Jupiter 35874-10-13 18:00 G 14824055.07 14824055.25 14824055.42 0.0495 0.0331 Saturn 35877-03-11 12:57 G 14824934.81 14824935.04 14824935.29 0.0301 0.0047 Jupiter 35880-03-29 00:57 G 14826048.31 14826048.54 14826048.77 0.0531 0.0054 Jupiter 35885-09-16 15:36 G 14828045.94 14828046.15 14828046.36 0.0496 0.0197 Jupiter 35886-10-18 00:14 G 14828442.39 14828442.51 14828442.64 0.0495 0.0411 Pluto 35888-10-24 15:07 G 14829179.92 14829180.13 14829180.39 0.0079 0.0033 Saturn 35891-09-03 22:48 G 14830224.32 14830224.45 14830224.60 0.0260 0.0213 Uranus 35892-03-27 21:50 G 14830430.24 14830430.41 14830430.58 0.0136 0.0099 Jupiter 35892-04-03 04:48 G 14830436.49 14830436.70 14830436.93 0.0531 0.0164 Saturn 35892-09-14 07:26 G 14830600.62 14830600.81 14830601.02 0.0262 0.0149 Uranus 35893-04-01 09:21 G 14830799.65 14830799.89 14830800.14 0.0136 0.0028 Uranus 35894-04-05 21:36 G 14831169.17 14831169.40 14831169.66 0.0137 0.0045 Uranus 35895-04-10 10:33 G 14831538.82 14831538.94 14831539.08 0.0137 0.0118 Jupiter 35897-09-21 00:57 G 14832433.31 14832433.54 14832433.76 0.0495 0.0110 Jupiter 35898-10-22 09:21 G 14832829.87 14832829.89 14832829.92 0.0496 0.0493 Neptune 35901-08-10 03:50 G 14833851.58 14833851.66 14833851.76 0.0088 0.0082 Neptune 35902-08-12 14:24 G 14834218.95 14834219.10 14834219.30 0.0088 0.0065 Jupiter 35903-03-04 18:57 G 14834423.22 14834423.29 14834423.37 0.0528 0.0496 Neptune 35903-08-15 01:41 G 14834586.36 14834586.57 14834586.80 0.0088 0.0047 Jupiter 35904-04-09 05:02 G 14834824.51 14834824.71 14834824.91 0.0531 0.0267 Neptune 35904-08-16 12:29 G 14834953.79 14834954.02 14834954.28 0.0088 0.0030 35905-01-26 15:36 G 14835117.02 14835117.15 14835117.28 0.1740 0.1227 Mars Neptune 35905-08-18 23:31 G 14835321.23 14835321.48 14835321.74 0.0088 0.0012 Saturn 35906-03-06 07:41 G 14835520.63 14835520.82 14835521.00 0.0302 0.0199 Neptune 35906-08-21 10:33 G 14835688.69 14835688.94 14835689.20 0.0088 0.0006

Neptune 35907-08-23 21:07 G 14836056.14 14836056.38 14836056.64 0.0088 0.0024 Neptune 35908-08-25 07:55 G 14836423.63 14836423.83 14836424.08 0.0088 0.0042 Neptune 35909-08-27 18:57 G 14836791.11 14836791.29 14836791.50 0.0088 0.0059 Jupiter 35909-09-26 09:36 G 14836820.67 14836820.90 14836821.13 0.0496 0.0026 Neptune 35910-08-30 05:17 G 14837158.63 14837158.72 14837158.88 0.0088 0.0077 Jupiter 35915-03-09 19:26 G 14838811.16 14838811.31 14838811.46 0.0528 0.0394 Jupiter 35916-04-14 06:29 G 14839212.61 14839212.77 14839212.94 0.0530 0.0375 Saturn 35921-09-10 20:24 G 14841188.10 14841188.35 14841188.59 0.0260 0.0005 Jupiter 35921-09-30 19:26 G 14841208.08 14841208.31 14841208.54 0.0496 0.0063 35926-07-26 19:26 G 14842968.16 14842968.31 14842968.45 0.1805 0.1200 Mars Jupiter 35927-03-14 17:45 G 14843199.05 14843199.24 14843199.44 0.0529 0.0292 Jupiter 35928-04-19 06:57 G 14843600.70 14843600.79 14843600.90 0.0530 0.0480 Jupiter 35932-09-03 13:41 G 14845199.00 14845199.07 14845199.16 0.0498 0.0465 Uranus 35932-10-01 01:55 G 14845226.36 14845226.58 14845226.82 0.0142 0.0062 Jupiter 35933-10-05 04:33 G 14845595.47 14845595.69 14845595.92 0.0495 0.0151 Uranus 35933-10-05 22:19 G 14845596.18 14845596.43 14845596.69 0.0142 0.0020 Uranus 35934-10-10 17:45 G 14845966.07 14845966.24 14845966.43 0.0141 0.0100 Saturn 35936-03-14 06:14 G 14846486.55 14846486.76 14846486.99 0.0301 0.0126 Jupiter 35939-03-19 19:41 G 14847587.11 14847587.32 14847587.54 0.0530 0.0185 Jupiter 35944-09-08 00:29 G 14849586.38 14849586.52 14849586.67 0.0497 0.0382 Jupiter 35945-10-09 12:14 G 14849982.81 14849983.01 14849983.22 0.0495 0.0235 Saturn 35950-09-06 04:19 G 14851775.49 14851775.68 14851775.88 0.0260 0.0162 Jupiter 35951-03-24 23:02 G 14851975.23 14851975.46 14851975.69 0.0531 0.0075 Saturn 35951-09-17 12:43 G 14852151.87 14852152.03 14852152.19 0.0261 0.0199 Jupiter 35956-09-12 11:02 G 14853973.77 14853973.96 14853974.14 0.0497 0.0295 Jupiter 35957-10-13 21:21 G 14854370.22 14854370.39 14854370.57 0.0495 0.0321 Jupiter 35963-03-30 00:29 G 14856363.29 14856363.52 14856363.75 0.0530 0.0033 Saturn 35965-03-07 21:50 G 14857072.19 14857072.41 14857072.64 0.0302 0.0125 Jupiter 35968-09-16 19:12 G 14858361.10 14858361.30 14858361.52 0.0497 0.0213 Jupiter 35969-10-18 06:29 G 14858757.65 14858757.77 14858757.91 0.0496 0.0403

Jupiter 35975-04-04 02:24 G 14860751.38 14860751.60 14860751.83 0.0530 0.0144 Uranus 35976-03-29 06:14 G 14861111.58 14861111.76 14861111.93 0.0136 0.0097 Uranus 35977-04-02 17:31 G 14861480.99 14861481.23 14861481.49 0.0136 0.0026 Uranus 35978-04-07 06:00 G 14861850.51 14861850.75 14861850.99 0.0137 0.0046 Uranus 35979-04-11 18:00 G 14862220.15 14862220.25 14862220.39 0.0137 0.0119 Saturn 35980-09-12 00:14 G 14862739.27 14862739.51 14862739.76 0.0260 0.0045 Jupiter 35980-09-21 05:45 G 14862748.52 14862748.74 14862748.97 0.0496 0.0123 Jupiter 35981-10-22 16:33 G 14863145.15 14863145.19 14863145.23 0.0496 0.0485 Neptune 35984-02-08 05:45 G 14863983.72 14863983.74 14863983.83 0.0089 0.0088 Neptune 35985-02-09 18:43 G 14864351.13 14864351.28 14864351.45 0.0089 0.0069 Neptune 35986-02-12 06:57 G 14864718.60 14864718.79 14864719.03 0.0089 0.0051 Jupiter 35986-03-03 18:14 G 14864738.20 14864738.26 14864738.31 0.0527 0.0512 Neptune 35987-02-14 19:41 G 14865086.09 14865086.32 14865086.57 0.0089 0.0032 Jupiter 35987-04-09 02:38 G 14865139.41 14865139.61 14865139.82 0.0531 0.0253 Neptune 35988-02-17 08:24 G 14865453.60 14865453.85 14865454.11 0.0090 0.0013 Neptune 35989-02-18 20:38 G 14865821.11 14865821.36 14865821.62 0.0090 0.0006 Neptune 35990-02-21 09:21 G 14866188.64 14866188.89 14866189.14 0.0090 0.0025 Neptune 35991-02-23 21:21 G 14866556.19 14866556.39 14866556.63 0.0090 0.0044 Neptune 35992-02-26 09:36 G 14866923.74 14866923.90 14866924.11 0.0090 0.0063 Jupiter 35992-09-25 16:19 G 14867135.95 14867136.18 14867136.42 0.0496 0.0035 Neptune 35993-02-27 22:19 G 14867291.34 14867291.43 14867291.56 0.0090 0.0081 Saturn 35995-03-16 19:12 G 14868038.12 14868038.30 14868038.49 0.0301 0.0196 Jupiter 35998-03-08 18:43 G 14869126.14 14869126.28 14869126.43 0.0528 0.0411 Jupiter 35999-04-14 06:43 G 14869527.61 14869527.78 14869527.95 0.0531 0.0363

## 37TH MILLENNIUM CE

## This is a list of transits of Earth in the 37th millennium CE.

FROM MAX- C START MAX END SUNRAD DEPTH S

TRANSIT

TIME

Jupiter 36004-09-30 01:26 G 14871523.33 14871523.56 14871523.79 0.0495 0.0052 36009-09-07 06:57 G 14873326.57 14873326.79 14873327.01 0.0260 0.0116 Jupiter 36010-03-13 20:53 G 14873514.19 14873514.37 14873514.56 0.0529 0.0308 Saturn 36010-09-18 14:53 G 14873703.04 14873703.12 14873703.21 0.0261 0.0245 Jupiter 36011-04-19 11:17 G 14873915.87 14873915.97 14873916.08 0.0531 0.0470 Jupiter 36015-09-03 20:24 G 14875514.29 14875514.35 14875514.42 0.0498 0.0476 Uranus 36015-09-27 13:41 G 14875538.06 14875538.07 14875538.10 0.0143 0.0142 Uranus 36016-10-01 11:17 G 14875907.74 14875907.97 14875908.20 0.0142 0.0060 Jupiter 36016-10-04 11:17 G 14875910.75 14875910.97 14875911.19 0.0495 0.0142 Uranus 36017-10-06 07:26 G 14876277.56 14876277.81 14876278.06 0.0142 0.0022 Uranus 36018-10-11 03:07 G 14876647.46 14876647.63 14876647.81 0.0141 0.0103 Jupiter 36022-03-18 23:02 G 14877902.25 14877902.46 14877902.68 0.0529 0.0202 Saturn 36024-03-09 06:00 G 14878623.51 14878623.75 14878623.99 0.0302 0.0062 Jupiter 36027-09-08 04:48 G 14879901.56 14879901.70 14879901.84 0.0498 0.0397 Jupiter 36028-10-08 19:26 G 14880298.11 14880298.31 14880298.52 0.0496 0.0226 Jupiter 36034-03-24 01:41 G 14882290.34 14882290.57 14882290.80 0.0530 0.0091 Jupiter 36039-09-12 16:19 G 14884289.00 14884289.18 14884289.37 0.0497 0.0309 Saturn 36039-09-14 01:12 G 14884290.32 14884290.55 14884290.78 0.0260 0.0088 Jupiter 36040-10-13 05:45 G 14884685.57 14884685.74 14884685.93 0.0496 0.0314 Jupiter 36046-03-29 01:26 G 14886678.33 14886678.56 14886678.80 0.0530 0.0022 36046-04-25 07:55 G 14886705.74 14886705.83 14886705.95 0.0065 0.0060 Pluto Pluto 36047-04-26 21:36 G 14887072.18 14887072.40 14887072.66 0.0066 0.0027 Jupiter 36051-09-17 04:05 G 14888676.47 14888676.67 14888676.89 0.0497 0.0220 Jupiter 36052-10-17 15:36 G 14889073.02 14889073.15 14889073.30 0.0496 0.0399 Saturn 36054-03-18 01:26 G 14889589.44 14889589.56 14889589.69 0.0301 0.0257

Jupiter 36058-04-03 04:33 G 14891066.47 14891066.69 14891066.92 0.0531 0.0132 Uranus 36060-03-29 17:02 G 14891793.03 14891793.21 14891793.40 0.0136 0.0093 Uranus 36061-04-03 04:19 G 14892162.43 14892162.68 14892162.94 0.0136 0.0022 Uranus 36062-04-07 16:05 G 14892531.95 14892532.17 14892532.42 0.0137 0.0051 Uranus 36063-04-12 04:33 G 14892901.60 14892901.69 14892901.82 0.0137 0.0123 Jupiter 36063-09-21 15:07 G 14893063.90 14893064.13 14893064.35 0.0496 0.0132 Jupiter 36064-10-22 00:14 G 14893460.47 14893460.51 14893460.58 0.0496 0.0480 Neptune 36066-08-11 22:48 G 14894119.34 14894119.45 14894119.61 0.0088 0.0075 Neptune 36067-08-14 10:05 G 14894486.74 14894486.92 14894487.13 0.0088 0.0057 Neptune 36068-08-15 21:07 G 14894854.15 14894854.38 14894854.62 0.0088 0.0039 Saturn 36068-09-08 06:29 G 14894877.54 14894877.77 14894878.01 0.0260 0.0075 Jupiter 36069-03-02 23:17 G 14895053.46 14895053.47 14895053.49 0.0528 0.0525 Neptune 36069-08-18 07:55 G 14895221.59 14895221.83 14895222.09 0.0088 0.0022 Jupiter 36070-04-08 09:07 G 14895454.68 14895454.88 14895455.09 0.0531 0.0244 Neptune 36070-08-20 18:57 G 14895589.03 14895589.29 14895589.55 0.0088 0.0003 Neptune 36071-08-23 05:45 G 14895956.49 14895956.74 14895957.00 0.0088 0.0014 Neptune 36072-08-24 16:48 G 14896323.96 14896324.20 14896324.44 0.0088 0.0032 Neptune 36073-08-27 03:21 G 14896691.44 14896691.64 14896691.86 0.0088 0.0050 Neptune 36074-08-29 13:55 G 14897058.94 14897059.08 14897059.27 0.0088 0.0068 Neptune 36075-09-01 01:12 G 14897426.50 14897426.55 14897426.62 0.0088 0.0085 Jupiter 36075-09-26 01:26 G 14897451.33 14897451.56 14897451.80 0.0496 0.0043 Jupiter 36081-03-08 01:55 G 14899441.45 14899441.58 14899441.73 0.0528 0.0425 Jupiter 36082-04-13 12:00 G 14899842.83 14899843.00 14899843.18 0.0530 0.0351 Saturn 36083-03-11 09:07 G 14900174.64 14900174.88 14900175.13 0.0302 0.0008 Jupiter 36087-09-30 09:21 G 14901838.66 14901838.89 14901839.12 0.0496 0.0043 Jupiter 36093-03-13 04:19 G 14903829.50 14903829.68 14903829.87 0.0528 0.0319 Jupiter 36094-04-18 15:07 G 14904231.02 14904231.13 14904231.26 0.0530 0.0458 Saturn 36097-09-03 16:48 G 14905465.09 14905465.20 14905465.31 0.0259 0.0229 Jupiter 36098-09-03 02:09 G 14905829.56 14905829.59 14905829.64 0.0499 0.0490 Saturn 36098-09-14 23:02 G 14905841.26 14905841.46 14905841.68 0.0260 0.0128

Uranus 36099-09-27 22:19 G 14906219.39 14906219.43 14906219.48 0.0143 0.0140 Jupiter 36099-10-04 20:09 G 14906226.12 14906226.34 14906226.57 0.0496 0.0134 Uranus 36100-10-02 19:41 G 14906589.09 14906589.32 14906589.56 0.0142 0.0058 Uranus 36101-10-07 16:05 G 14906958.93 14906959.17 14906959.43 0.0142 0.0024 Uranus 36102-10-12 11:45 G 14907328.83 14907328.99 14907329.17 0.0141 0.0105 Jupiter 36105-03-19 03:50 G 14908217.45 14908217.66 14908217.87 0.0529 0.0213 36110-01-25 20:24 G 14909991.19 14909991.35 14909991.51 0.1727 0.0913 Mars Jupiter 36110-09-08 15:21 G 14910217.02 14910217.14 14910217.29 0.0498 0.0404 Jupiter 36111-10-10 06:57 G 14910613.58 14910613.79 14910614.00 0.0496 0.0223 Saturn 36112-03-04 18:43 G 14910760.19 14910760.28 14910760.40 0.0303 0.0272 Jupiter 36117-03-24 05:45 G 14912605.51 14912605.74 14912605.97 0.0530 0.0102 Jupiter 36122-09-13 03:50 G 14914604.49 14914604.66 14914604.85 0.0497 0.0317 Jupiter 36123-10-14 16:33 G 14915001.02 14915001.19 14915001.38 0.0495 0.0308 Saturn 36127-09-11 03:50 G 14916428.42 14916428.66 14916428.91 0.0260 0.0037 Jupiter 36129-03-29 09:36 G 14916993.67 14916993.90 14916994.14 0.0530 0.0014 Jupiter 36134-09-17 15:36 G 14918991.95 14918992.15 14918992.36 0.0497 0.0226 Pluto 36134-10-28 23:17 G 14919033.27 14919033.47 14919033.69 0.0079 0.0047 Jupiter 36135-10-19 02:53 G 14919388.48 14919388.62 14919388.76 0.0496 0.0394 Jupiter 36141-04-03 13:55 G 14921381.86 14921382.08 14921382.31 0.0530 0.0121 Saturn 36142-03-13 06:43 G 14921725.53 14921725.78 14921726.02 0.0302 0.0039 Uranus 36144-03-31 03:36 G 14922474.48 14922474.65 14922474.86 0.0136 0.0090 Uranus 36145-04-04 15:07 G 14922843.88 14922844.13 14922844.39 0.0136 0.0018 Uranus 36146-04-09 03:07 G 14923213.40 14923213.63 14923213.87 0.0137 0.0054 Jupiter 36146-09-21 23:02 G 14923379.24 14923379.46 14923379.69 0.0497 0.0142 Uranus 36147-04-13 15:07 G 14923583.05 14923583.13 14923583.24 0.0137 0.0127 Jupiter 36147-10-23 11:17 G 14923775.92 14923775.97 14923776.05 0.0496 0.0477 Neptune 36149-02-10 01:41 G 14924251.48 14924251.57 14924251.71 0.0089 0.0080 Neptune 36150-02-12 14:24 G 14924618.92 14924619.10 14924619.30 0.0089 0.0061 Neptune 36151-02-15 03:07 G 14924986.41 14924986.63 14924986.86 0.0089 0.0042 Neptune 36152-02-17 15:07 G 14925353.90 14925354.13 14925354.40 0.0090 0.0024

Neptune 36153-02-19 04:05 G 14925721.42 14925721.67 14925721.93 0.0090 0.0005 Jupiter 36153-04-08 17:17 G 14925770.02 14925770.22 14925770.44 0.0530 0.0235 Neptune 36154-02-21 16:33 G 14926088.94 14926089.19 14926089.45 0.0090 0.0015 Neptune 36155-02-24 04:48 G 14926456.47 14926456.70 14926456.95 0.0090 0.0034 Neptune 36156-02-26 17:02 G 14926824.02 14926824.21 14926824.44 0.0090 0.0053 Saturn 36156-09-05 12:43 G 14927015.88 14927016.03 14927016.20 0.0259 0.0194 Neptune 36157-02-28 05:17 G 14927191.60 14927191.72 14927191.90 0.0090 0.0072 Saturn 36157-09-16 18:43 G 14927392.10 14927392.28 14927392.48 0.0260 0.0164 Jupiter 36158-09-26 10:33 G 14927766.71 14927766.94 14927767.17 0.0496 0.0051 Jupiter 36164-03-08 09:50 G 14929756.78 14929756.91 14929757.04 0.0527 0.0433 Jupiter 36165-04-13 18:14 G 14930158.09 14930158.26 14930158.44 0.0530 0.0344 Jupiter 36170-09-30 22:19 G 14932154.20 14932154.43 14932154.66 0.0496 0.0041 Saturn 36171-03-06 15:07 G 14932310.99 14932311.13 14932311.30 0.0303 0.0230 Jupiter 36176-03-13 10:33 G 14934144.76 14934144.94 14934145.13 0.0528 0.0329 Jupiter 36177-04-18 21:50 G 14934546.29 14934546.41 14934546.53 0.0530 0.0453 Jupiter 36181-09-03 15:50 G 14936145.15 14936145.16 14936145.19 0.0499 0.0496 Jupiter 36182-10-05 09:07 G 14936541.66 14936541.88 14936542.11 0.0496 0.0130 Uranus 36183-09-29 09:36 G 14936900.84 14936900.90 14936900.98 0.0143 0.0136 Uranus 36184-10-03 07:12 G 14937270.57 14937270.80 14937271.04 0.0142 0.0054 Uranus 36185-10-08 03:36 G 14937640.40 14937640.65 14937640.90 0.0142 0.0028 Saturn 36186-09-11 23:17 G 14937979.23 14937979.47 14937979.72 0.0259 0.0003 Uranus 36186-10-12 22:48 G 14938010.31 14938010.45 14938010.63 0.0141 0.0110 Jupiter 36188-03-18 13:12 G 14938532.84 14938533.05 14938533.26 0.0529 0.0221 36189-01-28 07:12 G 14938848.73 14938848.80 14938848.87 0.1733 0.1593 Mars Jupiter 36193-09-08 04:33 G 14940532.56 14940532.69 14940532.83 0.0498 0.0408 Jupiter 36194-10-09 19:41 G 14940929.12 14940929.32 14940929.53 0.0495 0.0220 Jupiter 36200-03-24 17:45 G 14942921.02 14942921.24 14942921.47 0.0529 0.0109 Saturn 36201-03-15 01:12 G 14943276.31 14943276.55 14943276.78 0.0302 0.0079 Jupiter 36205-09-13 12:29 G 14944919.84 14944920.02 14944920.19 0.0498 0.0325 Jupiter 36206-10-15 03:07 G 14945316.45 14945316.63 14945316.82 0.0496 0.0304

36210-07-28 19:55 G 14946699.21 14946699.33 14946699.45 0.1814 0.1445 Mars Jupiter 36212-03-29 21:36 G 14947309.17 14947309.40 14947309.64 0.0530 0.0008 Saturn 36215-09-08 07:41 G 14948566.63 14948566.82 14948567.02 0.0259 0.0160 Saturn 36216-09-18 13:26 G 14948942.92 14948943.06 14948943.23 0.0260 0.0198 Jupiter 36217-09-18 00:00 G 14949307.30 14949307.50 14949307.71 0.0497 0.0235 Jupiter 36218-10-19 14:09 G 14949703.96 14949704.09 14949704.24 0.0496 0.0392 Jupiter 36224-04-03 21:50 G 14951697.18 14951697.41 14951697.64 0.0530 0.0116 Uranus 36228-04-01 16:19 G 14953156.01 14953156.18 14953156.40 0.0136 0.0085 Uranus 36229-04-06 04:05 G 14953525.42 14953525.67 14953525.93 0.0136 0.0013 Jupiter 36229-09-22 12:57 G 14953694.82 14953695.04 14953695.26 0.0497 0.0144 Saturn 36230-03-08 08:53 G 14953861.68 14953861.87 14953862.06 0.0303 0.0191 Uranus 36230-04-10 15:36 G 14953894.94 14953895.15 14953895.40 0.0137 0.0060 Neptune 36230-08-13 06:29 G 14954019.73 14954019.77 14954019.85 0.0088 0.0085 Jupiter 36230-10-24 01:12 G 14954091.50 14954091.55 14954091.62 0.0496 0.0478 Uranus 36231-04-15 04:05 G 14954264.63 14954264.67 14954264.76 0.0137 0.0132 Neptune 36231-08-15 17:45 G 14954387.08 14954387.24 14954387.41 0.0088 0.0067 Neptune 36232-08-17 04:19 G 14954754.49 14954754.68 14954754.92 0.0088 0.0050 Neptune 36233-08-19 15:21 G 14955121.91 14955122.14 14955122.39 0.0088 0.0032 Neptune 36234-08-22 02:24 G 14955489.35 14955489.60 14955489.86 0.0088 0.0014 Neptune 36235-08-24 13:26 G 14955856.80 14955857.06 14955857.32 0.0088 0.0004 Jupiter 36236-04-09 00:43 G 14956085.32 14956085.53 14956085.74 0.0530 0.0228 Neptune 36236-08-26 00:00 G 14956224.26 14956224.50 14956224.76 0.0088 0.0023 Neptune 36237-08-28 10:33 G 14956591.73 14956591.94 14956592.19 0.0088 0.0041 Neptune 36238-08-30 21:50 G 14956959.22 14956959.41 14956959.61 0.0088 0.0058 Neptune 36239-09-02 08:24 G 14957326.74 14957326.85 14957327.00 0.0088 0.0076 Jupiter 36241-09-27 00:43 G 14958082.30 14958082.53 14958082.77 0.0496 0.0054 Saturn 36245-09-13 18:00 G 14959530.00 14959530.25 14959530.49 0.0259 0.0032 Jupiter 36247-03-09 19:41 G 14960072.20 14960072.32 14960072.45 0.0528 0.0441 Jupiter 36248-04-14 05:02 G 14960473.54 14960473.71 14960473.89 0.0530 0.0340 Jupiter 36253-10-01 12:00 G 14962469.76 14962470.00 14962470.23 0.0496 0.0038

Jupiter 36259-03-15 00:00 G 14964460.32 14964460.50 14964460.68 0.0528 0.0334 Saturn 36260-03-15 18:14 G 14964827.04 14964827.26 14964827.49 0.0302 0.0116 Jupiter 36260-04-19 10:05 G 14964861.80 14964861.92 14964862.05 0.0530 0.0448 Jupiter 36265-10-05 18:43 G 14966857.06 14966857.28 14966857.51 0.0496 0.0125 Uranus 36267-09-30 23:17 G 14967582.39 14967582.47 14967582.59 0.0143 0.0131 Uranus 36268-10-04 20:53 G 14967952.13 14967952.37 14967952.61 0.0142 0.0048 Uranus 36269-10-09 17:02 G 14968321.97 14968322.21 14968322.46 0.0142 0.0034 Uranus 36270-10-14 12:29 G 14968691.89 14968692.02 14968692.18 0.0142 0.0115 Jupiter 36271-03-20 03:21 G 14968848.43 14968848.64 14968848.85 0.0529 0.0224 Saturn 36274-09-09 02:24 G 14970117.39 14970117.60 14970117.82 0.0259 0.0127 Saturn 36275-09-20 08:09 G 14970493.74 14970493.84 14970493.96 0.0260 0.0231 Jupiter 36276-09-08 12:14 G 14970847.89 14970848.01 14970848.14 0.0499 0.0418 Jupiter 36277-10-10 05:45 G 14971244.53 14971244.74 14971244.95 0.0496 0.0215 Jupiter 36283-03-25 02:53 G 14973236.40 14973236.62 14973236.85 0.0529 0.0115 Jupiter 36288-09-13 01:41 G 14975235.40 14975235.57 14975235.75 0.0498 0.0329 Saturn 36289-03-09 02:24 G 14975412.39 14975412.60 14975412.81 0.0304 0.0153 Jupiter 36289-10-14 17:17 G 14975632.05 14975632.22 14975632.41 0.0496 0.0305 Pluto 36292-04-28 12:57 G 14976558.92 14976559.04 14976559.23 0.0066 0.0053 Pluto 36293-04-30 02:53 G 14976925.43 14976925.62 14976925.87 0.0066 0.0035 Jupiter 36295-03-30 04:33 G 14977624.46 14977624.69 14977624.93 0.0530 0.0007 Jupiter 36300-09-18 14:38 G 14979622.91 14979623.11 14979623.32 0.0497 0.0239 Jupiter 36301-10-20 03:50 G 14980019.52 14980019.66 14980019.81 0.0496 0.0390 Saturn 36304-09-15 13:12 G 14981080.82 14981081.05 14981081.30 0.0259 0.0068 Jupiter 36307-04-05 07:55 G 14982012.61 14982012.83 14982013.06 0.0530 0.0111 Uranus 36312-04-03 04:33 G 14983837.49 14983837.69 14983837.90 0.0136 0.0080 Jupiter 36312-09-23 02:24 G 14984010.38 14984010.60 14984010.83 0.0497 0.0148 Uranus 36313-04-07 15:50 G 14984206.91 14984207.16 14984207.42 0.0136 0.0009 Jupiter 36313-10-24 14:24 G 14984407.04 14984407.10 14984407.17 0.0496 0.0476 Neptune 36314-02-13 20:53 G 14984519.22 14984519.37 14984519.52 0.0089 0.0072 Uranus 36314-04-12 03:36 G 14984576.43 14984576.65 14984576.88 0.0137 0.0064

Neptune 36315-02-16 08:24 G 14984886.67 14984886.85 14984887.08 0.0089 0.0054 Uranus 36315-04-16 16:19 G 14984946.16 14984946.18 14984946.20 0.0137 0.0137 Neptune 36316-02-18 21:07 G 14985254.16 14985254.38 14985254.64 0.0090 0.0035 Neptune 36317-02-20 09:50 G 14985621.67 14985621.91 14985622.18 0.0090 0.0016 Neptune 36318-02-22 22:33 G 14985989.19 14985989.44 14985989.70 0.0090 0.0004 Neptune 36319-02-25 10:48 G 14986356.72 14986356.95 14986357.22 0.0090 0.0024 Saturn 36319-03-18 11:45 G 14986377.79 14986377.99 14986378.21 0.0302 0.0155 Jupiter 36319-04-10 13:26 G 14986400.85 14986401.06 14986401.28 0.0530 0.0225 Neptune 36320-02-27 23:17 G 14986724.26 14986724.47 14986724.72 0.0090 0.0043 Neptune 36321-03-01 11:45 G 14987091.83 14987091.99 14987092.20 0.0090 0.0062 Neptune 36322-03-04 00:43 G 14987459.42 14987459.53 14987459.65 0.0090 0.0080 Jupiter 36324-09-27 09:07 G 14988397.64 14988397.88 14988398.11 0.0497 0.0061 Jupiter 36330-03-10 10:33 G 14990387.82 14990387.94 14990388.07 0.0527 0.0443 Jupiter 36331-04-15 17:31 G 14990789.06 14990789.23 14990789.41 0.0530 0.0339 Saturn 36333-09-10 21:50 G 14991668.19 14991668.41 14991668.65 0.0259 0.0093 Jupiter 36336-10-01 20:09 G 14992785.11 14992785.34 14992785.58 0.0496 0.0033 Jupiter 36342-03-15 09:21 G 14994775.71 14994775.89 14994776.07 0.0528 0.0341 Jupiter 36343-04-20 17:45 G 14995177.12 14995177.24 14995177.37 0.0530 0.0444 Saturn 36348-03-10 21:21 G 14996963.17 14996963.39 14996963.62 0.0304 0.0113 Jupiter 36348-10-06 08:09 G 14997172.61 14997172.84 14997173.06 0.0496 0.0124 Uranus 36351-10-02 14:38 G 14998264.01 14998264.11 14998264.26 0.0143 0.0124 Uranus 36352-10-06 12:14 G 14998633.77 14998634.01 14998634.26 0.0142 0.0041 Uranus 36353-10-11 08:24 G 14999003.61 14999003.85 14999004.10 0.0142 0.0041 Jupiter 36354-03-20 09:36 G 14999163.70 14999163.90 14999164.12 0.0528 0.0233 Uranus 36354-10-16 03:50 G 14999373.55 14999373.66 14999373.80 0.0142 0.0122 Jupiter 36359-09-10 01:55 G 15001163.46 15001163.58 15001163.71 0.0499 0.0423 Jupiter 36360-10-10 19:12 G 15001560.09 15001560.30 15001560.51 0.0496 0.0213 Saturn 36362-09-06 05:02 G 15002255.68 15002255.71 15002255.77 0.0259 0.0253 Saturn 36363-09-17 10:19 G 15002631.71 15002631.93 15002632.16 0.0259 0.0104 Jupiter 36366-03-25 11:17 G 15003551.75 15003551.97 15003552.20 0.0529 0.0122

Jupiter 36371-09-14 14:38 G 15005550.94 15005551.11 15005551.28 0.0498 0.0332 Jupiter 36372-10-15 05:31 G 15005947.55 15005947.73 15005947.91 0.0496 0.0302 Saturn 36378-03-19 08:53 G 15007928.70 15007928.87 15007929.07 0.0302 0.0198 Jupiter 36378-03-30 16:48 G 15007939.97 15007940.20 15007940.43 0.0530 0.0007 Pluto 36380-11-01 08:53 G 15008886.74 15008886.87 15008887.01 0.0078 0.0067 Jupiter 36383-09-18 21:21 G 15009938.19 15009938.39 15009938.60 0.0497 0.0246 Jupiter 36384-10-19 11:45 G 15010334.85 15010334.99 15010335.14 0.0496 0.0387 Jupiter 36390-04-04 20:24 G 15012328.13 15012328.35 15012328.58 0.0530 0.0109 Saturn 36392-09-11 19:41 G 15013219.08 15013219.32 15013219.56 0.0259 0.0056 36394-01-28 14:38 G 15013722.93 15013723.11 15013723.30 0.1720 0.0437 Mars Neptune 36395-08-16 00:43 G 15014287.43 15014287.53 15014287.67 0.0088 0.0078 Jupiter 36395-09-23 08:38 G 15014325.64 15014325.86 15014326.08 0.0497 0.0155 Uranus 36396-04-03 17:02 G 15014519.00 15014519.21 15014519.43 0.0136 0.0075 Neptune 36396-08-17 11:45 G 15014654.82 15014654.99 15014655.19 0.0088 0.0060 Jupiter 36396-10-23 22:19 G 15014722.37 15014722.43 15014722.50 0.0497 0.0474 Uranus 36397-04-08 04:19 G 15014888.43 15014888.68 15014888.93 0.0136 0.0004 Neptune 36397-08-19 22:48 G 15015022.24 15015022.45 15015022.69 0.0088 0.0042 Uranus 36398-04-12 15:50 G 15015257.95 15015258.16 15015258.39 0.0137 0.0069 Neptune 36398-08-22 09:50 G 15015389.67 15015389.91 15015390.17 0.0088 0.0024 Neptune 36399-08-24 20:38 G 15015757.11 15015757.36 15015757.63 0.0088 0.0006 Neptune 36400-08-26 07:26 G 15016124.56 15016124.81 15016125.08 0.0088 0.0013 Neptune 36401-08-28 18:00 G 15016492.02 15016492.25 15016492.51 0.0088 0.0031 Jupiter 36402-04-09 19:55 G 15016716.12 15016716.33 15016716.55 0.0530 0.0219 Neptune 36402-08-31 04:48 G 15016859.50 15016859.70 15016859.93 0.0088 0.0049 Neptune 36403-09-02 15:21 G 15017227.00 15017227.14 15017227.33 0.0088 0.0067 Neptune 36404-09-04 01:55 G 15017594.54 15017594.58 15017594.68 0.0088 0.0085 Saturn 36407-03-12 20:09 G 15018514.11 15018514.34 15018514.59 0.0303 0.0067 Jupiter 36407-09-27 20:53 G 15018713.14 15018713.37 15018713.60 0.0497 0.0064 Jupiter 36413-03-09 15:21 G 15020703.03 15020703.14 15020703.26 0.0527 0.0454 Jupiter 36414-04-14 21:21 G 15021104.22 15021104.39 15021104.58 0.0530 0.0331

Jupiter 36419-10-02 08:24 G 15023100.61 15023100.85 15023101.08 0.0496 0.0029 Saturn 36421-09-07 04:19 G 15023806.56 15023806.68 15023806.83 0.0259 0.0215 Saturn 36422-09-18 10:05 G 15024182.72 15024182.92 15024183.13 0.0259 0.0143 Jupiter 36425-03-14 15:21 G 15025090.97 15025091.14 15025091.32 0.0528 0.0351 Jupiter 36426-04-20 00:29 G 15025492.40 15025492.52 15025492.66 0.0530 0.0439 Jupiter 36431-10-06 18:43 G 15027488.06 15027488.28 15027488.51 0.0496 0.0120 Uranus 36435-10-03 05:45 G 15028945.61 15028945.74 15028945.90 0.0143 0.0117 Uranus 36436-10-07 03:07 G 15029315.38 15029315.63 15029315.88 0.0142 0.0034 Jupiter 36437-03-19 19:26 G 15029479.10 15029479.31 15029479.52 0.0529 0.0239 Saturn 36437-03-20 10:05 G 15029479.80 15029479.92 15029480.07 0.0302 0.0248 Uranus 36437-10-11 23:17 G 15029685.24 15029685.47 15029685.72 0.0142 0.0048 Uranus 36438-10-16 18:43 G 15030055.19 15030055.28 15030055.40 0.0142 0.0129 Jupiter 36442-09-09 07:12 G 15031478.68 15031478.80 15031478.91 0.0499 0.0432 Jupiter 36443-10-11 00:29 G 15031875.31 15031875.52 15031875.74 0.0496 0.0207 Jupiter 36449-03-24 22:33 G 15033867.21 15033867.44 15033867.67 0.0529 0.0126 Saturn 36451-09-13 20:24 G 15034770.10 15034770.35 15034770.60 0.0259 0.0015 Jupiter 36454-09-13 18:14 G 15035866.10 15035866.26 15035866.44 0.0498 0.0343 Jupiter 36455-10-15 10:33 G 15036262.76 15036262.94 15036263.13 0.0496 0.0297 Jupiter 36461-03-29 21:21 G 15038255.16 15038255.39 15038255.63 0.0529 0.0017 Saturn 36466-03-14 00:43 G 15040065.28 15040065.53 15040065.77 0.0303 0.0010 Jupiter 36466-09-18 06:43 G 15040253.58 15040253.78 15040253.99 0.0498 0.0254 Jupiter 36467-10-19 22:05 G 15040650.27 15040650.42 15040650.57 0.0496 0.0385 Jupiter 36473-04-03 21:50 G 15042643.19 15042643.41 15042643.64 0.0529 0.0097 Neptune 36478-02-13 01:41 G 15044419.51 15044419.57 15044419.68 0.0090 0.0084 Jupiter 36478-09-22 18:43 G 15044641.06 15044641.28 15044641.50 0.0497 0.0163 Neptune 36479-02-15 14:09 G 15044786.93 15044787.09 15044787.28 0.0090 0.0065 Jupiter 36479-10-24 07:55 G 15045037.76 15045037.83 15045037.91 0.0496 0.0470 Neptune 36480-02-18 02:38 G 15045154.40 15045154.61 15045154.84 0.0090 0.0046 Uranus 36480-04-04 03:21 G 15045200.44 15045200.64 15045200.87 0.0136 0.0072 Saturn 36480-09-08 07:12 G 15045357.62 15045357.80 15045357.99 0.0259 0.0171

Neptune 36481-02-19 14:53 G 15045521.89 15045522.12 15045522.38 0.0090 0.0027 Uranus 36481-04-08 14:38 G 15045569.85 15045570.11 15045570.36 0.0136 0.0002 Saturn 36481-09-19 12:57 G 15045733.88 15045734.04 15045734.22 0.0260 0.0189 Neptune 36482-02-22 03:36 G 15045889.40 15045889.65 15045889.91 0.0090 0.0007 Uranus 36482-04-13 02:09 G 15045939.38 15045939.59 15045939.81 0.0137 0.0072 Neptune 36483-02-24 16:05 G 15046256.92 15046257.17 15046257.43 0.0090 0.0012 Neptune 36484-02-27 04:19 G 15046624.46 15046624.68 15046624.94 0.0090 0.0032 Neptune 36485-02-28 16:48 G 15046992.01 15046992.20 15046992.44 0.0090 0.0051 Jupiter 36485-04-08 23:31 G 15047031.27 15047031.48 15047031.70 0.0530 0.0209 Neptune 36486-03-03 05:17 G 15047359.59 15047359.72 15047359.91 0.0090 0.0070 Neptune 36487-03-05 17:45 G 15047727.23 15047727.24 15047727.30 0.0090 0.0089 Jupiter 36490-09-27 05:31 G 15049028.49 15049028.73 15049028.96 0.0497 0.0071 36494-07-29 19:41 G 15050430.27 15050430.32 15050430.38 0.1823 0.1741 Mars Saturn 36495-03-07 09:50 G 15050650.83 15050650.91 15050651.02 0.0303 0.0278 Jupiter 36496-03-08 21:50 G 15051018.30 15051018.41 15051018.52 0.0527 0.0464 Jupiter 36497-04-14 04:33 G 15051419.51 15051419.69 15051419.88 0.0530 0.0325 Jupiter 36502-10-02 11:31 G 15053415.74 15053415.98 15053416.21 0.0496 0.0019 Jupiter 36508-03-14 23:31 G 15055406.32 15055406.48 15055406.65 0.0528 0.0359 Jupiter 36509-04-20 08:24 G 15055807.71 15055807.85 15055807.98 0.0530 0.0435 Saturn 36510-09-16 00:14 G 15056321.27 15056321.51 15056321.76 0.0259 0.0032 Jupiter 36514-10-06 21:07 G 15057803.15 15057803.38 15057803.61 0.0496 0.0111 Uranus 36519-10-04 17:17 G 15059627.08 15059627.22 15059627.40 0.0143 0.0112 Jupiter 36520-03-19 21:50 G 15059794.21 15059794.41 15059794.62 0.0528 0.0254 Uranus 36520-10-08 15:07 G 15059996.89 15059997.13 15059997.38 0.0143 0.0029 Uranus 36521-10-13 11:45 G 15060366.76 15060366.99 15060367.23 0.0142 0.0053 Uranus 36522-10-18 07:26 G 15060736.74 15060736.81 15060736.90 0.0142 0.0134 Saturn 36525-03-16 10:19 G 15061616.70 15061616.93 15061617.18 0.0303 0.0056 Jupiter 36525-09-09 13:26 G 15061793.96 15061794.06 15061794.17 0.0499 0.0443 Jupiter 36526-10-11 08:24 G 15062190.64 15062190.85 15062191.06 0.0496 0.0201 Jupiter 36532-03-24 21:21 G 15064182.16 15064182.39 15064182.61 0.0529 0.0142

Jupiter 36537-09-14 01:41 G 15066181.42 15066181.57 15066181.74 0.0498 0.0355 Pluto 36538-05-02 15:50 G 15066412.04 15066412.16 15066412.35 0.0066 0.0053 Jupiter 36538-10-15 18:14 G 15066578.08 15066578.26 15066578.46 0.0496 0.0290 Pluto 36539-05-04 05:45 G 15066778.54 15066778.74 15066778.98 0.0066 0.0035 Saturn 36539-09-11 13:12 G 15066908.84 15066909.05 15066909.27 0.0259 0.0122 Saturn 36540-09-21 19:26 G 15067285.21 15067285.31 15067285.40 0.0260 0.0238 Jupiter 36544-03-29 21:21 G 15068570.16 15068570.39 15068570.62 0.0529 0.0031 Jupiter 36549-09-18 13:12 G 15070568.85 15070569.05 15070569.25 0.0498 0.0263 Jupiter 36550-10-20 03:36 G 15070965.51 15070965.65 15070965.80 0.0496 0.0378 Saturn 36554-03-10 00:00 G 15072202.32 15072202.50 15072202.67 0.0303 0.0207 Jupiter 36556-04-04 01:26 G 15072958.33 15072958.56 15072958.79 0.0530 0.0086 Neptune 36560-08-17 18:00 G 15074555.11 15074555.25 15074555.41 0.0088 0.0071 Neptune 36561-08-20 04:48 G 15074922.51 15074922.70 15074922.93 0.0088 0.0053 Jupiter 36561-09-22 19:55 G 15074956.11 15074956.33 15074956.55 0.0497 0.0176 Neptune 36562-08-22 15:50 G 15075289.94 15075290.16 15075290.42 0.0088 0.0035 Jupiter 36562-10-24 08:53 G 15075352.79 15075352.87 15075352.96 0.0496 0.0461 Neptune 36563-08-25 03:07 G 15075657.38 15075657.63 15075657.89 0.0088 0.0016 Uranus 36564-04-05 15:21 G 15075881.93 15075882.14 15075882.37 0.0136 0.0067 Neptune 36564-08-26 13:55 G 15076024.82 15076025.08 15076025.34 0.0088 0.0002 Uranus 36565-04-10 02:24 G 15076251.35 15076251.60 15076251.86 0.0136 0.0005 Neptune 36565-08-29 00:57 G 15076392.29 15076392.54 15076392.79 0.0088 0.0020 Uranus 36566-04-14 13:55 G 15076620.88 15076621.08 15076621.30 0.0136 0.0077 Neptune 36566-08-31 11:17 G 15076759.75 15076759.97 15076760.22 0.0088 0.0039 Neptune 36567-09-02 21:50 G 15077127.24 15077127.41 15077127.63 0.0088 0.0057 Jupiter 36568-04-09 04:33 G 15077346.48 15077346.69 15077346.91 0.0530 0.0201 Neptune 36568-09-04 08:24 G 15077494.75 15077494.85 15077495.01 0.0088 0.0075 Saturn 36569-09-17 07:12 G 15077872.57 15077872.80 15077873.04 0.0260 0.0083 Jupiter 36573-09-27 05:45 G 15079343.51 15079343.74 15079343.97 0.0497 0.0083 Jupiter 36579-03-09 21:36 G 15081333.32 15081333.40 15081333.50 0.0527 0.0484 Jupiter 36580-04-14 03:07 G 15081734.44 15081734.63 15081734.82 0.0530 0.0309

Saturn 36584-03-18 02:53 G 15083168.41 15083168.62 15083168.85 0.0303 0.0132 Jupiter 36585-10-01 16:33 G 15083730.96 15083731.19 15083731.42 0.0497 0.0008 Jupiter 36591-03-14 20:24 G 15085721.19 15085721.35 15085721.51 0.0527 0.0379 Jupiter 36592-04-19 03:07 G 15086122.50 15086122.63 15086122.78 0.0530 0.0419 Jupiter 36597-10-06 02:53 G 15088118.39 15088118.62 15088118.85 0.0496 0.0100 Saturn 36598-09-12 21:36 G 15088460.17 15088460.40 15088460.65 0.0259 0.0070 Jupiter 36603-03-20 18:29 G 15090109.07 15090109.27 15090109.47 0.0528 0.0273 Uranus 36603-10-06 03:07 G 15090308.49 15090308.63 15090308.81 0.0143 0.0109 Jupiter 36604-04-25 04:05 G 15090510.65 15090510.67 15090510.71 0.0530 0.0525 Uranus 36604-10-10 00:57 G 15090678.30 15090678.54 15090678.80 0.0143 0.0026 Uranus 36605-10-14 21:36 G 15091048.18 15091048.40 15091048.64 0.0142 0.0057 Uranus 36606-10-19 17:31 G 15091418.19 15091418.23 15091418.31 0.0142 0.0138 Jupiter 36608-09-09 17:31 G 15092109.14 15092109.23 15092109.33 0.0499 0.0456 Jupiter 36609-10-11 12:00 G 15092505.79 15092506.00 15092506.22 0.0496 0.0191 Saturn 36613-03-12 18:43 G 15093754.07 15093754.28 15093754.51 0.0303 0.0127 Jupiter 36615-03-25 21:07 G 15094497.16 15094497.38 15094497.60 0.0529 0.0158 Jupiter 36620-09-14 01:55 G 15096496.43 15096496.58 15096496.74 0.0498 0.0369 Jupiter 36621-10-15 17:31 G 15096893.04 15096893.23 15096893.43 0.0496 0.0278 Pluto 36626-11-05 11:45 G 15098739.87 15098739.99 15098740.14 0.0078 0.0066 Jupiter 36627-03-30 23:17 G 15098885.24 15098885.47 15098885.71 0.0530 0.0046 Saturn 36627-09-09 09:50 G 15099047.80 15099047.91 15099048.04 0.0260 0.0224 Saturn 36628-09-19 16:33 G 15099423.99 15099424.19 15099424.41 0.0260 0.0138 Jupiter 36632-09-18 12:00 G 15100883.81 15100884.00 15100884.20 0.0497 0.0279 Jupiter 36633-10-20 02:38 G 15101280.46 15101280.61 15101280.77 0.0496 0.0367 Jupiter 36639-04-04 21:50 G 15103273.18 15103273.41 15103273.64 0.0529 0.0065 Neptune 36643-02-16 18:57 G 15104687.17 15104687.29 15104687.43 0.0090 0.0077 Saturn 36643-03-21 23:17 G 15104720.31 15104720.47 15104720.65 0.0303 0.0216 Neptune 36644-02-19 07:12 G 15105054.62 15105054.80 15105055.01 0.0090 0.0058 Jupiter 36644-09-22 22:33 G 15105271.23 15105271.44 15105271.66 0.0497 0.0191 Neptune 36645-02-20 19:26 G 15105422.10 15105422.31 15105422.56 0.0090 0.0039 Jupiter 36645-10-24 12:57 G 15105667.95 15105668.04 15105668.13 0.0496 0.0453 Neptune 36646-02-23 08:09 G 15105789.59 15105789.84 15105790.09 0.0090 0.0019 Neptune 36647-02-25 20:38 G 15106157.10 15106157.36 15106157.62 0.0090 0.0001 Uranus 36647-04-03 17:17 G 15106194.19 15106194.22 15106194.31 0.0135 0.0132 Neptune 36648-02-28 09:07 G 15106524.63 15106524.88 15106525.13 0.0090 0.0020 Uranus 36648-04-07 03:50 G 15106563.44 15106563.66 15106563.90 0.0135 0.0061 Neptune 36649-03-01 21:07 G 15106892.17 15106892.38 15106892.63 0.0090 0.0040 Uranus 36649-04-11 14:53 G 15106932.86 15106933.12 15106933.37 0.0136 0.0010 Neptune 36650-03-04 09:50 G 15107259.73 15107259.91 15107260.12 0.0090 0.0059 Uranus 36650-04-16 02:24 G 15107302.40 15107302.60 15107302.80 0.0136 0.0082 Neptune 36651-03-06 22:33 G 15107627.33 15107627.44 15107627.58 0.0090 0.0078 Jupiter 36651-04-09 21:36 G 15107661.19 15107661.40 15107661.63 0.0530 0.0179 Jupiter 36656-09-27 09:07 G 15109658.65 15109658.88 15109659.11 0.0497 0.0098 Saturn 36657-09-15 07:55 G 15110011.58 15110011.83 15110012.08 0.0259 0.0013 Jupiter 36662-03-09 16:33 G 15111648.13 15111648.19 15111648.25 0.0526 0.0504 Jupiter 36663-04-14 21:36 G 15112049.20 15112049.40 15112049.59 0.0530 0.0291 Jupiter 36668-10-01 18:57 G 15114046.06 15114046.29 15114046.53 0.0496 0.0008 Saturn 36672-03-14 18:43 G 15115306.03 15115306.28 15115306.52 0.0303 0.0038 Jupiter 36674-03-14 17:02 G 15116036.06 15116036.21 15116036.36 0.0528 0.0399 Jupiter 36675-04-20 01:26 G 15116437.41 15116437.56 15116437.71 0.0530 0.0405 36678-01-31 09:36 G 15117454.71 15117454.90 15117455.09 0.1713 0.0065 Mars Jupiter 36680-10-06 01:26 G 15118433.33 15118433.56 15118433.79 0.0496 0.0085 Jupiter 36686-03-19 18:00 G 15120424.06 15120424.25 15120424.44 0.0529 0.0291 Saturn 36686-09-10 20:09 G 15120599.16 15120599.34 15120599.54 0.0260 0.0168 Jupiter 36687-04-25 04:19 G 15120825.63 15120825.68 15120825.74 0.0530 0.0514 Saturn 36687-09-22 02:53 G 15120975.47 15120975.62 15120975.80 0.0260 0.0195 Uranus 36687-10-06 12:57 G 15120989.88 15120990.04 15120990.23 0.0143 0.0106 Uranus 36688-10-10 11:02 G 15121359.71 15121359.96 15121360.21 0.0143 0.0022 Uranus 36689-10-15 07:55 G 15121729.61 15121729.83 15121730.06 0.0142 0.0061 Uranus 36690-10-20 03:50 G 15122099.66 15122099.66 15122099.69 0.0142 0.0142

Jupiter 36691-09-09 16:19 G 15122424.11 15122424.18 15122424.25 0.0499 0.0474 Jupiter 36692-10-10 10:33 G 15122820.72 15122820.94 15122821.15 0.0496 0.0176 Jupiter 36698-03-24 16:33 G 15124811.97 15124812.19 15124812.41 0.0529 0.0183 Saturn 36701-03-09 15:36 G 15125892.06 15125892.15 15125892.23 0.0303 0.0283 Jupiter 36703-09-15 02:24 G 15126811.46 15126811.60 15126811.75 0.0499 0.0388 Jupiter 36704-10-15 20:24 G 15127208.15 15127208.35 15127208.54 0.0496 0.0265 Jupiter 36710-03-30 16:05 G 15129199.94 15129200.17 15129200.40 0.0529 0.0070 Jupiter 36715-09-19 13:41 G 15131198.89 15131199.07 15131199.26 0.0498 0.0298 Saturn 36716-09-17 18:29 G 15131563.03 15131563.27 15131563.52 0.0260 0.0045 Jupiter 36716-10-20 05:45 G 15131595.58 15131595.74 15131595.90 0.0496 0.0355 Jupiter 36722-04-04 14:53 G 15133587.89 15133588.12 15133588.35 0.0529 0.0043 Neptune 36724-08-19 00:00 G 15134455.42 15134455.50 15134455.60 0.0088 0.0082 Neptune 36725-08-21 11:02 G 15134822.80 15134822.96 15134823.15 0.0088 0.0064 Neptune 36726-08-23 22:05 G 15135190.22 15135190.42 15135190.66 0.0088 0.0046 Neptune 36727-08-26 08:53 G 15135557.64 15135557.87 15135558.13 0.0088 0.0028 Jupiter 36727-09-24 00:14 G 15135586.30 15135586.51 15135586.73 0.0497 0.0205 Neptune 36728-08-27 20:09 G 15135925.09 15135925.34 15135925.60 0.0088 0.0009 Jupiter 36728-10-24 14:24 G 15135983.00 15135983.10 15135983.21 0.0496 0.0443 Neptune 36729-08-30 06:57 G 15136292.54 15136292.79 15136293.06 0.0088 0.0010 Neptune 36730-09-01 17:45 G 15136660.00 15136660.24 15136660.49 0.0088 0.0028 Saturn 36731-03-18 18:43 G 15136858.04 15136858.28 15136858.52 0.0302 0.0053 Uranus 36731-04-05 07:41 G 15136875.75 15136875.82 15136875.94 0.0135 0.0126 Neptune 36731-09-04 04:05 G 15137027.47 15137027.67 15137027.91 0.0088 0.0047 Uranus 36732-04-08 18:14 G 15137245.03 15137245.26 15137245.50 0.0135 0.0055 Neptune 36732-09-05 14:53 G 15137394.97 15137395.12 15137395.31 0.0088 0.0065 Uranus 36733-04-13 05:17 G 15137614.47 15137614.72 15137614.98 0.0136 0.0016 Neptune 36733-09-08 01:26 G 15137762.50 15137762.56 15137762.67 0.0088 0.0083 Jupiter 36734-04-09 17:17 G 15137976.00 15137976.22 15137976.45 0.0530 0.0161 Uranus 36734-04-17 16:48 G 15137984.02 15137984.20 15137984.41 0.0136 0.0088 Jupiter 36739-09-28 08:38 G 15139973.63 15139973.86 15139974.09 0.0496 0.0115

Jupiter 36745-03-09 14:09 G 15141963.08 15141963.09 15141963.11 0.0527 0.0526 Saturn 36745-09-13 06:29 G 15142150.55 15142150.77 15142150.99 0.0260 0.0111 Jupiter 36746-04-14 20:24 G 15142364.15 15142364.35 15142364.55 0.0530 0.0276 Saturn 36746-09-24 12:57 G 15142527.00 15142527.04 15142527.12 0.0260 0.0252 Jupiter 36751-10-02 17:45 G 15144361.01 15144361.24 15144361.48 0.0496 0.0022 Jupiter 36757-03-14 12:57 G 15146350.91 15146351.04 15146351.18 0.0527 0.0425 Jupiter 36758-04-19 19:26 G 15146752.15 15146752.31 15146752.47 0.0530 0.0382 Saturn 36760-03-11 15:21 G 15147443.96 15147444.14 15147444.34 0.0303 0.0194 Jupiter 36763-10-07 03:07 G 15148748.40 15148748.63 15148748.87 0.0496 0.0070 Jupiter 36769-03-19 12:14 G 15150738.82 15150739.01 15150739.20 0.0528 0.0316 Jupiter 36770-04-24 19:55 G 15151140.25 15151140.33 15151140.42 0.0530 0.0491 Uranus 36771-10-08 02:09 G 15151671.42 15151671.59 15151671.78 0.0143 0.0100 Uranus 36772-10-12 00:14 G 15152041.26 15152041.51 15152041.76 0.0143 0.0017 Uranus 36773-10-16 20:53 G 15152411.16 15152411.37 15152411.61 0.0142 0.0066 Jupiter 36774-09-09 16:33 G 15152739.16 15152739.19 15152739.22 0.0500 0.0494 Saturn 36775-09-20 04:19 G 15153114.45 15153114.68 15153114.91 0.0260 0.0101 Jupiter 36775-10-11 12:57 G 15153135.83 15153136.04 15153136.27 0.0496 0.0163 Jupiter 36781-03-24 09:50 G 15155126.70 15155126.91 15155127.13 0.0528 0.0206 Pluto 36784-05-05 17:17 G 15156265.12 15156265.22 15156265.40 0.0066 0.0056 36785-05-07 07:26 G 15156631.60 15156631.81 15156632.06 0.0066 0.0032 Pluto Jupiter 36786-09-14 04:33 G 15157126.55 15157126.69 15157126.83 0.0499 0.0403 Jupiter 36787-10-15 22:19 G 15157523.23 15157523.43 15157523.63 0.0496 0.0253 Saturn 36790-03-20 18:14 G 15158410.05 15158410.26 15158410.48 0.0302 0.0143 Jupiter 36793-03-29 11:02 G 15159514.73 15159514.96 15159515.19 0.0529 0.0091 Jupiter 36798-09-18 14:38 G 15161513.93 15161514.11 15161514.30 0.0498 0.0314 Jupiter 36799-10-20 05:31 G 15161910.56 15161910.73 15161910.90 0.0496 0.0341 Saturn 36804-09-14 15:07 G 15163701.89 15163702.13 15163702.37 0.0260 0.0056 Jupiter 36805-04-03 13:12 G 15163902.82 15163903.05 15163903.29 0.0530 0.0026 Neptune 36807-02-16 22:33 G 15164587.44 15164587.44 15164587.47 0.0090 0.0089 Neptune 36808-02-19 11:02 G 15164954.81 15164954.96 15164955.13 0.0090 0.0070

Neptune 36809-02-20 23:02 G 15165322.26 15165322.46 15165322.68 0.0090 0.0051 Neptune 36810-02-23 11:17 G 15165689.75 15165689.97 15165690.23 0.0090 0.0032 Jupiter 36810-09-23 00:57 G 15165901.33 15165901.54 15165901.75 0.0497 0.0222 Neptune 36811-02-26 00:00 G 15166057.25 15166057.50 15166057.76 0.0090 0.0012 Jupiter 36811-10-24 14:24 G 15166297.99 15166298.10 15166298.22 0.0496 0.0430 Neptune 36812-02-28 12:29 G 15166424.76 15166425.02 15166425.27 0.0090 0.0008 Neptune 36813-03-02 00:29 G 15166792.29 15166792.52 15166792.78 0.0090 0.0028 Neptune 36814-03-04 13:12 G 15167159.84 15167160.05 15167160.28 0.0090 0.0047 Neptune 36815-03-07 01:26 G 15167527.41 15167527.56 15167527.76 0.0090 0.0067 Uranus 36815-04-05 22:19 G 15167557.32 15167557.43 15167557.56 0.0135 0.0119 Neptune 36816-03-08 14:09 G 15167895.04 15167895.09 15167895.18 0.0090 0.0086 Uranus 36816-04-09 08:38 G 15167926.63 15167926.86 15167927.10 0.0135 0.0049 Jupiter 36817-04-08 13:26 G 15168290.83 15168291.06 15168291.29 0.0530 0.0136 Uranus 36817-04-13 19:41 G 15168296.07 15168296.32 15168296.58 0.0136 0.0023 Uranus 36818-04-18 07:26 G 15168665.63 15168665.81 15168666.00 0.0136 0.0095 Saturn 36819-03-14 12:29 G 15168995.80 15168996.02 15168996.25 0.0303 0.0108 Jupiter 36822-09-27 09:50 G 15170288.69 15170288.91 15170289.14 0.0497 0.0133 Jupiter 36829-04-13 14:09 G 15172678.89 15172679.09 15172679.30 0.0530 0.0251 Saturn 36833-09-10 05:02 G 15174289.58 15174289.71 15174289.88 0.0259 0.0207 Saturn 36834-09-21 11:45 G 15174665.80 15174665.99 15174666.19 0.0259 0.0155 Jupiter 36834-10-01 20:24 G 15174676.12 15174676.35 15174676.58 0.0497 0.0037 Jupiter 36840-03-13 08:24 G 15176665.73 15176665.85 15176665.98 0.0527 0.0446 Jupiter 36841-04-18 13:41 G 15177066.90 15177067.07 15177067.24 0.0530 0.0364 Jupiter 36846-10-06 06:43 G 15179063.55 15179063.78 15179064.02 0.0496 0.0057 Saturn 36849-03-22 14:09 G 15179961.93 15179962.09 15179962.25 0.0302 0.0227 Jupiter 36852-03-18 08:09 G 15181053.67 15181053.84 15181054.02 0.0528 0.0337 Jupiter 36853-04-23 16:48 G 15181455.10 15181455.20 15181455.30 0.0530 0.0476 Uranus 36855-10-08 16:48 G 15182353.01 15182353.20 15182353.40 0.0143 0.0093 Uranus 36856-10-12 14:38 G 15182722.86 15182723.11 15182723.37 0.0143 0.0010 36857-08-04 18:57 G 15183019.20 15183019.29 15183019.39 0.1825 0.1575 Mars

Uranus 36857-10-17 11:45 G 15183092.78 15183092.99 15183093.21 0.0142 0.0073 Jupiter 36858-10-10 15:21 G 15183450.92 15183451.14 15183451.36 0.0496 0.0148 Saturn 36863-09-16 21:36 G 15185253.15 15185253.40 15185253.64 0.0259 0.0005 Jupiter 36864-03-23 09:21 G 15185441.68 15185441.89 15185442.10 0.0529 0.0226 Jupiter 36869-09-13 07:26 G 15187441.68 15187441.81 15187441.93 0.0499 0.0419 Jupiter 36870-10-15 00:57 G 15187838.34 15187838.54 15187838.74 0.0496 0.0240 36872-11-07 14:53 G 15188593.00 15188593.12 15188593.29 0.0078 0.0065 Pluto Jupiter 36876-03-28 10:05 G 15189829.69 15189829.92 15189830.15 0.0529 0.0114 Saturn 36878-03-16 05:17 G 15190547.48 15190547.72 15190547.97 0.0303 0.0030 Jupiter 36881-09-17 16:05 G 15191829.01 15191829.17 15191829.35 0.0499 0.0333 Jupiter 36882-10-19 09:36 G 15192225.73 15192225.90 15192226.08 0.0496 0.0329 Jupiter 36888-04-02 11:31 G 15194217.74 15194217.98 15194218.21 0.0529 0.0011 Neptune 36889-08-20 16:19 G 15194723.08 15194723.18 15194723.34 0.0088 0.0076 Neptune 36890-08-23 03:21 G 15195090.46 15195090.64 15195090.85 0.0088 0.0057 Neptune 36891-08-25 14:24 G 15195457.89 15195458.10 15195458.35 0.0088 0.0039 Neptune 36892-08-27 01:41 G 15195825.33 15195825.57 15195825.83 0.0088 0.0020 Saturn 36892-09-11 10:33 G 15195840.75 15195840.94 15195841.14 0.0259 0.0157 Neptune 36893-08-29 12:57 G 15196192.78 15196193.04 15196193.30 0.0088 0.0001 Jupiter 36893-09-22 03:36 G 15196216.45 15196216.65 15196216.86 0.0498 0.0239 Saturn 36893-09-22 16:33 G 15196217.05 15196217.19 15196217.35 0.0259 0.0204 Neptune 36894-08-31 23:31 G 15196560.24 15196560.48 15196560.75 0.0088 0.0018 Jupiter 36894-10-23 19:55 G 15196613.21 15196613.33 15196613.45 0.0496 0.0420 Neptune 36895-09-03 10:19 G 15196927.71 15196927.93 15196928.18 0.0088 0.0036 Neptune 36896-09-04 20:53 G 15197295.20 15197295.37 15197295.60 0.0088 0.0055 Neptune 36897-09-07 07:41 G 15197662.70 15197662.82 15197662.99 0.0088 0.0073 Uranus 36899-04-06 13:12 G 15198238.93 15198239.05 15198239.21 0.0135 0.0113 Jupiter 36900-04-08 10:19 G 15198605.70 15198605.93 15198606.15 0.0529 0.0118 Uranus 36900-04-10 23:45 G 15198608.25 15198608.49 15198608.73 0.0136 0.0042 Uranus 36901-04-15 10:48 G 15198977.71 15198977.95 15198978.20 0.0136 0.0029 Uranus 36902-04-19 22:05 G 15199347.27 15199347.42 15199347.61 0.0136 0.0102

Jupiter 36905-09-27 15:21 G 15200603.92 15200604.14 15200604.36 0.0497 0.0143 Saturn 36907-03-10 20:38 G 15201133.30 15201133.36 15201133.43 0.0303 0.0290 Saturn 36908-03-25 04:19 G 15201513.68 15201513.68 15201513.71 0.0303 0.0302 Jupiter 36912-04-13 12:29 G 15202993.82 15202994.02 15202994.23 0.0530 0.0236 Jupiter 36917-10-02 01:41 G 15204991.34 15204991.57 15204991.81 0.0497 0.0051 Saturn 36922-09-19 00:57 G 15206804.30 15206804.54 15206804.79 0.0259 0.0044 Jupiter 36923-03-14 09:50 G 15206980.81 15206980.91 15206981.02 0.0527 0.0464 Jupiter 36924-04-18 15:50 G 15207381.99 15207382.16 15207382.34 0.0530 0.0351 Jupiter 36929-10-06 12:00 G 15209378.77 15209379.00 15209379.24 0.0496 0.0046 Jupiter 36935-03-19 11:02 G 15211368.79 15211368.96 15211369.13 0.0527 0.0356 Jupiter 36936-04-23 17:31 G 15211770.12 15211770.23 15211770.35 0.0530 0.0459 Saturn 36937-03-18 16:05 G 15212098.92 15212099.17 15212099.41 0.0303 0.0039 Uranus 36939-10-10 09:36 G 15213034.71 15213034.90 15213035.11 0.0143 0.0085 Uranus 36940-10-14 07:41 G 15213404.57 15213404.82 15213405.07 0.0143 0.0002 Jupiter 36941-10-10 20:24 G 15213766.12 15213766.35 15213766.57 0.0497 0.0135 Uranus 36941-10-19 04:48 G 15213774.49 15213774.70 15213774.91 0.0142 0.0081 Jupiter 36947-03-24 12:14 G 15215756.81 15215757.01 15215757.22 0.0528 0.0243 Saturn 36951-09-14 12:57 G 15217391.82 15217392.04 15217392.27 0.0259 0.0112 Jupiter 36952-09-13 10:19 G 15217756.83 15217756.93 15217757.05 0.0500 0.0436 Saturn 36952-09-24 18:29 G 15217768.22 15217768.27 15217768.34 0.0259 0.0249 Jupiter 36953-10-15 07:12 G 15218153.59 15218153.80 15218154.00 0.0496 0.0230 Jupiter 36959-03-29 10:48 G 15220144.72 15220144.95 15220145.18 0.0528 0.0130 36962-02-03 06:14 G 15221186.58 15221186.76 15221186.93 0.1706 0.0600 Mars Jupiter 36964-09-17 23:31 G 15222144.32 15222144.48 15222144.65 0.0499 0.0343 Jupiter 36965-10-19 17:31 G 15222541.06 15222541.23 15222541.42 0.0496 0.0324 Saturn 36966-03-12 05:02 G 15222684.56 15222684.71 15222684.88 0.0304 0.0226 Jupiter 36971-04-03 12:00 G 15224532.77 15224533.00 15224533.23 0.0529 0.0013 Neptune 36972-02-19 14:09 G 15224855.01 15224855.09 15224855.21 0.0090 0.0083 Neptune 36973-02-21 03:07 G 15225222.45 15225222.63 15225222.81 0.0090 0.0063 Neptune 36974-02-23 15:07 G 15225589.92 15225590.13 15225590.36 0.0090 0.0044 Neptune 36975-02-26 03:36 G 15225957.40 15225957.65 15225957.90 0.0090 0.0024 Neptune 36976-02-28 15:50 G 15226324.91 15226325.16 15226325.42 0.0090 0.0005 Jupiter 36976-09-22 12:00 G 15226531.80 15226532.00 15226532.20 0.0498 0.0250 Neptune 36977-03-02 04:05 G 15226692.42 15226692.67 15226692.93 0.0090 0.0016 Jupiter 36977-10-24 03:07 G 15226928.51 15226928.63 15226928.76 0.0496 0.0411 Neptune 36978-03-04 16:19 G 15227059.96 15227060.18 15227060.43 0.0090 0.0036 Neptune 36979-03-07 04:48 G 15227427.51 15227427.70 15227427.91 0.0090 0.0055 Neptune 36980-03-08 16:48 G 15227795.09 15227795.20 15227795.37 0.0090 0.0075 Saturn 36981-09-20 01:55 G 15228355.35 15228355.58 15228355.81 0.0259 0.0087 Uranus 36983-04-08 03:07 G 15228920.48 15228920.63 15228920.79 0.0135 0.0106 Jupiter 36983-04-08 14:38 G 15228920.89 15228921.11 15228921.34 0.0530 0.0105 Uranus 36984-04-11 13:12 G 15229289.82 15229290.05 15229290.31 0.0135 0.0037 Uranus 36985-04-16 00:29 G 15229659.27 15229659.52 15229659.77 0.0136 0.0035 Uranus 36986-04-20 11:17 G 15230028.84 15230028.97 15230029.15 0.0136 0.0108 Jupiter 36988-09-26 23:31 G 15230919.26 15230919.48 15230919.70 0.0497 0.0153 Jupiter 36995-04-13 17:45 G 15233309.03 15233309.24 15233309.45 0.0529 0.0221 Saturn 36996-03-19 20:53 G 15233650.14 15233650.37 15233650.61 0.0303 0.0098 Jupiter 37000-10-02 07:26 G 15235306.58 15235306.81 15235307.04 0.0497 0.0062

## 38TH MILLENNIUM CE

## This is a list of transits of Earth in the 38th millennium CE.

FROM MAX- C START MAX END SUNRAD DEPTH S

TRANSIT

TIME

Jupiter 37006-03-14 17:45 G 15237296.15 15237296.24 15237296.34 0.0526 0.0475

Jupiter 37007-04-19 20:24 G 15237697.17 15237697.35 15237697.53 0.0529 0.0337 Saturn 37010-09-16 12:14 G 15238942.78 15238943.01 15238943.25 0.0258 0.0071 Jupiter 37012-10-06 18:57 G 15239694.06 15239694.29 15239694.52 0.0497 0.0035 Jupiter 37018-03-19 15:36 G 15241683.99 15241684.15 15241684.32 0.0527 0.0368 Jupiter 37019-04-24 20:38 G 15242085.24 15242085.36 15242085.48 0.0529 0.0449 Uranus 37023-10-11 23:45 G 15243716.28 15243716.49 15243716.71 0.0143 0.0079 Jupiter 37024-10-11 06:29 G 15244081.55 15244081.77 15244082.00 0.0497 0.0130 Uranus 37024-10-15 21:50 G 15244086.16 15244086.41 15244086.66 0.0143 0.0005 Saturn 37025-03-14 07:12 G 15244235.60 15244235.80 15244236.00 0.0304 0.0173 Uranus 37025-10-20 18:57 G 15244456.10 15244456.29 15244456.50 0.0142 0.0088 Jupiter 37030-03-24 15:50 G 15246071.96 15246072.16 15246072.36 0.0528 0.0256 37030-05-09 17:17 G 15246118.18 15246118.22 15246118.29 0.0065 0.0064 Pluto Pluto 37031-05-11 06:57 G 15246484.56 15246484.79 15246485.05 0.0066 0.0023 Jupiter 37035-09-14 21:07 G 15248072.29 15248072.38 15248072.50 0.0500 0.0445 Jupiter 37036-10-15 17:31 G 15248469.02 15248469.23 15248469.44 0.0496 0.0223 Saturn 37039-09-11 19:12 G 15249530.21 15249530.30 15249530.42 0.0258 0.0234 Saturn 37040-09-22 00:00 G 15249906.29 15249906.50 15249906.72 0.0259 0.0127 Jupiter 37042-03-29 17:17 G 15250460.00 15250460.22 15250460.45 0.0529 0.0142 Jupiter 37047-09-19 10:19 G 15252459.76 15252459.93 15252460.09 0.0499 0.0351 Jupiter 37048-10-20 04:05 G 15252856.49 15252856.67 15252856.85 0.0496 0.0317 Neptune 37053-08-21 21:50 G 15254623.40 15254623.41 15254623.47 0.0088 0.0087 Jupiter 37054-04-03 21:07 G 15254848.14 15254848.38 15254848.61 0.0529 0.0025 Neptune 37054-08-24 08:53 G 15254990.74 15254990.87 15254991.06 0.0088 0.0069 Saturn 37055-03-22 20:53 G 15255201.16 15255201.37 15255201.58 0.0303 0.0147 Neptune 37055-08-26 19:55 G 15255358.14 15255358.33 15255358.56 0.0088 0.0050 Neptune 37056-08-28 07:26 G 15255725.57 15255725.81 15255726.05 0.0088 0.0031 Neptune 37057-08-30 18:14 G 15256093.01 15256093.26 15256093.52 0.0088 0.0013 Neptune 37058-09-02 05:02 G 15256460.46 15256460.71 15256460.98 0.0088 0.0007 Neptune 37059-09-04 16:05 G 15256827.93 15256828.17 15256828.43 0.0088 0.0025 Jupiter 37059-09-23 18:14 G 15256847.07 15256847.26 15256847.46 0.0498 0.0261

Neptune 37060-09-06 02:38 G 15257195.41 15257195.61 15257195.86 0.0088 0.0044 Jupiter 37060-10-24 12:14 G 15257243.88 15257244.01 15257244.14 0.0497 0.0406 Neptune 37061-09-08 13:55 G 15257562.90 15257563.08 15257563.26 0.0088 0.0062 Neptune 37062-09-11 00:00 G 15257930.43 15257930.50 15257930.63 0.0088 0.0081 Jupiter 37066-04-09 00:00 G 15259236.27 15259236.50 15259236.73 0.0529 0.0096 Uranus 37067-04-09 16:05 G 15259602.03 15259602.17 15259602.36 0.0135 0.0101 Uranus 37068-04-13 02:38 G 15259971.36 15259971.61 15259971.86 0.0135 0.0031 Uranus 37069-04-17 13:12 G 15260340.81 15260341.05 15260341.30 0.0136 0.0041 Saturn 37069-09-17 09:50 G 15260493.66 15260493.91 15260494.15 0.0258 0.0033 Uranus 37070-04-22 00:14 G 15260710.38 15260710.51 15260710.67 0.0136 0.0112 Jupiter 37071-09-28 06:29 G 15261234.55 15261234.77 15261234.99 0.0498 0.0164 Jupiter 37072-10-28 23:17 G 15261631.46 15261631.47 15261631.48 0.0497 0.0496 Jupiter 37078-04-13 23:45 G 15263624.28 15263624.49 15263624.70 0.0529 0.0212 Jupiter 37083-10-02 19:26 G 15265622.08 15265622.31 15265622.54 0.0498 0.0066 Saturn 37084-03-15 04:48 G 15265786.49 15265786.70 15265786.93 0.0304 0.0127 Jupiter 37089-03-13 23:45 G 15267611.41 15267611.49 15267611.58 0.0526 0.0486 Jupiter 37090-04-19 01:55 G 15268012.40 15268012.58 15268012.76 0.0530 0.0329 Jupiter 37095-10-07 07:41 G 15270009.58 15270009.82 15270010.05 0.0497 0.0029 Saturn 37098-09-12 15:50 G 15271081.02 15271081.16 15271081.34 0.0258 0.0198 Saturn 37099-09-23 20:09 G 15271457.16 15271457.34 15271457.54 0.0259 0.0164 Jupiter 37101-03-20 00:00 G 15271999.34 15271999.50 15271999.66 0.0527 0.0378 Jupiter 37102-04-25 05:45 G 15272400.62 15272400.74 15272400.87 0.0530 0.0443 Jupiter 37107-10-12 18:57 G 15274397.07 15274397.29 15274397.52 0.0496 0.0126 Uranus 37107-10-13 12:14 G 15274397.80 15274398.01 15274398.23 0.0143 0.0074 Uranus 37108-10-17 10:33 G 15274767.69 15274767.94 15274768.19 0.0143 0.0011 Uranus 37109-10-22 07:26 G 15275137.64 15275137.81 15275138.02 0.0142 0.0094 Jupiter 37113-03-25 03:21 G 15276387.44 15276387.64 15276387.84 0.0527 0.0264 Saturn 37114-03-24 15:50 G 15276751.98 15276752.16 15276752.36 0.0304 0.0189 Jupiter 37118-09-15 04:19 G 15278387.58 15278387.68 15278387.77 0.0500 0.0455 Pluto 37118-11-12 12:29 G 15278445.83 15278446.02 15278446.25 0.0078 0.0046

Jupiter 37119-10-17 02:24 G 15278784.39 15278784.60 15278784.81 0.0497 0.0217 Jupiter 37125-03-30 06:14 G 15280775.54 15280775.76 15280775.99 0.0528 0.0147 Saturn 37128-09-19 05:45 G 15282044.50 15282044.74 15282044.99 0.0258 0.0004 Jupiter 37130-09-19 17:17 G 15282775.06 15282775.22 15282775.38 0.0499 0.0361 Jupiter 37131-10-21 13:55 G 15283171.90 15283172.08 15283172.26 0.0497 0.0313 Neptune 37137-02-22 05:45 G 15285122.61 15285122.74 15285122.88 0.0089 0.0076 Jupiter 37137-04-04 05:31 G 15285163.50 15285163.73 15285163.97 0.0528 0.0033 Neptune 37138-02-24 17:45 G 15285490.06 15285490.24 15285490.46 0.0090 0.0057 Neptune 37139-02-27 06:14 G 15285857.54 15285857.76 15285858.01 0.0090 0.0037 Neptune 37140-02-29 18:43 G 15286225.03 15286225.28 15286225.54 0.0090 0.0017 Neptune 37141-03-03 07:12 G 15286592.55 15286592.80 15286593.06 0.0090 0.0004 37141-08-07 15:07 G 15286749.98 15286750.13 15286750.28 0.1835 0.1155 Mars Neptune 37142-03-05 19:41 G 15286960.07 15286960.32 15286960.57 0.0090 0.0023 Jupiter 37142-09-24 06:57 G 15287162.60 15287162.79 15287163.00 0.0499 0.0266 Neptune 37143-03-08 07:55 G 15287327.61 15287327.83 15287328.06 0.0090 0.0043 Saturn 37143-03-17 23:17 G 15287337.23 15287337.47 15287337.70 0.0304 0.0088 Jupiter 37143-10-26 01:55 G 15287559.45 15287559.58 15287559.71 0.0497 0.0406 Neptune 37144-03-09 19:55 G 15287695.17 15287695.33 15287695.54 0.0090 0.0063 Neptune 37145-03-12 08:24 G 15288062.78 15288062.85 15288062.98 0.0090 0.0083 Jupiter 37149-04-09 06:57 G 15289551.56 15289551.79 15289552.02 0.0529 0.0088 Uranus 37151-04-11 05:31 G 15290283.57 15290283.73 15290283.93 0.0135 0.0095 Uranus 37152-04-14 15:50 G 15290652.91 15290653.16 15290653.41 0.0135 0.0025 Uranus 37153-04-19 01:55 G 15291022.36 15291022.58 15291022.83 0.0136 0.0047 Uranus 37154-04-23 12:29 G 15291391.92 15291392.02 15291392.17 0.0136 0.0118 Jupiter 37154-09-28 20:53 G 15291550.15 15291550.37 15291550.59 0.0498 0.0168 Jupiter 37155-10-30 12:43 G 15291947.01 15291947.03 15291947.05 0.0496 0.0494 Saturn 37157-09-14 11:45 G 15292631.81 15292631.99 15292632.19 0.0258 0.0162 Saturn 37158-09-25 16:05 G 15293008.01 15293008.17 15293008.33 0.0258 0.0198 Jupiter 37161-04-14 09:50 G 15293939.70 15293939.91 15293940.13 0.0529 0.0206 Jupiter 37166-10-03 08:53 G 15295937.64 15295937.87 15295938.10 0.0497 0.0070

37167-02-03 18:29 G 15296061.14 15296061.27 15296061.40 0.1695 0.1188 Mars Jupiter 37172-03-14 12:57 G 15297926.96 15297927.04 15297927.12 0.0526 0.0492 Saturn 37173-03-25 09:50 G 15298302.76 15298302.91 15298303.08 0.0304 0.0228 Jupiter 37173-04-19 14:24 G 15298327.93 15298328.10 15298328.29 0.0529 0.0326 Jupiter 37178-10-07 16:19 G 15300324.94 15300325.18 15300325.41 0.0497 0.0023 Jupiter 37184-03-19 15:07 G 15302314.98 15302315.13 15302315.29 0.0526 0.0381 Jupiter 37185-04-24 18:29 G 15302716.15 15302716.27 15302716.40 0.0529 0.0441 Saturn 37187-09-21 01:12 G 15303595.30 15303595.55 15303595.79 0.0258 0.0037 Jupiter 37190-10-12 03:50 G 15304712.44 15304712.66 15304712.89 0.0497 0.0120 Uranus 37191-10-13 20:24 G 15305079.14 15305079.35 15305079.58 0.0143 0.0071 Uranus 37192-10-17 18:43 G 15305449.03 15305449.28 15305449.53 0.0143 0.0013 Uranus 37193-10-22 16:19 G 15305819.00 15305819.18 15305819.37 0.0143 0.0096 Jupiter 37196-03-24 13:41 G 15306702.88 15306703.07 15306703.28 0.0527 0.0270 Jupiter 37201-09-14 17:02 G 15308703.13 15308703.21 15308703.31 0.0500 0.0462 Saturn 37202-03-18 16:05 G 15308887.93 15308888.17 15308888.42 0.0304 0.0050 Jupiter 37202-10-16 16:33 G 15309099.98 15309100.19 15309100.40 0.0497 0.0217 Jupiter 37208-03-29 13:55 G 15311090.86 15311091.08 15311091.30 0.0528 0.0155 Jupiter 37213-09-19 07:41 G 15313090.67 15313090.82 15313090.99 0.0499 0.0366 Jupiter 37214-10-21 04:05 G 15313487.50 15313487.67 15313487.86 0.0496 0.0312 Saturn 37216-09-15 07:41 G 15314182.61 15314182.82 15314183.04 0.0258 0.0128 Saturn 37217-09-26 11:45 G 15314558.89 15314558.99 15314559.10 0.0258 0.0233 Neptune 37218-08-24 14:53 G 15314891.04 15314891.12 15314891.25 0.0088 0.0080 Neptune 37219-08-27 02:09 G 15315258.42 15315258.59 15315258.79 0.0088 0.0061 Jupiter 37220-04-03 15:21 G 15315478.91 15315479.14 15315479.38 0.0529 0.0039 Neptune 37220-08-28 12:57 G 15315625.83 15315626.04 15315626.28 0.0088 0.0043 Neptune 37221-08-30 23:45 G 15315993.26 15315993.49 15315993.76 0.0088 0.0024 Neptune 37222-09-02 11:02 G 15316360.71 15316360.96 15316361.22 0.0088 0.0005 Neptune 37223-09-04 21:50 G 15316728.17 15316728.41 15316728.68 0.0088 0.0015 Neptune 37224-09-06 08:53 G 15317095.64 15317095.87 15317096.12 0.0088 0.0033 Neptune 37225-09-08 19:26 G 15317463.12 15317463.31 15317463.54 0.0088 0.0052 Jupiter 37225-09-23 21:07 G 15317478.19 15317478.38 15317478.58 0.0499 0.0269 Neptune 37226-09-11 06:14 G 15317830.63 15317830.76 15317830.94 0.0088 0.0071 Jupiter 37226-10-25 15:07 G 15317875.00 15317875.13 15317875.27 0.0496 0.0404 Saturn 37232-03-26 02:53 G 15319853.52 15319853.62 15319853.75 0.0304 0.0266 Jupiter 37232-04-08 20:24 G 15319867.12 15319867.35 15319867.58 0.0529 0.0085 Uranus 37235-04-11 19:41 G 15320965.15 15320965.32 15320965.53 0.0135 0.0089 Uranus 37236-04-15 05:45 G 15321334.49 15321334.74 15321335.00 0.0135 0.0019 Uranus 37237-04-19 16:05 G 15321703.94 15321704.17 15321704.41 0.0136 0.0053 Jupiter 37237-09-28 04:33 G 15321865.47 15321865.69 15321865.91 0.0498 0.0176 Uranus 37238-04-24 02:38 G 15322073.53 15322073.61 15322073.73 0.0136 0.0124 Jupiter 37238-10-29 22:05 G 15322262.40 15322262.42 15322262.46 0.0497 0.0492 Jupiter 37244-04-14 00:00 G 15324255.29 15324255.50 15324255.71 0.0529 0.0205 Mars 37246-02-06 03:07 G 15324918.49 15324918.63 15324918.77 0.1700 0.1137 Saturn 37246-09-21 20:38 G 15325146.13 15325146.36 15325146.60 0.0258 0.0072 Jupiter 37249-10-02 16:33 G 15326252.96 15326253.19 15326253.43 0.0498 0.0078 Jupiter 37255-03-14 23:45 G 15328242.43 15328242.49 15328242.57 0.0525 0.0499 Jupiter 37256-04-18 23:45 G 15328643.31 15328643.49 15328643.67 0.0529 0.0320 Saturn 37261-03-19 10:48 G 15330438.71 15330438.95 15330439.19 0.0304 0.0010 Jupiter 37261-10-07 05:45 G 15330640.50 15330640.74 15330640.97 0.0498 0.0022 Jupiter 37267-03-19 22:48 G 15332630.30 15332630.45 15332630.61 0.0526 0.0390 Jupiter 37268-04-24 01:12 G 15333031.42 15333031.55 15333031.68 0.0529 0.0435 Jupiter 37273-10-11 18:00 G 15335028.03 15335028.25 15335028.48 0.0497 0.0117 Saturn 37275-09-17 04:19 G 15335733.45 15335733.68 15335733.92 0.0258 0.0092 Uranus 37275-10-14 07:26 G 15335760.60 15335760.81 15335761.04 0.0143 0.0068 Uranus 37276-10-18 05:45 G 15336130.49 15336130.74 15336131.00 0.0143 0.0017 Pluto 37277-05-13 05:17 G 15336337.46 15336337.72 15336337.98 0.0066 0.0010 Uranus 37277-10-23 03:07 G 15336500.46 15336500.63 15336500.82 0.0143 0.0100 Jupiter 37279-03-24 22:33 G 15337018.24 15337018.44 15337018.64 0.0527 0.0278 Jupiter 37284-09-14 06:29 G 15339018.69 15339018.77 15339018.86 0.0500 0.0466 Jupiter 37285-10-16 05:17 G 15339415.52 15339415.72 15339415.94 0.0497 0.0215

Saturn 37290-03-12 12:43 G 15341023.98 15341024.03 15341024.09 0.0303 0.0295 Jupiter 37291-03-30 02:24 G 15341406.38 15341406.60 15341406.83 0.0528 0.0160 Jupiter 37296-09-18 14:53 G 15343405.97 15343406.12 15343406.28 0.0499 0.0375 Jupiter 37297-10-20 11:45 G 15343802.81 15343802.99 15343803.18 0.0497 0.0307 Neptune 37301-02-22 08:38 G 15345022.85 15345022.86 15345022.92 0.0089 0.0089 Neptune 37302-02-24 21:21 G 15345390.24 15345390.39 15345390.57 0.0089 0.0069 Neptune 37303-02-27 09:21 G 15345757.70 15345757.89 15345758.13 0.0090 0.0050 Jupiter 37303-04-05 05:31 G 15345794.50 15345794.73 15345794.97 0.0528 0.0040 Neptune 37304-02-29 22:05 G 15346125.19 15346125.42 15346125.68 0.0090 0.0029 Saturn 37304-09-12 12:43 G 15346321.00 15346321.03 15346321.09 0.0259 0.0254 Neptune 37305-03-03 10:33 G 15346492.69 15346492.94 15346493.20 0.0090 0.0009 Saturn 37305-09-23 17:31 G 15346697.01 15346697.23 15346697.46 0.0258 0.0109 Neptune 37306-03-05 23:02 G 15346860.20 15346860.46 15346860.71 0.0090 0.0011 Neptune 37307-03-08 11:02 G 15347227.73 15347227.96 15347228.21 0.0090 0.0031 Neptune 37308-03-09 23:31 G 15347595.28 15347595.48 15347595.70 0.0090 0.0051 Jupiter 37308-09-24 03:07 G 15347793.44 15347793.63 15347793.83 0.0499 0.0279 Neptune 37309-03-12 11:31 G 15347962.85 15347962.98 15347963.16 0.0090 0.0071 Jupiter 37309-10-25 22:48 G 15348190.32 15348190.45 15348190.60 0.0497 0.0401 Jupiter 37315-04-10 04:33 G 15350182.46 15350182.69 15350182.92 0.0528 0.0078 Uranus 37319-04-13 10:33 G 15351646.75 15351646.94 15351647.16 0.0135 0.0082 Saturn 37320-03-21 07:26 G 15351989.57 15351989.81 15351990.05 0.0304 0.0034 Uranus 37320-04-16 20:38 G 15352016.11 15352016.36 15352016.61 0.0135 0.0012 Jupiter 37320-09-28 16:33 G 15352180.97 15352181.19 15352181.41 0.0499 0.0181 Uranus 37321-04-21 06:43 G 15352385.57 15352385.78 15352386.02 0.0136 0.0060 Jupiter 37321-10-30 10:48 G 15352577.93 15352577.95 15352577.99 0.0497 0.0492 Uranus 37322-04-25 17:17 G 15352755.18 15352755.22 15352755.31 0.0136 0.0131 Jupiter 37327-04-15 05:17 G 15354570.51 15354570.72 15354570.94 0.0529 0.0196 Jupiter 37332-10-03 05:31 G 15356568.50 15356568.73 15356568.96 0.0498 0.0083 Saturn 37334-09-19 02:24 G 15357284.36 15357284.60 15357284.85 0.0258 0.0054 Jupiter 37338-03-15 06:43 G 15358557.73 15358557.78 15358557.84 0.0525 0.0510

Jupiter 37339-04-20 06:57 G 15358958.60 15358958.79 15358958.98 0.0529 0.0313 Jupiter 37344-10-07 17:17 G 15360955.99 15360956.22 15360956.45 0.0497 0.0016 Saturn 37349-03-14 12:29 G 15362574.90 15362575.02 15362575.18 0.0303 0.0247 Jupiter 37350-03-20 08:53 G 15362945.73 15362945.87 15362946.03 0.0526 0.0398 Jupiter 37351-04-25 12:00 G 15363346.87 15363347.00 15363347.14 0.0529 0.0433 Jupiter 37356-10-11 23:45 G 15365343.27 15365343.49 15365343.72 0.0497 0.0109 Uranus 37359-10-15 18:43 G 15366442.07 15366442.28 15366442.52 0.0143 0.0064 Uranus 37360-10-19 17:02 G 15366811.96 15366812.21 15366812.46 0.0143 0.0021 Uranus 37361-10-24 14:09 G 15367181.94 15367182.09 15367182.28 0.0143 0.0105 Jupiter 37362-03-25 11:02 G 15367333.76 15367333.96 15367334.15 0.0527 0.0283 Saturn 37363-09-14 11:31 G 15367871.86 15367871.98 15367872.13 0.0259 0.0215 Saturn 37364-09-24 16:33 G 15368248.00 15368248.19 15368248.40 0.0258 0.0149 Pluto 37364-11-14 11:17 G 15368298.73 15368298.97 15368299.21 0.0078 0.0028 Jupiter 37367-09-15 11:02 G 15369333.90 15369333.96 15369334.04 0.0500 0.0478 Jupiter 37368-10-16 10:33 G 15369730.73 15369730.94 15369731.15 0.0497 0.0207 Jupiter 37374-03-30 09:36 G 15371721.68 15371721.90 15371722.12 0.0527 0.0171 Saturn 37379-03-23 09:21 G 15373540.66 15373540.89 15373541.13 0.0304 0.0088 Jupiter 37379-09-20 00:29 G 15373721.38 15373721.52 15373721.67 0.0500 0.0385 Jupiter 37380-10-20 22:48 G 15374118.27 15374118.45 15374118.63 0.0497 0.0303 Neptune 37383-08-27 07:26 G 15375158.70 15375158.81 15375158.99 0.0088 0.0073 Neptune 37384-08-28 18:29 G 15375526.09 15375526.27 15375526.50 0.0088 0.0054 Neptune 37385-08-31 05:45 G 15375893.51 15375893.74 15375893.99 0.0088 0.0035 Jupiter 37386-04-04 08:53 G 15376109.64 15376109.87 15376110.10 0.0528 0.0053 Neptune 37386-09-02 16:48 G 15376260.95 15376261.20 15376261.46 0.0088 0.0016 Neptune 37387-09-05 03:50 G 15376628.40 15376628.66 15376628.92 0.0088 0.0003 Neptune 37388-09-06 14:38 G 15376995.86 15376996.11 15376996.36 0.0088 0.0022 Neptune 37389-09-09 01:41 G 15377363.34 15377363.57 15377363.80 0.0088 0.0041 Neptune 37390-09-11 12:29 G 15377730.84 15377731.02 15377731.21 0.0088 0.0060 Neptune 37391-09-13 23:02 G 15378098.37 15378098.46 15378098.60 0.0088 0.0079 Jupiter 37391-09-24 14:09 G 15378108.90 15378109.09 15378109.28 0.0499 0.0287

Jupiter 37392-10-25 09:36 G 15378505.77 15378505.90 15378506.05 0.0497 0.0397 Saturn 37393-09-20 03:07 G 15378835.38 15378835.63 15378835.88 0.0258 0.0011 Jupiter 37398-04-09 09:07 G 15380497.65 15380497.88 15380498.11 0.0529 0.0066 Uranus 37403-04-15 01:12 G 15382328.36 15382328.55 15382328.78 0.0135 0.0076 Jupiter 37403-09-30 02:09 G 15382496.38 15382496.59 15382496.81 0.0498 0.0188 Uranus 37404-04-18 11:31 G 15382697.72 15382697.98 15382698.23 0.0135 0.0006 Jupiter 37404-10-30 19:55 G 15382893.30 15382893.33 15382893.38 0.0497 0.0488 Uranus 37405-04-22 21:36 G 15383067.19 15383067.40 15383067.63 0.0136 0.0066 Saturn 37408-03-16 17:31 G 15384126.05 15384126.23 15384126.43 0.0303 0.0189 Jupiter 37410-04-15 12:57 G 15384885.83 15384886.04 15384886.26 0.0529 0.0190 Jupiter 37415-10-04 09:36 G 15386883.67 15386883.90 15386884.13 0.0498 0.0094 Jupiter 37421-03-15 16:05 G 15388873.14 15388873.17 15388873.21 0.0526 0.0519 Jupiter 37422-04-20 16:19 G 15389274.00 15389274.18 15389274.37 0.0529 0.0309 Saturn 37422-09-16 13:12 G 15389422.88 15389423.05 15389423.25 0.0259 0.0171 Saturn 37423-09-27 18:29 G 15389799.12 15389799.27 15389799.45 0.0259 0.0193 Mars 37425-08-09 09:36 G 15390480.71 15390480.90 15390481.08 0.1844 0.0615 Jupiter 37427-10-08 20:09 G 15391271.11 15391271.34 15391271.58 0.0497 0.0008 Jupiter 37433-03-20 13:55 G 15393260.94 15393261.08 15393261.23 0.0526 0.0413 Jupiter 37434-04-25 15:07 G 15393661.99 15393662.13 15393662.27 0.0529 0.0422 Saturn 37438-03-25 17:02 G 15395092.01 15395092.21 15395092.43 0.0304 0.0151 Jupiter 37439-10-13 08:09 G 15395658.61 15395658.84 15395659.07 0.0497 0.0102 Uranus 37442-10-12 11:17 G 15396753.94 15396753.97 15396754.04 0.0144 0.0141 Uranus 37443-10-17 10:19 G 15397123.71 15397123.93 15397124.18 0.0143 0.0056 Uranus 37444-10-21 08:38 G 15397493.61 15397493.86 15397494.11 0.0143 0.0028 Jupiter 37445-03-25 12:14 G 15397648.82 15397649.01 15397649.20 0.0527 0.0301 Uranus 37445-10-26 06:00 G 15397863.60 15397863.75 15397863.91 0.0143 0.0111 Jupiter 37450-09-15 18:43 G 15399649.25 15399649.28 15399649.33 0.0501 0.0491 Mars 37451-02-06 16:48 G 15399793.03 15399793.20 15399793.38 0.1688 0.0597 Jupiter 37451-10-17 19:26 G 15400046.10 15400046.31 15400046.52 0.0497 0.0200 Saturn 37452-09-22 06:43 G 15400386.54 15400386.78 15400387.02 0.0259 0.0036

Jupiter 37457-03-30 10:19 G 15402036.72 15402036.93 15402037.15 0.0527 0.0187 Jupiter 37462-09-20 07:55 G 15404036.69 15404036.83 15404036.98 0.0500 0.0394 Jupiter 37463-10-22 05:31 G 15404433.55 15404433.73 15404433.92 0.0497 0.0296 Neptune 37466-02-25 00:43 G 15405290.45 15405290.53 15405290.66 0.0089 0.0082 Neptune 37467-02-27 13:26 G 15405657.89 15405658.06 15405658.26 0.0089 0.0062 Saturn 37467-03-19 05:17 G 15405677.49 15405677.72 15405677.94 0.0303 0.0119 Neptune 37468-03-01 01:41 G 15406025.36 15406025.57 15406025.81 0.0089 0.0042 Neptune 37469-03-03 14:24 G 15406392.86 15406393.10 15406393.36 0.0090 0.0022 Jupiter 37469-04-04 13:12 G 15406424.82 15406425.05 15406425.28 0.0528 0.0065 Neptune 37470-03-06 02:53 G 15406760.37 15406760.62 15406760.88 0.0090 0.0002 Neptune 37471-03-08 15:07 G 15407127.89 15407128.13 15407128.39 0.0090 0.0019 Neptune 37472-03-10 03:50 G 15407495.43 15407495.66 15407495.89 0.0090 0.0039 Neptune 37473-03-12 16:05 G 15407862.98 15407863.17 15407863.36 0.0090 0.0059 Neptune 37474-03-15 04:33 G 15408230.57 15408230.69 15408230.80 0.0090 0.0079 Jupiter 37474-09-24 16:19 G 15408424.00 15408424.18 15408424.37 0.0499 0.0302 Jupiter 37475-10-26 11:31 G 15408820.83 15408820.98 15408821.12 0.0496 0.0386 Jupiter 37481-04-09 15:21 G 15410812.91 15410813.14 15410813.37 0.0529 0.0057 Saturn 37481-09-17 17:45 G 15410974.03 15410974.24 15410974.47 0.0259 0.0123 Saturn 37482-09-28 23:17 G 15411350.40 15411350.47 15411350.57 0.0259 0.0242 Jupiter 37486-09-29 03:21 G 15412811.43 15412811.64 15412811.85 0.0498 0.0203 Uranus 37487-04-15 16:05 G 15413009.96 15413010.17 15413010.39 0.0135 0.0069 Jupiter 37487-10-30 21:21 G 15413208.33 15413208.39 15413208.45 0.0497 0.0478 Uranus 37488-04-19 01:55 G 15413379.32 15413379.58 15413379.83 0.0135 0.0002 Uranus 37489-04-23 12:00 G 15413748.80 15413749.00 15413749.23 0.0136 0.0073 Jupiter 37493-04-14 13:55 G 15415200.86 15415201.08 15415201.30 0.0529 0.0172 Saturn 37497-03-27 06:43 G 15416643.63 15416643.78 15416643.96 0.0304 0.0225 Jupiter 37498-10-03 14:53 G 15417198.90 15417199.12 15417199.35 0.0498 0.0107 Jupiter 37505-04-20 13:26 G 15419588.86 15419589.06 15419589.25 0.0529 0.0290 Jupiter 37510-10-09 02:24 G 15421586.36 15421586.60 15421586.83 0.0498 0.0008 Saturn 37511-09-25 13:12 G 15421937.82 15421938.05 15421938.28 0.0259 0.0087

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Jupiter 37558-10-26 15:36 G 15439136.00 15439136.15 15439136.30 0.0497 0.0375 Jupiter 37564-04-09 10:33 G 15441127.71 15441127.94 15441128.17 0.0528 0.0032 Saturn 37569-09-15 15:21 G 15443113.03 15443113.14 15443113.27 0.0259 0.0223 Jupiter 37569-09-29 06:43 G 15443126.57 15443126.78 15443126.99 0.0499 0.0220 Uranus 37570-04-12 19:26 G 15443322.30 15443322.31 15443322.37 0.0135 0.0134 Saturn 37570-09-26 21:50 G 15443489.22 15443489.41 15443489.63 0.0259 0.0143 Jupiter 37570-10-31 01:41 G 15443523.50 15443523.57 15443523.65 0.0497 0.0468 Uranus 37571-04-17 05:02 G 15443691.50 15443691.71 15443691.94 0.0135 0.0064 Uranus 37572-04-20 14:53 G 15444060.87 15444061.12 15444061.38 0.0135 0.0007 Uranus 37573-04-25 00:57 G 15444430.34 15444430.54 15444430.76 0.0136 0.0078 Jupiter 37576-04-14 08:53 G 15445515.65 15445515.87 15445516.09 0.0529 0.0151 Jupiter 37581-10-03 17:45 G 15447514.02 15447514.24 15447514.47 0.0498 0.0121 Saturn 37585-03-23 20:24 G 15448781.11 15448781.35 15448781.59 0.0303 0.0048 Jupiter 37588-04-19 11:31 G 15449903.78 15449903.98 15449904.17 0.0529 0.0274 Jupiter 37593-10-08 01:55 G 15451901.34 15451901.58 15451901.81 0.0497 0.0027 Jupiter 37599-03-20 11:17 G 15453890.86 15453890.97 15453891.09 0.0526 0.0454 Saturn 37599-09-22 10:33 G 15454076.70 15454076.94 15454077.19 0.0259 0.0015 Jupiter 37600-04-24 13:41 G 15454291.92 15454292.07 15454292.23 0.0529 0.0393 Jupiter 37605-10-12 11:31 G 15456288.75 15456288.98 15456289.21 0.0497 0.0074 Uranus 37610-10-14 15:21 G 15458117.04 15458117.14 15458117.26 0.0144 0.0128 Pluto 37610-11-18 04:19 G 15458151.43 15458151.68 15458151.94 0.0079 0.0008 Jupiter 37611-03-25 09:21 G 15458278.72 15458278.89 15458279.07 0.0527 0.0345 Uranus 37611-10-19 14:09 G 15458486.86 15458487.09 15458487.34 0.0143 0.0044 Jupiter 37612-04-29 12:00 G 15458679.94 15458680.00 15458680.08 0.0529 0.0504 Uranus 37612-10-23 12:14 G 15458856.78 15458857.01 15458857.26 0.0143 0.0041 Uranus 37613-10-28 09:36 G 15459226.79 15459226.90 15459227.04 0.0143 0.0124 Saturn 37614-03-17 17:02 G 15459367.03 15459367.21 15459367.39 0.0303 0.0203 Jupiter 37617-10-16 21:36 G 15460676.18 15460676.40 15460676.62 0.0497 0.0170 Jupiter 37623-03-30 07:41 G 15462666.62 15462666.82 15462667.04 0.0527 0.0229 Saturn 37628-09-17 01:55 G 15464664.40 15464664.58 15464664.78 0.0259 0.0166

Jupiter 37628-09-19 08:24 G 15464666.74 15464666.85 15464666.96 0.0500 0.0434 Saturn 37629-09-28 08:24 G 15465040.70 15465040.85 15465041.01 0.0259 0.0200 Jupiter 37629-10-21 07:41 G 15465063.63 15465063.82 15465064.02 0.0497 0.0268 Neptune 37631-02-27 18:00 G 15465558.12 15465558.25 15465558.40 0.0089 0.0074 Neptune 37632-03-01 06:14 G 15465925.57 15465925.76 15465925.98 0.0089 0.0054 Neptune 37633-03-03 18:29 G 15466293.05 15466293.27 15466293.52 0.0090 0.0034 Neptune 37634-03-06 06:57 G 15466660.54 15466660.79 15466661.05 0.0090 0.0014 Neptune 37635-03-08 19:41 G 15467028.06 15467028.32 15467028.57 0.0090 0.0007 Jupiter 37635-04-04 05:02 G 15467054.48 15467054.71 15467054.93 0.0528 0.0112 Neptune 37636-03-10 07:41 G 15467395.59 15467395.82 15467396.08 0.0090 0.0028 Neptune 37637-03-12 19:55 G 15467763.13 15467763.33 15467763.57 0.0090 0.0048 Neptune 37638-03-15 08:24 G 15468130.70 15468130.85 15468131.03 0.0090 0.0068 Neptune 37639-03-17 20:53 G 15468498.34 15468498.37 15468498.44 0.0090 0.0088 Jupiter 37640-09-23 20:24 G 15469054.18 15469054.35 15469054.53 0.0499 0.0335 Jupiter 37641-10-25 17:02 G 15469451.06 15469451.21 15469451.38 0.0497 0.0364 Saturn 37644-03-25 21:07 G 15470333.18 15470333.38 15470333.61 0.0303 0.0142 Jupiter 37647-04-09 05:45 G 15471442.51 15471442.74 15471442.98 0.0529 0.0013 Jupiter 37652-09-28 06:14 G 15473441.56 15473441.76 15473441.97 0.0498 0.0239 Jupiter 37653-10-30 00:00 G 15473838.41 15473838.50 15473838.60 0.0496 0.0452 Uranus 37654-04-13 08:24 G 15474003.78 15474003.85 15474003.93 0.0135 0.0128 Uranus 37655-04-17 17:31 G 15474373.01 15474373.23 15474373.47 0.0135 0.0059 Uranus 37656-04-21 03:07 G 15474742.38 15474742.63 15474742.89 0.0135 0.0012 Uranus 37657-04-25 13:12 G 15475111.87 15475112.05 15475112.27 0.0136 0.0083 Saturn 37658-09-23 21:07 G 15475628.14 15475628.38 15475628.63 0.0259 0.0045 Jupiter 37659-04-14 07:12 G 15475830.58 15475830.80 15475831.03 0.0529 0.0132 Jupiter 37664-10-02 16:33 G 15477828.97 15477829.19 15477829.42 0.0498 0.0141 Jupiter 37671-04-19 06:29 G 15480218.56 15480218.77 15480218.98 0.0529 0.0247 Saturn 37673-03-19 18:00 G 15480919.02 15480919.25 15480919.47 0.0303 0.0111 Jupiter 37676-10-07 02:09 G 15482216.36 15482216.59 15482216.83 0.0498 0.0045 Jupiter 37682-03-19 07:12 G 15484205.71 15484205.80 15484205.89 0.0525 0.0479

Jupiter 37683-04-24 06:14 G 15484606.59 15484606.76 15484606.93 0.0529 0.0367 Saturn 37687-09-19 12:29 G 15486215.80 15486216.02 15486216.25 0.0259 0.0108 Saturn 37688-09-29 18:43 G 15486592.27 15486592.28 15486592.31 0.0259 0.0258 Jupiter 37688-10-11 12:57 G 15486603.81 15486604.04 15486604.28 0.0497 0.0057 Jupiter 37694-03-24 02:53 G 15488593.46 15488593.62 15488593.79 0.0526 0.0369 Uranus 37694-10-14 23:31 G 15488798.37 15488798.48 15488798.61 0.0144 0.0126 Jupiter 37695-04-29 05:02 G 15488994.62 15488994.71 15488994.80 0.0529 0.0483 Uranus 37695-10-19 22:48 G 15489168.21 15489168.45 15489168.69 0.0143 0.0041 Uranus 37696-10-23 20:53 G 15489538.14 15489538.37 15489538.62 0.0143 0.0044 Uranus 37697-10-28 18:14 G 15489908.16 15489908.26 15489908.39 0.0143 0.0127 Jupiter 37700-10-16 23:17 G 15490991.25 15490991.47 15490991.69 0.0497 0.0156 Saturn 37703-03-29 21:36 G 15491885.25 15491885.40 15491885.56 0.0303 0.0234 Jupiter 37706-03-30 02:09 G 15492981.39 15492981.59 15492981.80 0.0527 0.0253 37709-08-11 01:12 G 15494211.35 15494211.55 15494211.75 0.1853 0.0091 Mars Jupiter 37711-09-20 09:07 G 15494981.79 15494981.88 15494981.98 0.0500 0.0453 Neptune 37712-08-30 07:41 G 15495326.70 15495326.82 15495326.95 0.0088 0.0076 Jupiter 37712-10-21 07:26 G 15495378.61 15495378.81 15495379.01 0.0496 0.0250 Neptune 37713-09-01 18:57 G 15495694.10 15495694.29 15495694.49 0.0088 0.0057 Neptune 37714-09-04 05:45 G 15496061.52 15496061.74 15496061.99 0.0088 0.0038 Neptune 37715-09-06 16:48 G 15496428.96 15496429.20 15496429.47 0.0088 0.0019 Neptune 37716-09-08 04:05 G 15496796.41 15496796.67 15496796.93 0.0088 0.0001 Neptune 37717-09-10 15:07 G 15497163.88 15497164.13 15497164.38 0.0088 0.0020 Saturn 37717-09-26 07:26 G 15497179.58 15497179.81 15497180.04 0.0259 0.0102 Jupiter 37718-04-04 02:24 G 15497369.38 15497369.60 15497369.83 0.0528 0.0135 Neptune 37718-09-13 01:26 G 15497531.35 15497531.56 15497531.82 0.0088 0.0040 Neptune 37719-09-15 12:14 G 15497898.84 15497899.01 15497899.23 0.0088 0.0059 Neptune 37720-09-16 23:17 G 15498266.38 15498266.47 15498266.61 0.0088 0.0078 Jupiter 37723-09-24 20:24 G 15499369.19 15499369.35 15499369.52 0.0499 0.0355 Jupiter 37724-10-25 16:48 G 15499766.04 15499766.20 15499766.37 0.0496 0.0347 Jupiter 37730-04-09 02:09 G 15501757.35 15501757.59 15501757.82 0.0528 0.0019

Saturn 37732-03-22 16:33 G 15502470.95 15502471.19 15502471.44 0.0303 0.0021 37735-02-09 16:05 G 15503524.98 15503525.17 15503525.35 0.1682 0.0034 Mars Jupiter 37735-09-29 06:00 G 15503756.55 15503756.75 15503756.95 0.0499 0.0260 Jupiter 37736-10-30 02:09 G 15504153.48 15504153.59 15504153.70 0.0497 0.0439 Uranus 37738-04-14 20:09 G 15504685.26 15504685.34 15504685.46 0.0135 0.0124 Uranus 37739-04-19 05:31 G 15505054.51 15505054.73 15505054.97 0.0135 0.0054 Uranus 37740-04-22 15:21 G 15505423.89 15505424.14 15505424.39 0.0135 0.0017 Uranus 37741-04-27 01:12 G 15505793.37 15505793.55 15505793.76 0.0135 0.0088 Jupiter 37742-04-14 01:55 G 15506145.36 15506145.58 15506145.81 0.0528 0.0107 Saturn 37746-09-21 22:19 G 15507767.19 15507767.43 15507767.67 0.0259 0.0051 Jupiter 37747-10-03 17:17 G 15508144.00 15508144.22 15508144.44 0.0499 0.0160 Jupiter 37754-04-19 00:00 G 15510533.29 15510533.50 15510533.72 0.0529 0.0225 Jupiter 37759-10-08 04:48 G 15512531.47 15512531.70 15512531.93 0.0498 0.0059 Saturn 37761-03-16 11:45 G 15513056.91 15513056.99 15513057.09 0.0303 0.0279 Jupiter 37765-03-19 02:09 G 15514520.53 15514520.59 15514520.66 0.0525 0.0502 Jupiter 37766-04-24 01:41 G 15514921.40 15514921.57 15514921.75 0.0529 0.0348 Pluto 37769-05-19 17:17 G 15516043.03 15516043.22 15516043.46 0.0066 0.0038 Pluto 37770-05-21 06:57 G 15516409.66 15516409.79 15516409.99 0.0066 0.0051 Jupiter 37771-10-12 14:53 G 15516918.88 15516919.12 15516919.35 0.0497 0.0040 Saturn 37775-09-17 09:21 G 15518354.76 15518354.89 15518355.04 0.0259 0.0210 Saturn 37776-09-27 15:36 G 15518730.96 15518731.15 15518731.35 0.0259 0.0157 Jupiter 37777-03-24 00:57 G 15518908.39 15518908.54 15518908.70 0.0526 0.0393 Jupiter 37778-04-29 03:50 G 15519309.56 15519309.66 15519309.78 0.0530 0.0467 Uranus 37778-10-16 07:41 G 15519479.71 15519479.82 15519479.97 0.0144 0.0124 Uranus 37779-10-21 07:12 G 15519849.55 15519849.80 15519850.04 0.0143 0.0039 Uranus 37780-10-25 05:17 G 15520219.49 15520219.72 15520219.97 0.0143 0.0046 Uranus 37781-10-30 02:53 G 15520589.53 15520589.62 15520589.74 0.0143 0.0129 Jupiter 37783-10-17 00:57 G 15521306.31 15521306.54 15521306.76 0.0497 0.0139 Jupiter 37789-03-29 00:43 G 15523296.34 15523296.53 15523296.73 0.0527 0.0278 Saturn 37791-03-25 11:17 G 15524022.74 15524022.97 15524023.21 0.0304 0.0062

Jupiter 37794-09-19 08:24 G 15525296.79 15525296.85 15525296.93 0.0501 0.0474 Neptune 37795-02-28 00:14 G 15525458.45 15525458.51 15525458.59 0.0089 0.0086 Jupiter 37795-10-21 09:36 G 15525693.70 15525693.90 15525694.11 0.0497 0.0235 Neptune 37796-03-01 12:14 G 15525825.85 15525826.01 15525826.20 0.0089 0.0066 Neptune 37797-03-04 00:14 G 15526193.31 15526193.51 15526193.75 0.0089 0.0046 Neptune 37798-03-06 12:43 G 15526560.80 15526561.03 15526561.29 0.0090 0.0025 Neptune 37799-03-09 01:12 G 15526928.30 15526928.55 15526928.81 0.0090 0.0005 Neptune 37800-03-11 13:26 G 15527295.82 15527296.06 15527296.32 0.0090 0.0016 Neptune 37801-03-14 01:41 G 15527663.35 15527663.57 15527663.82 0.0090 0.0037 Jupiter 37801-04-04 00:57 G 15527684.32 15527684.54 15527684.77 0.0527 0.0157 Neptune 37802-03-16 14:09 G 15528030.91 15528031.09 15528031.31 0.0090 0.0057 Neptune 37803-03-19 02:38 G 15528398.49 15528398.61 15528398.75 0.0090 0.0077 Saturn 37805-09-24 05:31 G 15529318.49 15529318.73 15529318.98 0.0259 0.0005 Jupiter 37806-09-24 20:53 G 15529684.22 15529684.37 15529684.53 0.0500 0.0375 Jupiter 37807-10-26 20:09 G 15530081.17 15530081.34 15530081.52 0.0497 0.0333 Jupiter 37813-04-08 22:33 G 15532072.21 15532072.44 15532072.67 0.0528 0.0037 Jupiter 37818-09-29 09:50 G 15534071.72 15534071.91 15534072.11 0.0499 0.0274 Jupiter 37819-10-31 06:29 G 15534468.67 15534468.77 15534468.90 0.0497 0.0430 Saturn 37820-03-19 03:50 G 15534608.49 15534608.66 15534608.85 0.0303 0.0202 Uranus 37822-04-16 09:21 G 15535366.78 15535366.89 15535367.02 0.0135 0.0118 Uranus 37823-04-20 18:29 G 15535736.05 15535736.27 15535736.52 0.0135 0.0049 Uranus 37824-04-24 04:19 G 15536105.43 15536105.68 15536105.94 0.0135 0.0022 Jupiter 37825-04-13 23:02 G 15536460.23 15536460.46 15536460.69 0.0528 0.0086 Uranus 37825-04-28 14:24 G 15536474.94 15536475.10 15536475.31 0.0135 0.0094 Jupiter 37830-10-03 21:50 G 15538459.19 15538459.41 15538459.63 0.0498 0.0175 Saturn 37834-09-19 15:36 G 15539905.96 15539906.15 15539906.35 0.0259 0.0159 Saturn 37835-09-30 20:53 G 15540282.24 15540282.37 15540282.53 0.0259 0.0208 Jupiter 37837-04-19 00:43 G 15540848.32 15540848.53 15540848.74 0.0529 0.0207 Jupiter 37842-10-08 09:07 G 15542846.65 15542846.88 15542847.11 0.0498 0.0074 Jupiter 37848-03-19 04:19 G 15544835.67 15544835.68 15544835.70 0.0525 0.0523

Jupiter 37849-04-24 02:09 G 15545236.41 15545236.59 15545236.77 0.0529 0.0327 Saturn 37850-03-28 00:57 G 15545574.33 15545574.54 15545574.77 0.0304 0.0136 Jupiter 37854-10-12 17:31 G 15547233.99 15547234.23 15547234.46 0.0498 0.0024 Pluto 37856-11-20 18:57 G 15548004.10 15548004.29 15548004.50 0.0079 0.0050 Jupiter 37860-03-24 04:19 G 15549223.54 15549223.68 15549223.83 0.0525 0.0409 Jupiter 37861-04-29 03:50 G 15549624.54 15549624.66 15549624.79 0.0529 0.0448 Uranus 37862-10-17 15:50 G 15550161.04 15550161.16 15550161.30 0.0144 0.0122 Uranus 37863-10-22 14:53 G 15550530.88 15550531.12 15550531.38 0.0143 0.0037 Saturn 37864-09-25 09:50 G 15550869.67 15550869.91 15550870.15 0.0258 0.0050 Uranus 37864-10-26 13:26 G 15550900.82 15550901.06 15550901.30 0.0143 0.0047 Uranus 37865-10-31 10:48 G 15551270.87 15551270.95 15551271.07 0.0143 0.0131 Jupiter 37866-10-17 04:48 G 15551621.48 15551621.70 15551621.93 0.0498 0.0126 Jupiter 37872-03-29 01:12 G 15553611.36 15553611.55 15553611.75 0.0526 0.0296 Neptune 37876-08-30 14:24 G 15555227.10 15555227.10 15555227.14 0.0088 0.0088 Neptune 37877-09-02 01:55 G 15555594.43 15555594.58 15555594.75 0.0088 0.0068 Jupiter 37877-09-19 14:09 G 15555612.05 15555612.09 15555612.15 0.0501 0.0487 Neptune 37878-09-04 12:57 G 15555961.84 15555962.04 15555962.27 0.0088 0.0049 Jupiter 37878-10-21 16:19 G 15556008.98 15556009.18 15556009.39 0.0497 0.0227 Saturn 37879-03-21 14:24 G 15556159.89 15556160.10 15556160.33 0.0304 0.0134 Neptune 37879-09-07 00:00 G 15556329.28 15556329.50 15556329.76 0.0088 0.0030 Neptune 37880-09-08 11:31 G 15556696.72 15556696.98 15556697.24 0.0088 0.0010 Neptune 37881-09-10 22:19 G 15557064.18 15557064.43 15557064.70 0.0088 0.0010 Neptune 37882-09-13 09:07 G 15557431.65 15557431.88 15557432.14 0.0088 0.0029 Neptune 37883-09-15 19:55 G 15557799.13 15557799.33 15557799.57 0.0088 0.0049 Jupiter 37884-04-03 00:43 G 15557999.31 15557999.53 15557999.75 0.0527 0.0176 Neptune 37884-09-17 06:43 G 15558166.64 15558166.78 15558166.96 0.0088 0.0068 Neptune 37885-09-19 17:31 G 15558534.22 15558534.23 15558534.29 0.0088 0.0087 Jupiter 37889-09-24 04:19 G 15559999.54 15559999.68 15559999.83 0.0500 0.0388 Jupiter 37890-10-26 02:53 G 15560396.45 15560396.62 15560396.80 0.0497 0.0323 Saturn 37893-09-20 18:29 G 15561457.06 15561457.27 15561457.50 0.0259 0.0113

Saturn 37894-10-01 23:17 G 15561833.43 15561833.47 15561833.53 0.0259 0.0253 Jupiter 37896-04-08 01:12 G 15562387.32 15562387.55 15562387.78 0.0528 0.0054 Jupiter 37901-09-29 17:17 G 15564387.03 15564387.22 15564387.41 0.0499 0.0287 Jupiter 37902-10-31 13:26 G 15564783.94 15564784.06 15564784.18 0.0496 0.0420 Uranus 37906-04-17 22:19 G 15566048.30 15566048.43 15566048.57 0.0135 0.0113 Uranus 37907-04-22 07:41 G 15566417.58 15566417.82 15566418.06 0.0135 0.0043 Jupiter 37908-04-14 03:36 G 15566775.42 15566775.65 15566775.88 0.0528 0.0069 Uranus 37908-04-25 17:31 G 15566786.98 15566787.23 15566787.48 0.0135 0.0027 Saturn 37909-03-30 07:26 G 15567125.64 15567125.81 15567126.00 0.0304 0.0198 Uranus 37909-04-30 03:36 G 15567156.50 15567156.65 15567156.85 0.0136 0.0099 Jupiter 37913-10-04 01:26 G 15568774.34 15568774.56 15568774.78 0.0499 0.0190 Jupiter 37920-04-19 05:31 G 15571163.51 15571163.73 15571163.95 0.0528 0.0194 Saturn 37923-09-28 10:33 G 15572420.72 15572420.94 15572421.18 0.0258 0.0094 Jupiter 37925-10-08 13:55 G 15573161.84 15573162.08 15573162.31 0.0499 0.0088 Jupiter 37932-04-24 04:33 G 15575551.51 15575551.69 15575551.88 0.0529 0.0315 Jupiter 37937-10-13 02:24 G 15577549.37 15577549.60 15577549.84 0.0498 0.0019 Saturn 37938-03-23 18:43 G 15577711.04 15577711.28 15577711.52 0.0304 0.0076 37940-02-10 09:07 G 15578399.81 15578399.88 15578399.95 0.1672 0.1553 Mars Jupiter 37943-03-25 07:26 G 15579538.67 15579538.81 15579538.94 0.0525 0.0425 Jupiter 37944-04-29 06:00 G 15579939.63 15579939.75 15579939.89 0.0529 0.0437 Uranus 37946-10-19 03:36 G 15580842.52 15580842.65 15580842.81 0.0144 0.0118 Uranus 37947-10-24 02:53 G 15581212.38 15581212.62 15581212.87 0.0143 0.0033 Uranus 37948-10-28 00:57 G 15581582.32 15581582.54 15581582.79 0.0143 0.0052 Jupiter 37949-10-17 14:38 G 15581936.89 15581937.11 15581937.34 0.0497 0.0118 Uranus 37949-11-01 22:48 G 15581952.38 15581952.45 15581952.54 0.0143 0.0135 Saturn 37952-09-22 18:14 G 15583008.02 15583008.26 15583008.50 0.0258 0.0071 Jupiter 37955-03-30 06:29 G 15583926.58 15583926.77 15583926.96 0.0526 0.0310 Neptune 37960-03-02 18:43 G 15585726.18 15585726.28 15585726.43 0.0089 0.0078 Jupiter 37960-09-20 00:00 G 15585927.48 15585927.50 15585927.54 0.0501 0.0497 Neptune 37961-03-05 06:57 G 15586093.62 15586093.79 15586094.01 0.0089 0.0058 Jupiter 37961-10-22 02:09 G 15586324.38 15586324.59 15586324.80 0.0497 0.0219 Neptune 37962-03-07 19:26 G 15586461.08 15586461.31 15586461.55 0.0089 0.0037 Neptune 37963-03-10 07:41 G 15586828.57 15586828.82 15586829.08 0.0089 0.0016 Neptune 37964-03-11 19:55 G 15587196.08 15587196.33 15587196.59 0.0090 0.0005 Neptune 37965-03-14 08:24 G 15587563.60 15587563.85 15587564.10 0.0090 0.0025 Neptune 37966-03-16 20:24 G 15587931.15 15587931.35 15587931.59 0.0090 0.0046 Neptune 37967-03-19 09:21 G 15588298.72 15588298.89 15588299.07 0.0090 0.0066 Jupiter 37967-04-04 08:53 G 15588314.66 15588314.87 15588315.09 0.0527 0.0188 Neptune 37968-03-20 21:07 G 15588666.34 15588666.38 15588666.47 0.0090 0.0087 Saturn 37968-03-31 08:38 G 15588676.73 15588676.86 15588677.01 0.0304 0.0250 Jupiter 37972-09-24 09:07 G 15590314.74 15590314.88 15590315.02 0.0501 0.0402 Jupiter 37973-10-26 10:05 G 15590711.74 15590711.92 15590712.10 0.0497 0.0315 Jupiter 37979-04-09 11:02 G 15592702.73 15592702.96 15592703.19 0.0527 0.0063 Saturn 37981-09-18 03:21 G 15593595.54 15593595.64 15593595.75 0.0259 0.0234 Saturn 37982-09-29 08:24 G 15593971.64 15593971.85 15593972.07 0.0258 0.0132 Jupiter 37984-09-28 22:05 G 15594702.24 15594702.42 15594702.62 0.0500 0.0300 Jupiter 37985-10-30 21:21 G 15595099.27 15595099.39 15595099.53 0.0497 0.0415 Uranus 37990-04-18 11:17 G 15596729.83 15596729.97 15596730.13 0.0135 0.0108 Jupiter 37991-04-14 09:36 G 15597090.67 15597090.90 15597091.14 0.0528 0.0060 Uranus 37991-04-22 20:53 G 15597099.13 15597099.37 15597099.62 0.0135 0.0038 Uranus 37992-04-26 06:43 G 15597468.54 15597468.78 15597469.03 0.0135 0.0033 Uranus 37993-04-30 17:02 G 15597838.06 15597838.21 15597838.39 0.0136 0.0104 37993-08-12 14:24 G 15597941.93 15597942.10 15597942.27 0.1863 0.0960 Mars Jupiter 37996-10-03 12:14 G 15599089.80 15599090.01 15599090.23 0.0499 0.0197 Saturn 37997-03-24 17:02 G 15599261.96 15599262.21 15599262.45 0.0304 0.0030

## 39TH MILLENNIUM CE

## This is a list of transits of Earth in the 39th millennium CE.

FROM MAX- C START MAX END SUNRAD DEPTH S

TRANSIT

TIME

Jupiter 38003-04-19 10:33 G 15601478.72 15601478.94 15601479.16 0.0528 0.0183 Jupiter 38008-10-08 02:09 G 15603477.36 15603477.59 15603477.82 0.0498 0.0094 Saturn 38011-09-24 15:07 G 15604558.88 15604559.13 15604559.37 0.0258 0.0034 Jupiter 38015-04-24 12:43 G 15605866.84 15605867.03 15605867.22 0.0529 0.0306 Pluto 38016-05-23 21:21 G 15606262.14 15606262.39 15606262.65 0.0066 0.0015 38019-02-12 15:21 G 15607256.96 15607257.14 15607257.31 0.1677 0.0618 Mars Jupiter 38020-10-12 14:24 G 15607864.87 15607865.10 15607865.34 0.0498 0.0013 Jupiter 38026-03-24 18:14 G 15609854.13 15609854.26 15609854.39 0.0525 0.0434 Saturn 38027-04-02 05:02 G 15610227.65 15610227.71 15610227.77 0.0304 0.0294 Jupiter 38027-04-29 16:33 G 15610255.06 15610255.19 15610255.33 0.0529 0.0430 Uranus 38030-10-19 16:19 G 15611524.04 15611524.18 15611524.35 0.0144 0.0113 Uranus 38031-10-24 15:36 G 15611893.90 15611894.15 15611894.40 0.0143 0.0028 Jupiter 38032-10-16 22:19 G 15612252.20 15612252.43 15612252.66 0.0498 0.0110 Uranus 38032-10-28 13:26 G 15612263.84 15612264.06 15612264.31 0.0143 0.0057 Uranus 38033-11-02 11:02 G 15612633.93 15612633.96 15612634.02 0.0142 0.0140 Jupiter 38038-03-29 20:09 G 15614242.15 15614242.34 15614242.52 0.0526 0.0314 Saturn 38040-09-18 23:17 G 15615146.33 15615146.47 15615146.64 0.0259 0.0199 Neptune 38041-09-02 09:36 G 15615494.79 15615494.90 15615495.01 0.0088 0.0079 Saturn 38041-09-30 03:50 G 15615522.49 15615522.66 15615522.86 0.0258 0.0168 Neptune 38042-09-04 20:38 G 15615862.19 15615862.36 15615862.56 0.0088 0.0060 Neptune 38043-09-07 08:09 G 15616229.61 15616229.84 15616230.07 0.0088 0.0040 Neptune 38044-09-08 19:26 G 15616597.06 15616597.31 15616597.57 0.0088 0.0021 Jupiter 38044-10-21 10:05 G 15616639.72 15616639.92 15616640.14 0.0498 0.0213 Neptune 38045-09-11 06:43 G 15616964.52 15616964.78 15616965.04 0.0088 0.0001 Neptune 38046-09-13 17:31 G 15617331.99 15617332.23 15617332.49 0.0088 0.0019 Neptune 38047-09-16 04:48 G 15617699.47 15617699.70 15617699.93 0.0088 0.0038 Neptune 38048-09-17 15:21 G 15618066.97 15618067.14 15618067.35 0.0088 0.0058 Neptune 38049-09-20 02:24 G 15618434.49 15618434.60 15618434.73 0.0088 0.0077 Jupiter 38050-04-03 18:29 G 15618630.05 15618630.27 15618630.48 0.0526 0.0196 Jupiter 38055-09-24 21:07 G 15620630.24 15620630.38 15620630.51 0.0501 0.0408 Saturn 38056-03-25 11:31 G 15620812.74 15620812.98 15620813.23 0.0304 0.0013 Jupiter 38056-10-25 23:17 G 15621027.29 15621027.47 15621027.65 0.0497 0.0313 Jupiter 38062-04-08 18:00 G 15623018.02 15623018.25 15623018.48 0.0527 0.0073 Jupiter 38067-09-29 12:14 G 15625017.83 15625018.01 15625018.20 0.0500 0.0306 Jupiter 38068-10-30 11:17 G 15625414.84 15625414.97 15625415.10 0.0497 0.0411 Saturn 38070-09-25 10:33 G 15626109.69 15626109.94 15626110.18 0.0258 0.0004 Jupiter 38074-04-13 19:12 G 15627406.07 15627406.30 15627406.53 0.0528 0.0051 Uranus 38074-04-18 23:17 G 15627411.32 15627411.47 15627411.64 0.0135 0.0104 Uranus 38075-04-23 08:38 G 15627780.62 15627780.86 15627781.12 0.0135 0.0034 Uranus 38076-04-26 18:57 G 15628150.04 15628150.29 15628150.53 0.0135 0.0037 Uranus 38077-05-01 05:17 G 15628519.58 15628519.72 15628519.88 0.0136 0.0108 Jupiter 38079-10-04 01:55 G 15629405.36 15629405.58 15629405.79 0.0499 0.0201 Saturn 38085-03-18 12:57 G 15631397.95 15631398.04 15631398.13 0.0303 0.0279 Jupiter 38086-04-18 23:02 G 15631794.25 15631794.46 15631794.68 0.0528 0.0178 Jupiter 38091-10-08 09:50 G 15633792.68 15633792.91 15633793.14 0.0499 0.0103 Jupiter 38098-04-24 02:38 G 15636182.43 15636182.61 15636182.80 0.0528 0.0305 Saturn 38099-09-20 18:00 G 15636697.07 15636697.25 15636697.45 0.0259 0.0165 Saturn 38100-10-01 22:33 G 15637073.29 15637073.44 15637073.60 0.0258 0.0201 Jupiter 38103-10-13 22:33 G 15638180.20 15638180.44 15638180.67 0.0498 0.0003 38103-11-26 06:14 G 15638223.54 15638223.76 15638223.99 0.0078 0.0037 Jupiter 38109-03-25 06:00 G 15640169.63 15640169.75 15640169.87 0.0525 0.0441 Jupiter 38110-04-30 02:09 G 15640570.46 15640570.59 15640570.73 0.0528 0.0425

Uranus 38114-10-21 06:00 G 15642205.60 15642205.75 15642205.93 0.0144 0.0107 Saturn 38115-03-28 03:50 G 15642363.42 15642363.66 15642363.90 0.0305 0.0049 Jupiter 38115-10-18 12:00 G 15642567.77 15642568.00 15642568.23 0.0498 0.0107 Uranus 38115-10-26 05:17 G 15642575.47 15642575.72 15642575.97 0.0143 0.0022 Uranus 38116-10-30 03:07 G 15642945.42 15642945.63 15642945.88 0.0143 0.0063 Jupiter 38121-03-30 04:33 G 15644557.51 15644557.69 15644557.87 0.0525 0.0324 Neptune 38124-03-03 03:21 G 15645626.63 15645626.64 15645626.69 0.0089 0.0089 Neptune 38125-03-05 15:21 G 15645993.99 15645994.14 15645994.32 0.0089 0.0069 Neptune 38126-03-08 03:50 G 15646361.45 15646361.66 15646361.88 0.0089 0.0048 Neptune 38127-03-10 15:36 G 15646728.92 15646729.15 15646729.41 0.0090 0.0028 Jupiter 38127-10-23 00:57 G 15646955.34 15646955.54 15646955.76 0.0498 0.0211 Neptune 38128-03-12 04:05 G 15647096.41 15647096.67 15647096.92 0.0090 0.0007 Neptune 38129-03-14 15:50 G 15647463.92 15647464.16 15647464.43 0.0090 0.0015 Saturn 38129-09-27 05:02 G 15647660.47 15647660.71 15647660.96 0.0258 0.0035 Neptune 38130-03-17 04:19 G 15647831.45 15647831.68 15647831.92 0.0090 0.0035 Neptune 38131-03-19 16:05 G 15648198.99 15648199.17 15648199.40 0.0090 0.0056 Neptune 38132-03-21 04:48 G 15648566.58 15648566.70 15648566.85 0.0090 0.0076 Jupiter 38133-04-04 03:50 G 15648945.45 15648945.66 15648945.88 0.0527 0.0205 Jupiter 38138-09-25 11:17 G 15650945.84 15650945.97 15650946.10 0.0501 0.0413 Jupiter 38139-10-27 12:57 G 15651342.86 15651343.04 15651343.23 0.0497 0.0312 Saturn 38144-03-20 05:17 G 15652948.59 15652948.72 15652948.88 0.0303 0.0243 Jupiter 38145-04-09 07:41 G 15653333.59 15653333.82 15653334.05 0.0527 0.0077 Jupiter 38150-09-29 19:55 G 15655333.16 15655333.33 15655333.52 0.0500 0.0315 Jupiter 38151-10-31 20:09 G 15655730.21 15655730.34 15655730.47 0.0497 0.0408 Jupiter 38157-04-14 10:48 G 15657721.71 15657721.95 15657722.18 0.0528 0.0050 Uranus 38158-04-20 10:19 G 15658092.77 15658092.93 15658093.11 0.0135 0.0100 Saturn 38158-09-22 12:43 G 15658247.82 15658248.03 15658248.24 0.0259 0.0132 Uranus 38159-04-24 19:55 G 15658462.09 15658462.33 15658462.58 0.0135 0.0030 Saturn 38159-10-03 17:02 G 15658624.12 15658624.21 15658624.32 0.0258 0.0235 Uranus 38160-04-28 05:45 G 15658831.50 15658831.74 15658831.99 0.0135 0.0041

Uranus 38161-05-02 16:05 G 15659201.04 15659201.17 15659201.32 0.0136 0.0112 Jupiter 38162-10-04 09:07 G 15659720.67 15659720.88 15659721.09 0.0500 0.0211 Jupiter 38169-04-19 09:50 G 15662109.69 15662109.91 15662110.13 0.0528 0.0173 Saturn 38174-03-28 20:53 G 15663914.14 15663914.37 15663914.60 0.0304 0.0087 Jupiter 38174-10-08 23:17 G 15664108.25 15664108.47 15664108.70 0.0499 0.0107 Jupiter 38181-04-24 10:19 G 15666497.74 15666497.93 15666498.13 0.0528 0.0297 Jupiter 38186-10-13 13:12 G 15668495.81 15668496.05 15668496.28 0.0498 0.0004 Saturn 38188-09-28 00:14 G 15669211.28 15669211.51 15669211.75 0.0258 0.0069 Jupiter 38192-03-24 15:07 G 15670485.02 15670485.13 15670485.25 0.0525 0.0450 Jupiter 38193-04-29 11:45 G 15670885.86 15670885.99 15670886.14 0.0529 0.0421 Jupiter 38198-10-18 01:55 G 15672883.35 15672883.58 15672883.81 0.0498 0.0105 Uranus 38198-10-21 16:33 G 15672887.02 15672887.19 15672887.37 0.0144 0.0103 Uranus 38199-10-26 15:36 G 15673256.90 15673257.15 15673257.41 0.0143 0.0018 Uranus 38200-10-31 13:55 G 15673626.86 15673627.08 15673627.31 0.0143 0.0066 Saturn 38203-03-22 22:48 G 15674499.28 15674499.45 15674499.64 0.0303 0.0205 Jupiter 38204-03-30 17:17 G 15674873.04 15674873.22 15674873.40 0.0526 0.0330 Neptune 38206-09-06 04:33 G 15675762.56 15675762.69 15675762.86 0.0088 0.0071 Neptune 38207-09-08 16:19 G 15676129.98 15676130.18 15676130.40 0.0088 0.0051 Neptune 38208-09-10 03:07 G 15676497.41 15676497.63 15676497.90 0.0088 0.0032 Neptune 38209-09-12 14:53 G 15676864.87 15676865.12 15676865.38 0.0088 0.0012 Neptune 38210-09-15 02:09 G 15677232.33 15677232.59 15677232.85 0.0088 0.0008 Jupiter 38210-10-23 08:53 G 15677270.66 15677270.87 15677271.08 0.0498 0.0204 Neptune 38211-09-17 13:12 G 15677599.81 15677600.05 15677600.31 0.0088 0.0028 Neptune 38212-09-19 00:00 G 15677967.30 15677967.50 15677967.73 0.0088 0.0048 Neptune 38213-09-21 11:17 G 15678334.81 15678334.97 15678335.14 0.0088 0.0067 Neptune 38214-09-23 21:50 G 15678702.40 15678702.41 15678702.47 0.0088 0.0087 Jupiter 38216-04-04 19:41 G 15679261.10 15679261.32 15679261.53 0.0526 0.0206 Saturn 38217-09-24 08:38 G 15679798.63 15679798.86 15679799.09 0.0259 0.0096 Jupiter 38221-09-25 17:45 G 15681261.12 15681261.24 15681261.37 0.0501 0.0424 Jupiter 38222-10-27 20:38 G 15681658.18 15681658.36 15681658.55 0.0498 0.0306

38224-02-13 09:50 G 15682131.75 15682131.91 15682132.07 0.1667 0.0904 Mars Jupiter 38228-04-09 18:00 G 15683649.02 15683649.25 15683649.48 0.0527 0.0086 Saturn 38233-03-30 16:05 G 15685464.95 15685465.17 15685465.39 0.0304 0.0129 Jupiter 38233-09-30 08:09 G 15685648.66 15685648.84 15685649.02 0.0500 0.0322 Jupiter 38234-11-01 09:21 G 15686045.77 15686045.89 15686046.03 0.0498 0.0407 Jupiter 38240-04-14 17:45 G 15688037.00 15688037.24 15688037.47 0.0527 0.0040 Uranus 38242-04-21 20:09 G 15688774.18 15688774.34 15688774.53 0.0135 0.0097 Uranus 38243-04-26 05:31 G 15689143.48 15689143.73 15689143.98 0.0135 0.0027 Uranus 38244-04-29 15:21 G 15689512.90 15689513.14 15689513.38 0.0135 0.0044 Uranus 38245-05-04 01:12 G 15689882.43 15689882.55 15689882.70 0.0136 0.0115 Jupiter 38245-10-04 22:48 G 15690036.24 15690036.45 15690036.66 0.0500 0.0217 Saturn 38247-09-30 21:21 G 15690762.17 15690762.39 15690762.62 0.0258 0.0107 Jupiter 38252-04-19 17:45 G 15692425.02 15692425.24 15692425.46 0.0528 0.0165 Jupiter 38257-10-09 12:00 G 15694423.77 15694424.00 15694424.23 0.0499 0.0111 Saturn 38262-03-23 20:53 G 15696050.17 15696050.37 15696050.58 0.0303 0.0158 Pluto 38262-05-27 06:29 G 15696114.56 15696114.77 15696115.01 0.0066 0.0032 Pluto 38263-05-28 20:53 G 15696481.24 15696481.37 15696481.50 0.0066 0.0057 Jupiter 38264-04-24 21:50 G 15696813.22 15696813.41 15696813.61 0.0528 0.0295 Jupiter 38269-10-13 19:41 G 15698811.09 15698811.32 15698811.56 0.0498 0.0011 Jupiter 38275-03-26 04:33 G 15700800.59 15700800.69 15700800.81 0.0525 0.0457 Jupiter 38276-04-30 01:26 G 15701201.42 15701201.56 15701201.70 0.0528 0.0420 Saturn 38276-09-25 06:14 G 15701349.53 15701349.76 15701350.01 0.0259 0.0058 Jupiter 38281-10-18 07:26 G 15703198.58 15703198.81 15703199.04 0.0498 0.0095 Uranus 38282-10-22 23:45 G 15703568.33 15703568.49 15703568.68 0.0144 0.0102 Uranus 38283-10-27 23:02 G 15703938.21 15703938.46 15703938.72 0.0143 0.0017 Uranus 38284-10-31 21:21 G 15704308.17 15704308.39 15704308.62 0.0143 0.0068 Jupiter 38287-03-31 02:38 G 15705188.44 15705188.61 15705188.79 0.0525 0.0342 Neptune 38289-03-06 00:14 G 15705894.42 15705894.51 15705894.65 0.0089 0.0080 Neptune 38290-03-08 12:43 G 15706261.84 15706262.03 15706262.22 0.0089 0.0059 Neptune 38291-03-11 00:29 G 15706629.30 15706629.52 15706629.76 0.0089 0.0039

Neptune 38292-03-12 12:43 G 15706996.79 15706997.03 15706997.29 0.0089 0.0018 Saturn 38292-03-31 15:07 G 15707015.94 15707016.13 15707016.34 0.0304 0.0179 Neptune 38293-03-15 00:57 G 15707364.29 15707364.54 15707364.80 0.0090 0.0004 Jupiter 38293-10-22 20:09 G 15707586.13 15707586.34 15707586.56 0.0498 0.0199 Neptune 38294-03-17 12:57 G 15707731.80 15707732.04 15707732.30 0.0090 0.0024 Neptune 38295-03-20 01:12 G 15708099.34 15708099.55 15708099.78 0.0090 0.0045 Neptune 38296-03-21 13:26 G 15708466.90 15708467.06 15708467.25 0.0090 0.0066 Neptune 38297-03-24 01:26 G 15708834.52 15708834.56 15708834.65 0.0090 0.0087 Jupiter 38299-04-05 00:57 G 15709576.33 15709576.54 15709576.75 0.0526 0.0220 38303-02-16 15:50 G 15710989.04 15710989.16 15710989.29 0.1671 0.1261 Mars Jupiter 38304-09-26 05:02 G 15711576.60 15711576.71 15711576.83 0.0501 0.0434 Saturn 38305-09-21 14:53 G 15711937.00 15711937.12 15711937.26 0.0259 0.0222 Jupiter 38305-10-28 08:38 G 15711973.68 15711973.86 15711974.05 0.0498 0.0302 Saturn 38306-10-02 21:07 G 15712313.18 15712313.38 15712313.59 0.0258 0.0148 Jupiter 38311-04-10 23:31 G 15713964.25 15713964.48 15713964.71 0.0527 0.0097 Jupiter 38316-09-30 18:57 G 15715964.12 15715964.29 15715964.47 0.0500 0.0330 Jupiter 38317-11-01 19:55 G 15716361.19 15716361.33 15716361.46 0.0497 0.0403 Saturn 38321-03-25 23:31 G 15717601.25 15717601.48 15717601.71 0.0303 0.0104 Jupiter 38323-04-16 02:24 G 15718352.37 15718352.60 15718352.83 0.0528 0.0032 Uranus 38326-04-23 06:29 G 15719455.59 15719455.77 15719455.96 0.0135 0.0093 Uranus 38327-04-27 15:21 G 15719824.90 15719825.14 15719825.40 0.0135 0.0024 Uranus 38328-05-01 01:12 G 15720194.32 15720194.55 15720194.79 0.0135 0.0047 Jupiter 38328-10-05 03:50 G 15720351.46 15720351.66 15720351.87 0.0499 0.0230 Uranus 38329-05-05 10:48 G 15720563.85 15720563.95 15720564.10 0.0136 0.0119 Jupiter 38329-11-06 02:24 G 15720748.60 15720748.60 15720748.60 0.0497 0.0497 Jupiter 38335-04-21 04:48 G 15722740.48 15722740.70 15722740.92 0.0528 0.0159 Saturn 38335-09-28 06:58 G 15722900.55 15722900.79 15722901.04 0.0259 0.0014 Jupiter 38340-10-09 15:50 G 15724738.93 15724739.16 15724739.39 0.0499 0.0124 Jupiter 38347-04-26 03:36 G 15727128.46 15727128.65 15727128.85 0.0528 0.0282 Pluto 38349-11-28 11:46 G 15728075.76 15728075.99 15728076.21 0.0079 0.0038

Saturn 38351-04-03 21:07 G 15728567.24 15728567.38 15728567.53 0.0304 0.0239 Jupiter 38352-10-14 04:34 G 15729126.46 15729126.69 15729126.93 0.0499 0.0020 Jupiter 38358-03-26 08:24 G 15731115.76 15731115.85 15731115.95 0.0524 0.0474 Jupiter 38359-05-01 02:53 G 15731516.48 15731516.62 15731516.78 0.0528 0.0406 Saturn 38364-09-22 17:02 G 15733488.04 15733488.21 15733488.40 0.0259 0.0176 Jupiter 38364-10-18 17:02 G 15733513.98 15733514.21 15733514.44 0.0498 0.0087 Saturn 38365-10-03 23:17 G 15733864.32 15733864.47 15733864.65 0.0258 0.0195 Uranus 38366-10-24 05:31 G 15734249.57 15734249.73 15734249.93 0.0144 0.0102 Uranus 38367-10-29 04:48 G 15734619.45 15734619.70 15734619.95 0.0143 0.0016 Uranus 38368-11-02 02:53 G 15734989.41 15734989.62 15734989.85 0.0143 0.0068 Jupiter 38370-03-31 05:17 G 15735503.55 15735503.72 15735503.88 0.0525 0.0358 Neptune 38370-09-06 13:55 G 15735663.01 15735663.08 15735663.20 0.0088 0.0082 Jupiter 38371-05-06 03:07 G 15735904.61 15735904.63 15735904.65 0.0528 0.0525 Neptune 38371-09-09 01:12 G 15736030.39 15736030.55 15736030.76 0.0088 0.0062 Neptune 38372-09-10 12:29 G 15736397.81 15736398.02 15736398.27 0.0088 0.0042 Neptune 38373-09-13 00:00 G 15736765.26 15736765.50 15736765.76 0.0088 0.0022 Neptune 38374-09-15 11:31 G 15737132.72 15737132.98 15737133.24 0.0088 0.0002 Neptune 38375-09-17 22:34 G 15737500.19 15737500.44 15737500.70 0.0088 0.0018 Neptune 38376-09-19 09:36 G 15737867.68 15737867.90 15737868.15 0.0088 0.0038 Jupiter 38376-10-23 04:34 G 15737901.48 15737901.69 15737901.91 0.0498 0.0191 Neptune 38377-09-21 20:24 G 15738235.18 15738235.35 15738235.57 0.0088 0.0058 Neptune 38378-09-24 07:26 G 15738602.72 15738602.81 15738602.96 0.0088 0.0078 Saturn 38380-03-27 08:10 G 15739152.60 15739152.84 15739153.08 0.0303 0.0038 Jupiter 38382-04-05 06:00 G 15739891.55 15739891.75 15739891.96 0.0526 0.0233 Jupiter 38387-09-26 09:07 G 15741891.78 15741891.88 15741891.99 0.0501 0.0450 Jupiter 38388-10-27 11:17 G 15742288.78 15742288.97 15742289.16 0.0497 0.0289 Jupiter 38394-04-10 07:12 G 15744279.57 15744279.80 15744280.03 0.0527 0.0109 Saturn 38394-09-29 10:34 G 15744451.69 15744451.94 15744452.18 0.0259 0.0034 Jupiter 38399-09-30 21:07 G 15746279.22 15746279.38 15746279.56 0.0500 0.0347 Jupiter 38400-10-31 21:50 G 15746676.27 15746676.41 15746676.56 0.0497 0.0391

Jupiter 38406-04-15 05:17 G 15748667.49 15748667.72 15748667.95 0.0527 0.0014 Saturn 38409-03-21 00:43 G 15749738.51 15749738.53 15749738.57 0.0303 0.0299 Uranus 38410-04-23 16:19 G 15750137.00 15750137.18 15750137.38 0.0135 0.0090 Uranus 38411-04-28 01:41 G 15750506.32 15750506.57 15750506.82 0.0135 0.0020 Jupiter 38411-10-05 09:50 G 15750666.71 15750666.91 15750667.12 0.0500 0.0245 Uranus 38412-05-01 11:17 G 15750875.74 15750875.97 15750876.21 0.0135 0.0051 Jupiter 38412-11-05 09:22 G 15751063.86 15751063.89 15751063.93 0.0497 0.0490 Uranus 38413-05-05 21:07 G 15751245.28 15751245.38 15751245.50 0.0136 0.0122 Jupiter 38418-04-20 04:05 G 15753055.45 15753055.67 15753055.90 0.0528 0.0140 Saturn 38423-09-24 22:05 G 15755039.22 15755039.42 15755039.65 0.0259 0.0127 Jupiter 38423-10-09 22:34 G 15755054.21 15755054.44 15755054.66 0.0499 0.0138 Saturn 38424-10-05 04:48 G 15755415.63 15755415.70 15755415.79 0.0258 0.0245 Jupiter 38430-04-25 02:38 G 15757443.41 15757443.61 15757443.81 0.0528 0.0265 Jupiter 38435-10-14 10:34 G 15759441.71 15759441.94 15759442.17 0.0499 0.0031 Saturn 38439-03-29 23:31 G 15760704.24 15760704.48 15760704.73 0.0303 0.0040 Jupiter 38441-03-25 09:36 G 15761430.83 15761430.90 15761430.98 0.0525 0.0493 Jupiter 38442-04-30 05:17 G 15761831.57 15761831.72 15761831.88 0.0529 0.0393 Jupiter 38447-10-18 18:29 G 15763829.03 15763829.27 15763829.50 0.0498 0.0070 Uranus 38450-10-24 12:58 G 15764930.88 15764931.04 15764931.24 0.0144 0.0100 Uranus 38451-10-29 12:00 G 15765300.75 15765301.00 15765301.26 0.0143 0.0016 Uranus 38452-11-02 10:19 G 15765670.71 15765670.93 15765671.16 0.0143 0.0069 Jupiter 38453-03-30 08:38 G 15765818.71 15765818.86 15765819.03 0.0526 0.0377 Saturn 38453-09-30 16:48 G 15766002.97 15766003.20 15766003.43 0.0259 0.0087 Neptune 38454-03-08 21:36 G 15766162.27 15766162.40 15766162.59 0.0089 0.0071 Jupiter 38454-05-05 07:26 G 15766219.77 15766219.81 15766219.87 0.0529 0.0516 Neptune 38455-03-11 09:50 G 15766529.72 15766529.91 15766530.15 0.0089 0.0050 Neptune 38456-03-12 22:19 G 15766897.19 15766897.43 15766897.68 0.0089 0.0029 Neptune 38457-03-15 10:34 G 15767264.69 15767264.94 15767265.20 0.0089 0.0007 Neptune 38458-03-17 22:34 G 15767632.19 15767632.44 15767632.70 0.0090 0.0014 Neptune 38459-03-20 10:34 G 15767999.72 15767999.94 15768000.19 0.0090 0.0035 Jupiter 38459-10-23 04:48 G 15768216.48 15768216.70 15768216.92 0.0497 0.0174 Neptune 38460-03-21 22:34 G 15768367.26 15768367.44 15768367.66 0.0090 0.0056 Neptune 38461-03-24 10:34 G 15768734.84 15768734.94 15768735.10 0.0090 0.0077 Jupiter 38465-04-04 06:29 G 15770206.57 15770206.77 15770206.97 0.0526 0.0257 Saturn 38468-03-22 18:29 G 15771290.11 15771290.27 15771290.45 0.0303 0.0218 Jupiter 38470-09-25 11:31 G 15772206.91 15772206.98 15772207.06 0.0501 0.0469 Jupiter 38471-10-27 15:50 G 15772603.97 15772604.16 15772604.35 0.0498 0.0276 Jupiter 38477-04-09 04:34 G 15774594.47 15774594.69 15774594.92 0.0526 0.0134 Saturn 38482-09-26 06:00 G 15776590.52 15776590.75 15776591.00 0.0259 0.0072 Jupiter 38482-09-30 00:29 G 15776594.37 15776594.52 15776594.69 0.0501 0.0366 Jupiter 38483-11-01 02:53 G 15776991.47 15776991.62 15776991.77 0.0497 0.0379 Jupiter 38489-04-14 01:41 G 15778982.33 15778982.57 15778982.80 0.0527 0.0013 Uranus 38494-04-24 02:24 G 15780818.43 15780818.60 15780818.81 0.0135 0.0087 Jupiter 38494-10-04 13:26 G 15780981.86 15780982.06 15780982.26 0.0500 0.0260 Uranus 38495-04-28 12:00 G 15781187.75 15781188.00 15781188.26 0.0135 0.0017 Jupiter 38495-11-05 12:43 G 15781378.98 15781379.03 15781379.10 0.0497 0.0479 Uranus 38496-05-01 21:36 G 15781557.18 15781557.40 15781557.64 0.0135 0.0054 Uranus 38497-05-06 07:41 G 15781926.73 15781926.82 15781926.92 0.0136 0.0125 Saturn 38498-03-31 19:41 G 15782256.10 15782256.32 15782256.54 0.0303 0.0126 Jupiter 38501-04-20 02:24 G 15783370.38 15783370.60 15783370.83 0.0528 0.0120 Jupiter 38506-10-09 23:02 G 15785369.23 15785369.46 15785369.68 0.0499 0.0158 38508-02-16 12:00 G 15785863.82 15785864.00 15785864.19 0.1662 0.0221 Mars Pluto 38509-05-31 04:34 G 15786333.43 15786333.69 15786333.95 0.0066 0.0003 Saturn 38511-09-22 17:02 G 15787178.11 15787178.21 15787178.33 0.0261 0.0233 Saturn 38512-10-03 01:26 G 15787554.35 15787554.56 15787554.77 0.0259 0.0143 Jupiter 38513-04-25 03:36 G 15787758.45 15787758.65 15787758.86 0.0529 0.0248 Jupiter 38518-10-14 09:36 G 15789756.67 15789756.90 15789757.14 0.0498 0.0052 Jupiter 38524-03-25 07:55 G 15791745.81 15791745.83 15791745.87 0.0524 0.0520 Jupiter 38525-04-30 02:10 G 15792146.43 15792146.59 15792146.77 0.0528 0.0369 Saturn 38527-03-26 16:34 G 15792841.98 15792842.19 15792842.42 0.0303 0.0129

Jupiter 38530-10-18 20:10 G 15794144.11 15794144.34 15794144.57 0.0498 0.0052 Uranus 38534-10-25 23:02 G 15795612.28 15795612.46 15795612.66 0.0143 0.0097 Neptune 38535-09-09 11:17 G 15795930.83 15795930.97 15795931.12 0.0088 0.0072 Uranus 38535-10-30 21:36 G 15795982.15 15795982.40 15795982.66 0.0143 0.0013 Jupiter 38536-03-30 05:31 G 15796133.58 15796133.73 15796133.88 0.0525 0.0402 Neptune 38536-09-10 22:05 G 15796298.23 15796298.42 15796298.65 0.0088 0.0053 Uranus 38536-11-03 19:41 G 15796352.11 15796352.32 15796352.55 0.0143 0.0072 Jupiter 38537-05-05 01:26 G 15796534.48 15796534.56 15796534.65 0.0528 0.0491 Neptune 38537-09-13 09:50 G 15796665.67 15796665.91 15796666.15 0.0088 0.0032 Neptune 38538-09-15 21:07 G 15797033.12 15797033.38 15797033.64 0.0088 0.0012 Neptune 38539-09-18 08:10 G 15797400.59 15797400.84 15797401.11 0.0088 0.0008 Neptune 38540-09-19 19:26 G 15797768.07 15797768.31 15797768.56 0.0088 0.0028 Neptune 38541-09-22 06:29 G 15798135.57 15798135.77 15798136.00 0.0088 0.0048 Saturn 38541-09-28 15:50 G 15798141.91 15798142.16 15798142.40 0.0259 0.0014 Neptune 38542-09-24 17:46 G 15798503.09 15798503.24 15798503.42 0.0088 0.0068 Jupiter 38542-10-23 07:26 G 15798531.59 15798531.81 15798532.03 0.0498 0.0157 Neptune 38543-09-27 04:48 G 15798870.70 15798870.70 15798870.72 0.0088 0.0088 Jupiter 38548-04-04 00:58 G 15800521.35 15800521.54 15800521.74 0.0526 0.0283 Jupiter 38553-09-25 13:12 G 15802522.00 15802522.05 15802522.11 0.0502 0.0488 Jupiter 38554-10-27 17:46 G 15802919.04 15802919.24 15802919.44 0.0497 0.0262 Saturn 38557-04-03 19:41 G 15803808.16 15803808.32 15803808.50 0.0303 0.0220 Jupiter 38560-04-09 00:00 G 15804909.29 15804909.50 15804909.73 0.0527 0.0159 Jupiter 38565-09-30 00:43 G 15806909.39 15806909.53 15806909.69 0.0500 0.0387 Jupiter 38566-11-01 01:26 G 15807306.41 15807306.56 15807306.73 0.0497 0.0361 Saturn 38570-09-24 03:22 G 15808729.46 15808729.64 15808729.83 0.0260 0.0175 Saturn 38571-10-05 11:31 G 15809105.82 15809105.98 15809106.13 0.0259 0.0201 Jupiter 38572-04-13 23:46 G 15809297.26 15809297.49 15809297.72 0.0528 0.0034 Jupiter 38577-10-04 12:29 G 15811296.83 15811297.02 15811297.21 0.0499 0.0282 Uranus 38578-04-25 12:29 G 15811499.83 15811500.02 15811500.23 0.0135 0.0084 Jupiter 38578-11-05 11:02 G 15811693.88 15811693.96 15811694.05 0.0497 0.0461

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Jupiter 38631-04-04 21:36 G 15830836.22 15830836.40 15830836.59 0.0526 0.0310 Jupiter 38637-10-27 17:02 G 15833234.01 15833234.21 15833234.42 0.0497 0.0242 38640-08-19 21:50 G 15834261.30 15834261.41 15834261.52 0.1874 0.1560 Mars Jupiter 38643-04-09 20:24 G 15835224.14 15835224.35 15835224.57 0.0526 0.0188 Saturn 38645-03-31 16:48 G 15835945.96 15835946.20 15835946.44 0.0303 0.0057 Jupiter 38648-09-29 22:48 G 15837224.33 15837224.45 15837224.59 0.0501 0.0411 Jupiter 38649-11-01 02:10 G 15837621.43 15837621.59 15837621.76 0.0497 0.0344 Jupiter 38655-04-14 19:41 G 15839612.09 15839612.32 15839612.55 0.0527 0.0060 Saturn 38659-10-03 12:00 G 15841244.78 15841245.00 15841245.23 0.0259 0.0103 Jupiter 38660-10-04 11:17 G 15841611.79 15841611.97 15841612.16 0.0500 0.0305 Jupiter 38661-11-05 12:43 G 15842008.94 15842009.03 15842009.14 0.0497 0.0446 Uranus 38662-04-26 22:05 G 15842181.23 15842181.42 15842181.63 0.0135 0.0081 Uranus 38663-05-01 07:26 G 15842550.56 15842550.81 15842551.07 0.0135 0.0011 Uranus 38664-05-04 17:02 G 15842920.00 15842920.21 15842920.45 0.0135 0.0061 Uranus 38665-05-09 03:36 G 15843289.59 15843289.65 15843289.72 0.0136 0.0131 Jupiter 38667-04-19 16:19 G 15843999.95 15844000.18 15844000.41 0.0527 0.0066 Jupiter 38672-10-08 23:46 G 15845999.28 15845999.49 15845999.71 0.0500 0.0198 Saturn 38674-03-25 13:26 G 15846531.89 15846532.06 15846532.24 0.0302 0.0203 Jupiter 38679-04-24 16:05 G 15848387.95 15848388.17 15848388.39 0.0528 0.0196 Jupiter 38684-10-13 11:31 G 15850386.75 15850386.98 15850387.21 0.0499 0.0092 Saturn 38688-09-27 23:31 G 15851832.25 15851832.48 15851832.73 0.0260 0.0059 Jupiter 38691-04-29 16:48 G 15852776.02 15852776.20 15852776.39 0.0529 0.0322 Jupiter 38696-10-17 22:19 G 15854774.20 15854774.43 15854774.67 0.0498 0.0017 Neptune 38699-09-09 21:22 G 15855831.33 15855831.39 15855831.50 0.0088 0.0083 Neptune 38700-09-12 08:38 G 15856198.71 15856198.86 15856199.07 0.0088 0.0063 Neptune 38701-09-14 19:55 G 15856566.13 15856566.33 15856566.58 0.0088 0.0043 Jupiter 38702-03-30 21:36 G 15856763.29 15856763.40 15856763.52 0.0525 0.0455 Neptune 38702-09-17 07:12 G 15856933.57 15856933.80 15856934.07 0.0088 0.0023 Uranus 38702-10-28 22:19 G 15856975.23 15856975.43 15856975.63 0.0143 0.0088 Jupiter 38703-05-05 16:48 G 15857164.08 15857164.20 15857164.33 0.0528 0.0446

Neptune 38703-09-19 18:43 G 15857301.02 15857301.28 15857301.54 0.0088 0.0002 Uranus 38703-11-02 20:38 G 15857345.11 15857345.36 15857345.62 0.0143 0.0003 Saturn 38704-04-03 13:26 G 15857497.85 15857498.06 15857498.27 0.0303 0.0143 Neptune 38704-09-21 05:46 G 15857668.49 15857668.74 15857669.00 0.0088 0.0018 Uranus 38704-11-06 18:29 G 15857715.07 15857715.27 15857715.49 0.0143 0.0081 Neptune 38705-09-23 17:02 G 15858035.98 15858036.21 15858036.45 0.0088 0.0038 Neptune 38706-09-26 04:05 G 15858403.48 15858403.67 15858403.87 0.0088 0.0058 Neptune 38707-09-28 14:38 G 15858771.03 15858771.11 15858771.26 0.0088 0.0079 Jupiter 38708-10-23 07:12 G 15859161.58 15859161.80 15859162.03 0.0498 0.0119 38713-02-16 11:02 G 15860738.90 15860738.96 15860739.02 0.1653 0.1556 Mars Jupiter 38714-04-04 20:38 G 15861151.19 15861151.36 15861151.54 0.0525 0.0333 Saturn 38717-09-24 12:29 G 15862419.90 15862420.02 15862420.16 0.0260 0.0219 Saturn 38718-10-05 20:38 G 15862796.17 15862796.36 15862796.56 0.0259 0.0158 Jupiter 38720-10-27 18:14 G 15863549.06 15863549.26 15863549.48 0.0498 0.0226 Jupiter 38726-04-09 16:48 G 15865538.99 15865539.20 15865539.42 0.0526 0.0211 Jupiter 38731-10-01 01:12 G 15867539.43 15867539.55 15867539.67 0.0501 0.0429 Jupiter 38732-11-01 05:46 G 15867936.57 15867936.74 15867936.91 0.0498 0.0331 Saturn 38733-03-28 08:10 G 15868083.62 15868083.84 15868084.07 0.0303 0.0121 Jupiter 38738-04-14 15:22 G 15869926.91 15869927.14 15869927.37 0.0527 0.0084 Jupiter 38743-10-05 14:53 G 15871926.94 15871927.12 15871927.30 0.0500 0.0323 Jupiter 38744-11-05 15:36 G 15872324.04 15872324.15 15872324.27 0.0497 0.0431 Uranus 38746-04-28 06:14 G 15872862.56 15872862.76 15872862.97 0.0135 0.0079 Uranus 38747-05-02 15:36 G 15873231.90 15873232.15 15873232.41 0.0135 0.0009 Saturn 38747-10-01 07:26 G 15873383.56 15873383.81 15873384.06 0.0259 0.0005 Uranus 38748-05-06 00:58 G 15873601.34 15873601.54 15873601.79 0.0135 0.0063 Uranus 38749-05-10 11:17 G 15873970.95 15873970.97 15873971.04 0.0136 0.0134 Jupiter 38750-04-19 14:53 G 15874314.89 15874315.12 15874315.35 0.0528 0.0044 38755-06-03 07:12 G 15876185.74 15876185.80 15876185.91 0.0066 0.0062 Jupiter 38755-10-10 03:22 G 15876314.43 15876314.64 15876314.85 0.0499 0.0215 Pluto 38756-06-03 21:07 G 15876552.16 15876552.38 15876552.64 0.0066 0.0026

Jupiter 38762-04-24 15:50 G 15878702.94 15878703.16 15878703.38 0.0528 0.0173 Saturn 38763-04-06 05:17 G 15879049.57 15879049.72 15879049.90 0.0304 0.0223 Jupiter 38767-10-14 11:46 G 15880701.77 15880701.99 15880702.22 0.0499 0.0111 Jupiter 38774-04-29 16:48 G 15883091.01 15883091.20 15883091.39 0.0528 0.0302 Saturn 38776-09-25 19:12 G 15883971.12 15883971.30 15883971.50 0.0260 0.0167 Saturn 38777-10-07 02:38 G 15884347.47 15884347.61 15884347.76 0.0259 0.0209 Jupiter 38779-10-19 00:00 G 15885089.27 15885089.50 15885089.74 0.0499 0.0003 Neptune 38783-03-13 06:43 G 15886330.63 15886330.78 15886330.94 0.0089 0.0071 Neptune 38784-03-14 18:43 G 15886698.08 15886698.28 15886698.50 0.0089 0.0050 Neptune 38785-03-17 06:58 G 15887065.55 15887065.79 15887066.04 0.0089 0.0029 Jupiter 38785-03-29 21:50 G 15887078.32 15887078.41 15887078.51 0.0524 0.0474 Neptune 38786-03-19 19:12 G 15887433.05 15887433.30 15887433.56 0.0089 0.0008 Jupiter 38786-05-04 14:53 G 15887478.99 15887479.12 15887479.26 0.0528 0.0427 Uranus 38786-10-29 06:29 G 15887656.58 15887656.77 15887656.98 0.0143 0.0086 Neptune 38787-03-22 07:41 G 15887800.56 15887800.82 15887801.07 0.0089 0.0014 Uranus 38787-11-03 05:17 G 15888026.47 15888026.72 15888026.98 0.0143 0.0001 Neptune 38788-03-23 19:12 G 15888168.08 15888168.30 15888168.56 0.0090 0.0036 Uranus 38788-11-07 03:36 G 15888396.44 15888396.65 15888396.85 0.0143 0.0083 Neptune 38789-03-26 07:26 G 15888535.63 15888535.81 15888536.03 0.0090 0.0057 Neptune 38790-03-28 19:41 G 15888903.21 15888903.32 15888903.47 0.0090 0.0078 Jupiter 38791-10-23 12:29 G 15889476.79 15889477.02 15889477.25 0.0498 0.0107 38792-02-19 14:53 G 15889595.94 15889596.12 15889596.30 0.1657 0.0484 Mars Saturn 38792-03-29 20:53 G 15889635.13 15889635.37 15889635.61 0.0303 0.0048 Jupiter 38797-04-03 19:26 G 15891466.14 15891466.31 15891466.48 0.0525 0.0354 Jupiter 38803-10-28 00:14 G 15893864.30 15893864.51 15893864.72 0.0498 0.0212 Saturn 38806-10-02 12:29 G 15894934.78 15894935.02 15894935.27 0.0259 0.0045 Jupiter 38809-04-08 17:31 G 15895854.02 15895854.23 15895854.44 0.0526 0.0232 Jupiter 38814-09-30 07:12 G 15897854.70 15897854.80 15897854.91 0.0501 0.0444 Jupiter 38815-11-01 11:17 G 15898251.80 15898251.97 15898252.15 0.0497 0.0319 Jupiter 38821-04-13 18:43 G 15900242.06 15900242.28 15900242.51 0.0526 0.0104

Saturn 38822-04-07 15:07 G 15900601.07 15900601.13 15900601.21 0.0304 0.0290 Jupiter 38826-10-04 16:19 G 15902242.01 15902242.18 15902242.35 0.0501 0.0341 Jupiter 38827-11-05 19:26 G 15902639.19 15902639.31 15902639.44 0.0498 0.0420 Uranus 38830-04-28 14:10 G 15903543.90 15903544.09 15903544.31 0.0135 0.0077 Uranus 38831-05-02 23:31 G 15903913.23 15903913.48 15903913.74 0.0135 0.0007 Uranus 38832-05-06 09:07 G 15904282.67 15904282.88 15904283.12 0.0135 0.0065 Jupiter 38833-04-18 19:55 G 15904630.10 15904630.33 15904630.56 0.0527 0.0029 Uranus 38833-05-10 19:55 G 15904652.31 15904652.33 15904652.35 0.0136 0.0135 Saturn 38835-09-27 23:17 G 15905522.25 15905522.47 15905522.69 0.0259 0.0119 Saturn 38836-10-08 05:31 G 15905898.71 15905898.73 15905898.78 0.0258 0.0255 Jupiter 38838-10-09 05:17 G 15906629.52 15906629.72 15906629.93 0.0500 0.0232 38843-12-06 12:00 G 15908513.86 15908514.00 15908514.18 0.0078 0.0060 Pluto Jupiter 38845-04-23 17:46 G 15909018.02 15909018.24 15909018.46 0.0527 0.0157 Jupiter 38850-10-13 19:12 G 15911017.07 15911017.30 15911017.53 0.0500 0.0122 Saturn 38851-04-01 04:05 G 15911186.42 15911186.67 15911186.91 0.0304 0.0015 Jupiter 38857-04-28 18:00 G 15913406.05 15913406.25 15913406.44 0.0528 0.0286 Jupiter 38862-10-18 08:53 G 15915404.63 15915404.87 15915405.10 0.0499 0.0015 Neptune 38864-09-11 19:41 G 15916099.19 15916099.32 15916099.48 0.0088 0.0073 Neptune 38865-09-14 06:58 G 15916466.60 15916466.79 15916467.01 0.0088 0.0053 Saturn 38865-10-03 14:38 G 15916485.88 15916486.11 15916486.34 0.0259 0.0090 Neptune 38866-09-16 18:00 G 15916834.03 15916834.25 15916834.51 0.0088 0.0033 Neptune 38867-09-19 05:31 G 15917201.48 15917201.73 15917201.99 0.0088 0.0012 Jupiter 38868-03-29 01:26 G 15917393.48 15917393.56 15917393.64 0.0524 0.0492 Neptune 38868-09-20 17:02 G 15917568.95 15917569.21 15917569.47 0.0088 0.0008 Jupiter 38869-05-03 18:58 G 15917794.15 15917794.29 15917794.44 0.0528 0.0414 Neptune 38869-09-23 03:36 G 15917936.43 15917936.65 15917936.91 0.0088 0.0029 Neptune 38870-09-25 14:53 G 15918303.92 15918304.12 15918304.35 0.0088 0.0049 Uranus 38870-10-29 12:29 G 15918337.81 15918338.02 15918338.22 0.0143 0.0085 Neptune 38871-09-28 02:10 G 15918671.44 15918671.59 15918671.76 0.0088 0.0069 Uranus 38871-11-03 11:17 G 15918707.71 15918707.97 15918708.22 0.0143 0.0002

Uranus 38872-11-07 09:22 G 15919077.69 15919077.89 15919078.10 0.0143 0.0084 Jupiter 38874-10-22 21:07 G 15919792.15 15919792.38 15919792.61 0.0498 0.0097 Saturn 38880-03-24 11:02 G 15921771.87 15921771.96 15921772.08 0.0302 0.0269 Jupiter 38880-04-03 02:10 G 15921781.43 15921781.59 15921781.76 0.0525 0.0368 Jupiter 38886-10-27 05:02 G 15924179.50 15924179.71 15924179.93 0.0498 0.0201 Jupiter 38892-04-08 03:22 G 15926169.43 15926169.64 15926169.85 0.0525 0.0241 Saturn 38894-09-29 00:00 G 15927073.27 15927073.50 15927073.74 0.0259 0.0076 Jupiter 38897-09-29 10:34 G 15928169.85 15928169.94 15928170.03 0.0502 0.0459 Jupiter 38898-10-31 17:02 G 15928567.03 15928567.21 15928567.40 0.0498 0.0310 Jupiter 38904-04-14 00:58 G 15930557.31 15930557.54 15930557.77 0.0526 0.0116 Jupiter 38909-10-05 01:26 G 15932557.39 15932557.56 15932557.73 0.0501 0.0352 Saturn 38910-04-03 04:05 G 15932737.44 15932737.67 15932737.91 0.0304 0.0065 Jupiter 38910-11-06 06:00 G 15932954.62 15932954.75 15932954.88 0.0498 0.0415 Uranus 38914-04-29 22:19 G 15934225.23 15934225.43 15934225.66 0.0135 0.0075 Uranus 38915-05-04 07:55 G 15934594.57 15934594.83 15934595.08 0.0135 0.0004 Jupiter 38916-04-19 00:00 G 15934945.27 15934945.50 15934945.73 0.0527 0.0015 Uranus 38916-05-07 17:31 G 15934964.02 15934964.23 15934964.46 0.0135 0.0066 Jupiter 38921-10-09 16:48 G 15936945.00 15936945.20 15936945.41 0.0500 0.0241 Saturn 38923-09-25 06:00 G 15937660.69 15937660.75 15937660.84 0.0260 0.0247 38924-08-21 07:55 G 15937991.63 15937991.83 15937992.02 0.1883 0.0464 Mars Saturn 38924-10-05 13:41 G 15938036.86 15938037.07 15938037.29 0.0258 0.0130 Jupiter 38928-04-24 00:14 G 15939333.29 15939333.51 15939333.73 0.0528 0.0145 Jupiter 38933-10-14 06:14 G 15941332.54 15941332.76 15941332.99 0.0500 0.0129 Saturn 38939-03-27 09:50 G 15943322.75 15943322.91 15943323.08 0.0302 0.0223 Jupiter 38940-04-29 03:22 G 15943721.44 15943721.64 15943721.84 0.0528 0.0278 Jupiter 38945-10-18 14:53 G 15945719.88 15945720.12 15945720.35 0.0499 0.0026 Neptune 38947-03-13 17:31 G 15946231.15 15946231.23 15946231.35 0.0089 0.0082 Neptune 38948-03-15 05:31 G 15946598.56 15946598.73 15946598.94 0.0089 0.0061 Neptune 38949-03-17 17:31 G 15946966.02 15946966.23 15946966.48 0.0089 0.0040 Neptune 38950-03-20 06:00 G 15947333.51 15947333.75 15947334.01 0.0089 0.0018

Neptune 38951-03-22 18:14 G 15947701.01 15947701.26 15947701.52 0.0089 0.0004 Jupiter 38951-03-30 14:38 G 15947709.05 15947709.11 15947709.19 0.0524 0.0498 Neptune 38952-03-24 06:14 G 15948068.53 15948068.76 15948069.02 0.0089 0.0025 Jupiter 38952-05-04 06:14 G 15948109.62 15948109.76 15948109.91 0.0528 0.0409 Neptune 38953-03-26 18:14 G 15948436.06 15948436.26 15948436.50 0.0090 0.0047 Saturn 38953-09-30 22:05 G 15948624.17 15948624.42 15948624.66 0.0259 0.0037 Neptune 38954-03-29 06:43 G 15948803.62 15948803.78 15948803.95 0.0090 0.0068 Uranus 38954-10-30 17:17 G 15949019.03 15949019.22 15949019.43 0.0143 0.0086 Neptune 38955-03-31 18:58 G 15949171.27 15949171.29 15949171.33 0.0090 0.0089 Uranus 38955-11-04 16:19 G 15949388.93 15949389.18 15949389.44 0.0143 0.0001 Uranus 38956-11-08 14:24 G 15949758.91 15949759.10 15949759.32 0.0143 0.0084 Jupiter 38957-10-23 03:22 G 15950107.41 15950107.64 15950107.88 0.0499 0.0087 Jupiter 38963-04-04 12:00 G 15952096.85 15952097.00 15952097.17 0.0524 0.0379 Saturn 38969-04-04 00:00 G 15954288.27 15954288.50 15954288.73 0.0304 0.0108 Jupiter 38969-10-27 17:17 G 15954495.00 15954495.22 15954495.43 0.0499 0.0197 Jupiter 38975-04-09 10:05 G 15956484.72 15956484.92 15956485.13 0.0525 0.0254 Jupiter 38980-09-29 23:17 G 15958485.40 15958485.47 15958485.56 0.0502 0.0468 Jupiter 38981-11-01 06:29 G 15958882.59 15958882.77 15958882.96 0.0498 0.0306 Saturn 38982-09-26 03:07 G 15959211.50 15959211.63 15959211.79 0.0260 0.0210 Saturn 38983-10-07 10:05 G 15959587.74 15959587.92 15959588.12 0.0258 0.0167 Jupiter 38987-04-14 09:07 G 15960872.66 15960872.88 15960873.11 0.0526 0.0126 Jupiter 38992-10-04 14:38 G 15962872.95 15962873.11 15962873.27 0.0501 0.0357 Jupiter 38993-11-05 18:43 G 15963270.15 15963270.28 15963270.41 0.0498 0.0412 38997-02-18 14:38 G 15964470.95 15964471.11 15964471.27 0.1648 0.0835 Mars Saturn 38998-03-28 03:50 G 15964873.46 15964873.66 15964873.85 0.0302 0.0184 Uranus 38998-04-30 07:41 G 15964906.61 15964906.82 15964907.04 0.0135 0.0072 Jupiter 38999-04-19 12:00 G 15965260.77 15965261.00 15965261.23 0.0527 0.0010 Uranus 38999-05-04 17:02 G 15965275.96 15965276.21 15965276.47 0.0135 0.0002 Uranus 39000-05-09 02:53 G 15965645.41 15965645.62 15965645.85 0.0135 0.0069

## **40TH MILLENNIUM CE**

## This is a list of transits of Earth in the 40th millennium CE.

FROM MAX- C START MAX END SUNRAD DEPTH S

TRANSIT

TIME

Pluto 39002-06-06 22:48 G 15966404.26 15966404.45 15966404.65 0.0066 0.0044 Pluto 39003-06-08 12:29 G 15966770.84 15966771.02 15966771.23 0.0066 0.0044 Jupiter 39004-10-09 23:31 G 15967260.29 15967260.48 15967260.69 0.0500 0.0252 Jupiter 39011-04-25 14:53 G 15969648.89 15969649.12 15969649.34 0.0527 0.0143 Saturn 39012-10-02 17:46 G 15970174.99 15970175.24 15970175.49 0.0259 0.0001 Jupiter 39016-10-14 13:12 G 15971647.83 15971648.05 15971648.28 0.0500 0.0140 Jupiter 39023-04-30 13:41 G 15974036.88 15974037.07 15974037.27 0.0527 0.0271 Saturn 39028-04-05 17:17 G 15975839.01 15975839.22 15975839.44 0.0304 0.0147 Neptune 39028-09-13 06:00 G 15975999.70 15975999.75 15975999.86 0.0088 0.0084 Jupiter 39028-10-19 03:50 G 15976035.42 15976035.66 15976035.89 0.0500 0.0029 Neptune 39029-09-15 18:00 G 15976367.08 15976367.25 15976367.44 0.0088 0.0063 Neptune 39030-09-18 05:02 G 15976734.50 15976734.71 15976734.95 0.0088 0.0043 Neptune 39031-09-20 16:48 G 15977101.95 15977102.20 15977102.45 0.0088 0.0022 Neptune 39032-09-22 04:05 G 15977469.41 15977469.67 15977469.93 0.0088 0.0002 Neptune 39033-09-24 14:53 G 15977836.88 15977837.12 15977837.39 0.0088 0.0019 Jupiter 39034-03-31 00:00 G 15978024.45 15978024.50 15978024.55 0.0523 0.0508 Neptune 39034-09-27 01:41 G 15978204.36 15978204.57 15978204.82 0.0088 0.0040 Jupiter 39035-05-05 13:55 G 15978424.93 15978425.08 15978425.23 0.0528 0.0401 Neptune 39035-09-29 12:43 G 15978571.87 15978572.03 15978572.25 0.0088 0.0060 Neptune 39036-10-01 00:14 G 15978939.42 15978939.51 15978939.63 0.0088 0.0080

Uranus 39038-11-01 00:43 G 15979700.33 15979700.53 15979700.74 0.0143 0.0084 Uranus 39039-11-05 23:46 G 15980070.24 15980070.49 15980070.75 0.0143 0.0002 Jupiter 39040-10-23 18:00 G 15980423.02 15980423.25 15980423.48 0.0499 0.0084 Uranus 39040-11-09 22:05 G 15980440.22 15980440.42 15980440.63 0.0143 0.0085 Saturn 39041-09-27 22:19 G 15980762.26 15980762.43 15980762.62 0.0260 0.0175 Saturn 39042-10-09 05:17 G 15981138.57 15981138.72 15981138.87 0.0258 0.0202 Jupiter 39046-04-04 21:22 G 15982412.24 15982412.39 15982412.55 0.0524 0.0388 Jupiter 39052-10-28 07:12 G 15984810.59 15984810.80 15984811.02 0.0498 0.0195 Saturn 39057-03-29 19:55 G 15986424.13 15986424.33 15986424.55 0.0302 0.0148 Jupiter 39058-04-09 23:17 G 15986800.27 15986800.47 15986800.67 0.0525 0.0259 Jupiter 39063-10-01 07:12 G 15988800.74 15988800.80 15988800.88 0.0502 0.0480 Jupiter 39064-11-01 14:38 G 15989197.93 15989198.11 15989198.30 0.0498 0.0299 Jupiter 39070-04-15 01:26 G 15991188.34 15991188.56 15991188.79 0.0526 0.0128 Saturn 39071-10-04 12:14 G 15991725.77 15991726.01 15991726.26 0.0259 0.0033 Jupiter 39075-10-05 21:36 G 15993188.24 15993188.40 15993188.56 0.0501 0.0369 Mars 39076-02-22 18:00 G 15993328.12 15993328.25 15993328.38 0.1652 0.1184 Jupiter 39076-11-06 03:07 G 15993585.50 15993585.63 15993585.77 0.0498 0.0407 Jupiter 39082-04-20 00:00 G 15995576.26 15995576.50 15995576.73 0.0526 0.0008 Uranus 39082-05-01 16:19 G 15995587.98 15995588.18 15995588.41 0.0135 0.0070 Uranus 39083-05-06 02:10 G 15995957.34 15995957.59 15995957.85 0.0135 0.0001 Uranus 39084-05-09 12:00 G 15996326.80 15996327.00 15996327.23 0.0135 0.0072 Saturn 39087-04-07 08:53 G 15997389.69 15997389.87 15997390.07 0.0304 0.0184 Jupiter 39087-10-10 12:43 G 15997575.83 15997576.03 15997576.23 0.0501 0.0258 Pluto 39089-12-08 03:07 G 15998365.47 15998365.63 15998365.79 0.0079 0.0062 Jupiter 39094-04-24 23:31 G 15999964.25 15999964.48 15999964.70 0.0527 0.0133 Jupiter 39099-10-15 03:50 G 16001963.44 16001963.66 16001963.89 0.0500 0.0145 Saturn 39100-09-29 17:02 G 16002313.00 16002313.21 16002313.42 0.0260 0.0140 Saturn 39101-10-10 23:31 G 16002689.39 16002689.48 16002689.59 0.0258 0.0236 Jupiter 39106-04-30 23:17 G 16004352.27 16004352.47 16004352.68 0.0527 0.0264 Jupiter 39111-10-20 18:00 G 16006351.01 16006351.25 16006351.48 0.0499 0.0032

Neptune 39112-03-16 16:19 G 16006499.05 16006499.18 16006499.36 0.0089 0.0072 Neptune 39113-03-19 04:48 G 16006866.49 16006866.70 16006866.91 0.0089 0.0050 Neptune 39114-03-21 16:34 G 16007233.96 16007234.19 16007234.45 0.0089 0.0029 Neptune 39115-03-24 05:02 G 16007601.45 16007601.71 16007601.96 0.0089 0.0007 Neptune 39116-03-25 17:02 G 16007968.96 16007969.21 16007969.47 0.0089 0.0015 Saturn 39116-03-31 12:43 G 16007974.81 16007975.03 16007975.27 0.0303 0.0110 Neptune 39117-03-28 05:02 G 16008336.49 16008336.71 16008336.96 0.0089 0.0037 Jupiter 39117-03-31 12:29 G 16008339.99 16008340.02 16008340.06 0.0523 0.0516 Neptune 39118-03-30 17:31 G 16008704.05 16008704.23 16008704.44 0.0089 0.0058 Jupiter 39118-05-06 03:22 G 16008740.50 16008740.64 16008740.80 0.0528 0.0400 Neptune 39119-04-02 05:17 G 16009071.63 16009071.72 16009071.87 0.0090 0.0080 Uranus 39122-11-02 10:34 G 16010381.75 16010381.94 16010382.17 0.0143 0.0082 Jupiter 39123-10-25 02:10 G 16010738.36 16010738.59 16010738.82 0.0499 0.0075 Uranus 39123-11-07 09:50 G 16010751.66 16010751.91 16010752.17 0.0143 0.0004 Uranus 39124-11-11 07:55 G 16011121.64 16011121.83 16011122.04 0.0143 0.0088 Jupiter 39129-04-05 13:26 G 16012727.91 16012728.06 16012728.22 0.0524 0.0392 Saturn 39130-10-06 06:43 G 16013276.55 16013276.78 16013277.03 0.0259 0.0068 Jupiter 39135-10-29 14:38 G 16015125.89 16015126.11 16015126.33 0.0499 0.0187 Jupiter 39141-04-10 11:31 G 16017115.79 16017115.98 16017116.18 0.0525 0.0268 Saturn 39146-04-09 02:53 G 16018940.46 16018940.62 16018940.79 0.0304 0.0224 Jupiter 39146-10-01 19:12 G 16019116.26 16019116.30 16019116.36 0.0502 0.0489 Jupiter 39147-11-03 04:19 G 16019513.49 16019513.68 16019513.87 0.0498 0.0297 Jupiter 39153-04-15 09:50 G 16021503.69 16021503.91 16021504.14 0.0525 0.0140 Jupiter 39158-10-06 11:17 G 16023503.82 16023503.97 16023504.13 0.0502 0.0377 Saturn 39159-10-01 12:00 G 16023863.78 16023864.00 16023864.24 0.0260 0.0105 Jupiter 39159-11-07 17:31 G 16023901.10 16023901.23 16023901.37 0.0498 0.0405 Jupiter 39165-04-20 08:38 G 16025891.62 16025891.86 16025892.09 0.0526 0.0011 Uranus 39166-05-03 02:10 G 16026269.38 16026269.59 16026269.82 0.0135 0.0067 Uranus 39167-05-07 11:46 G 16026638.74 16026638.99 16026639.25 0.0135 0.0003 Uranus 39168-05-10 21:36 G 16027008.20 16027008.40 16027008.62 0.0135 0.0074

Jupiter 39170-10-11 02:10 G 16027891.39 16027891.59 16027891.79 0.0501 0.0263 Saturn 39175-04-02 08:10 G 16029525.60 16029525.84 16029526.08 0.0302 0.0067 Jupiter 39177-04-25 11:17 G 16030279.75 16030279.97 16030280.20 0.0527 0.0129 Jupiter 39182-10-15 11:17 G 16032278.75 16032278.97 16032279.20 0.0500 0.0156 Jupiter 39189-04-30 14:10 G 16034667.89 16034668.09 16034668.29 0.0527 0.0263 Saturn 39189-10-07 02:38 G 16034827.38 16034827.61 16034827.83 0.0259 0.0105 Neptune 39193-09-16 04:19 G 16036267.57 16036267.68 16036267.86 0.0088 0.0074 Neptune 39194-09-18 16:19 G 16036634.99 16036635.18 16036635.40 0.0088 0.0053 Jupiter 39194-10-20 00:14 G 16036666.28 16036666.51 16036666.75 0.0499 0.0044 Neptune 39195-09-21 03:50 G 16037002.43 16037002.66 16037002.91 0.0088 0.0032 Neptune 39196-09-22 15:07 G 16037369.89 16037370.13 16037370.40 0.0088 0.0012 Neptune 39197-09-25 02:38 G 16037737.35 16037737.61 16037737.87 0.0088 0.0009 Neptune 39198-09-27 13:26 G 16038104.83 16038105.06 16038105.32 0.0088 0.0030 Neptune 39199-09-30 00:29 G 16038472.33 16038472.52 16038472.75 0.0088 0.0051 Neptune 39200-10-01 11:31 G 16038839.85 16038839.98 16038840.15 0.0088 0.0071 Jupiter 39201-05-05 13:12 G 16039055.90 16039056.05 16039056.21 0.0527 0.0391 Saturn 39205-04-09 23:46 G 16040491.39 16040491.49 16040491.61 0.0304 0.0271 Jupiter 39206-10-24 13:55 G 16041053.85 16041054.08 16041054.31 0.0499 0.0068 Uranus 39206-11-02 23:17 G 16041063.26 16041063.47 16041063.69 0.0143 0.0076 Uranus 39207-11-07 22:05 G 16041433.17 16041433.42 16041433.68 0.0143 0.0009 39208-08-22 14:24 G 16041721.92 16041722.10 16041722.28 0.1891 0.0879 Mars Uranus 39208-11-11 19:55 G 16041803.15 16041803.33 16041803.53 0.0143 0.0093 Jupiter 39212-04-04 21:07 G 16043043.24 16043043.38 16043043.53 0.0524 0.0406 Jupiter 39213-05-10 12:58 G 16043444.00 16043444.04 16043444.07 0.0528 0.0520 Saturn 39218-10-02 09:22 G 16045414.65 16045414.89 16045415.13 0.0260 0.0066 Jupiter 39218-10-29 03:36 G 16045441.43 16045441.65 16045441.87 0.0499 0.0181 Jupiter 39224-04-09 18:00 G 16047431.06 16047431.25 16047431.45 0.0525 0.0282 Jupiter 39229-10-01 07:12 G 16049431.77 16049431.80 16049431.84 0.0502 0.0497 Jupiter 39230-11-02 15:50 G 16049828.98 16049829.16 16049829.35 0.0498 0.0293 Saturn 39234-04-03 08:10 G 16051076.60 16051076.84 16051077.08 0.0302 0.0016

Jupiter 39236-04-14 19:26 G 16051819.09 16051819.31 16051819.53 0.0526 0.0148 Jupiter 39241-10-05 17:46 G 16053819.11 16053819.24 16053819.40 0.0501 0.0392 Jupiter 39242-11-06 23:17 G 16054216.33 16054216.47 16054216.61 0.0498 0.0395 Saturn 39247-09-27 15:22 G 16056002.04 16056002.14 16056002.24 0.0261 0.0238 Jupiter 39248-04-19 20:53 G 16056207.13 16056207.37 16056207.60 0.0527 0.0018 Saturn 39248-10-08 00:43 G 16056378.33 16056378.53 16056378.74 0.0259 0.0145 Uranus 39249-04-29 01:41 G 16056581.57 16056581.57 16056581.59 0.0135 0.0135 Pluto 39249-06-09 09:07 G 16056622.69 16056622.88 16056623.11 0.0066 0.0039 Uranus 39250-05-03 10:34 G 16056950.73 16056950.94 16056951.18 0.0135 0.0065 Pluto 39250-06-10 23:02 G 16056989.32 16056989.46 16056989.65 0.0066 0.0050 Uranus 39251-05-07 20:24 G 16057320.09 16057320.35 16057320.60 0.0135 0.0005 Uranus 39252-05-11 06:00 G 16057689.55 16057689.75 16057689.97 0.0136 0.0076 Jupiter 39253-10-10 07:12 G 16058206.61 16058206.80 16058207.00 0.0501 0.0278 Jupiter 39260-04-24 19:26 G 16060595.08 16060595.31 16060595.54 0.0527 0.0115 Saturn 39263-03-27 21:07 G 16061662.32 16061662.38 16061662.47 0.0301 0.0286 Jupiter 39265-10-14 20:38 G 16062594.15 16062594.36 16062594.59 0.0500 0.0168 Jupiter 39272-04-29 18:14 G 16064983.06 16064983.26 16064983.47 0.0527 0.0247 Neptune 39276-03-16 04:05 G 16066399.57 16066399.67 16066399.77 0.0089 0.0082 Neptune 39277-03-18 15:36 G 16066766.98 16066767.15 16066767.36 0.0089 0.0061 Saturn 39277-10-03 08:53 G 16066965.63 16066965.87 16066966.12 0.0260 0.0023 Jupiter 39277-10-19 10:34 G 16066981.71 16066981.94 16066982.17 0.0500 0.0054 Neptune 39278-03-21 03:22 G 16067134.44 16067134.64 16067134.90 0.0089 0.0040 Neptune 39279-03-23 15:36 G 16067501.91 16067502.15 16067502.41 0.0089 0.0018 Neptune 39280-03-25 03:50 G 16067869.41 16067869.66 16067869.92 0.0089 0.0004 Mars 39281-02-21 18:14 G 16068203.08 16068203.26 16068203.45 0.1644 0.0123 Neptune 39281-03-27 16:05 G 16068236.93 16068237.17 16068237.42 0.0089 0.0026 Neptune 39282-03-30 03:50 G 16068604.46 16068604.66 16068604.89 0.0090 0.0048 Neptune 39283-04-01 15:50 G 16068972.03 16068972.16 16068972.35 0.0090 0.0070 Jupiter 39284-05-04 16:48 G 16069371.05 16069371.20 16069371.37 0.0528 0.0379 Jupiter 39289-10-23 23:31 G 16071369.25 16071369.48 16071369.71 0.0499 0.0060

Uranus 39290-11-03 10:34 G 16071744.73 16071744.94 16071745.17 0.0143 0.0072 Uranus 39291-11-08 09:36 G 16072114.64 16072114.90 16072115.15 0.0143 0.0013 Uranus 39292-11-12 07:26 G 16072484.64 16072484.81 16072485.01 0.0143 0.0097 Saturn 39293-04-04 13:26 G 16072627.82 16072628.06 16072628.30 0.0303 0.0045 Jupiter 39295-04-05 03:07 G 16073358.49 16073358.63 16073358.77 0.0524 0.0421 Jupiter 39296-05-09 19:55 G 16073759.29 16073759.33 16073759.39 0.0528 0.0513 Jupiter 39301-10-29 07:41 G 16075756.60 16075756.82 16075757.04 0.0498 0.0167 Saturn 39306-09-29 16:19 G 16077553.02 16077553.18 16077553.36 0.0261 0.0192 Jupiter 39307-04-11 02:38 G 16077746.42 16077746.61 16077746.81 0.0525 0.0296 Saturn 39307-10-11 01:55 G 16077929.43 16077929.58 16077929.76 0.0260 0.0192 Jupiter 39313-11-02 18:58 G 16080144.10 16080144.29 16080144.48 0.0498 0.0278 Jupiter 39319-04-16 00:43 G 16082134.31 16082134.53 16082134.75 0.0526 0.0168 Saturn 39322-03-30 06:14 G 16083213.59 16083213.76 16083213.92 0.0301 0.0220 Jupiter 39324-10-06 00:14 G 16084134.38 16084134.51 16084134.65 0.0502 0.0408 Jupiter 39325-11-07 07:12 G 16084531.65 16084531.80 16084531.95 0.0498 0.0385 Jupiter 39331-04-20 22:48 G 16086522.22 16086522.45 16086522.68 0.0526 0.0036 Uranus 39333-04-30 10:19 G 16087262.88 16087262.93 16087262.97 0.0135 0.0132 Uranus 39334-05-04 18:58 G 16087632.07 16087632.29 16087632.52 0.0135 0.0063 Uranus 39335-05-09 04:19 G 16088001.43 16088001.68 16088001.94 0.0135 0.0007 Uranus 39336-05-12 13:55 G 16088370.88 16088371.08 16088371.30 0.0135 0.0078 Saturn 39336-10-05 12:00 G 16088516.76 16088517.00 16088517.25 0.0260 0.0027 Jupiter 39336-10-10 14:10 G 16088521.91 16088522.09 16088522.29 0.0501 0.0294 Pluto 39336-12-11 16:19 G 16088583.98 16088584.18 16088584.39 0.0078 0.0048 Jupiter 39337-11-11 18:58 G 16088919.27 16088919.29 16088919.32 0.0498 0.0493 Jupiter 39343-04-25 19:55 G 16090910.10 16090910.33 16090910.56 0.0527 0.0096 Jupiter 39348-10-15 03:50 G 16092909.44 16092909.66 16092909.88 0.0500 0.0180 Saturn 39352-04-07 01:41 G 16094179.35 16094179.57 16094179.80 0.0303 0.0119 Jupiter 39355-04-30 21:07 G 16095298.18 16095298.38 16095298.59 0.0527 0.0233 Neptune 39357-09-16 15:07 G 16096168.08 16096168.13 16096168.23 0.0088 0.0084 Neptune 39358-09-19 03:07 G 16096535.46 16096535.63 16096535.81 0.0088 0.0063

Neptune 39359-09-21 14:10 G 16096902.89 16096903.09 16096903.34 0.0088 0.0043 Neptune 39360-09-23 01:55 G 16097270.34 16097270.58 16097270.84 0.0088 0.0022 Jupiter 39360-10-19 13:26 G 16097296.83 16097297.06 16097297.29 0.0499 0.0072 Neptune 39361-09-25 13:26 G 16097637.80 16097638.06 16097638.32 0.0088 0.0001 Neptune 39362-09-28 00:43 G 16098005.29 16098005.53 16098005.79 0.0088 0.0020 Neptune 39363-09-30 11:31 G 16098372.77 16098372.98 16098373.23 0.0088 0.0041 Neptune 39364-10-01 23:17 G 16098740.29 16098740.47 16098740.65 0.0088 0.0061 Saturn 39365-09-30 20:53 G 16099104.17 16099104.37 16099104.59 0.0261 0.0142 Neptune 39365-10-04 09:50 G 16099107.84 16099107.91 16099108.02 0.0088 0.0082 Saturn 39366-10-12 06:43 G 16099480.70 16099480.78 16099480.88 0.0260 0.0243 Jupiter 39367-05-05 22:34 G 16099686.28 16099686.44 16099686.61 0.0528 0.0366 Jupiter 39372-10-24 00:58 G 16101684.30 16101684.54 16101684.77 0.0499 0.0042 Uranus 39374-11-04 19:12 G 16102426.09 16102426.30 16102426.53 0.0143 0.0069 Uranus 39375-11-09 18:14 G 16102796.01 16102796.26 16102796.52 0.0143 0.0016 Uranus 39376-11-13 16:34 G 16103166.01 16103166.19 16103166.37 0.0143 0.0100 Jupiter 39378-04-05 05:31 G 16103673.61 16103673.73 16103673.85 0.0524 0.0446 Jupiter 39379-05-10 21:07 G 16104074.31 16104074.38 16104074.47 0.0528 0.0493 Saturn 39381-03-31 20:24 G 16104765.14 16104765.35 16104765.57 0.0301 0.0143 Jupiter 39384-10-28 12:29 G 16106071.80 16106072.02 16106072.24 0.0499 0.0152 Jupiter 39390-04-10 02:53 G 16108061.43 16108061.62 16108061.80 0.0525 0.0320 Saturn 39395-10-07 18:43 G 16110068.05 16110068.28 16110068.52 0.0260 0.0080 Jupiter 39396-11-02 00:29 G 16110459.32 16110459.52 16110459.72 0.0498 0.0264 Jupiter 39402-04-15 22:34 G 16112449.22 16112449.44 16112449.65 0.0525 0.0192 Jupiter 39407-10-07 04:48 G 16114449.58 16114449.70 16114449.83 0.0502 0.0424 Jupiter 39408-11-07 11:31 G 16114846.83 16114846.98 16114847.14 0.0498 0.0374 Saturn 39411-04-10 19:41 G 16115731.14 16115731.32 16115731.50 0.0303 0.0203 Jupiter 39414-04-20 21:50 G 16116837.18 16116837.41 16116837.64 0.0526 0.0057 Uranus 39417-05-01 17:31 G 16117944.19 16117944.23 16117944.31 0.0134 0.0131 Uranus 39418-05-06 02:24 G 16118313.38 16118313.60 16118313.83 0.0135 0.0061 Uranus 39419-05-10 11:46 G 16118682.74 16118682.99 16118683.24 0.0135 0.0009

Jupiter 39419-10-11 16:05 G 16118836.99 16118837.17 16118837.36 0.0500 0.0315 Uranus 39420-05-13 21:22 G 16119052.19 16119052.39 16119052.60 0.0135 0.0080 Jupiter 39420-11-11 19:12 G 16119234.24 16119234.30 16119234.37 0.0497 0.0475 Saturn 39424-10-03 05:02 G 16120655.48 16120655.71 16120655.94 0.0261 0.0085 Jupiter 39426-04-25 21:36 G 16121225.17 16121225.40 16121225.63 0.0527 0.0076 Jupiter 39431-10-16 04:19 G 16123224.46 16123224.68 16123224.89 0.0500 0.0202 Jupiter 39438-04-30 20:10 G 16125613.13 16125613.34 16125613.55 0.0527 0.0206 Saturn 39440-04-03 17:17 G 16126316.98 16126317.22 16126317.46 0.0302 0.0055 Neptune 39441-03-20 02:38 G 16126667.48 16126667.61 16126667.79 0.0089 0.0072 Neptune 39442-03-22 14:53 G 16127034.92 16127035.12 16127035.34 0.0089 0.0050 Neptune 39443-03-25 02:38 G 16127402.38 16127402.61 16127402.87 0.0089 0.0028 Jupiter 39443-10-20 15:07 G 16127611.90 16127612.13 16127612.36 0.0500 0.0093 Neptune 39444-03-26 15:07 G 16127769.87 16127770.13 16127770.39 0.0089 0.0006 Neptune 39445-03-29 02:53 G 16128137.37 16128137.62 16128137.88 0.0089 0.0016 Neptune 39446-03-31 14:53 G 16128504.90 16128505.12 16128505.36 0.0089 0.0038 Neptune 39447-04-03 02:38 G 16128872.44 16128872.61 16128872.83 0.0090 0.0060 Neptune 39448-04-04 15:22 G 16129240.04 16129240.14 16129240.25 0.0090 0.0081 Jupiter 39450-05-05 18:29 G 16130001.10 16130001.27 16130001.45 0.0527 0.0340 Saturn 39453-09-28 16:05 G 16131243.10 16131243.17 16131243.24 0.0262 0.0250 Saturn 39454-10-10 03:50 G 16131619.45 16131619.66 16131619.87 0.0260 0.0138 Jupiter 39455-10-25 03:22 G 16131999.41 16131999.64 16131999.88 0.0499 0.0022 Uranus 39458-11-06 01:12 G 16133107.34 16133107.55 16133107.79 0.0143 0.0069 Uranus 39459-11-11 00:14 G 16133477.26 16133477.51 16133477.77 0.0143 0.0017 Uranus 39460-11-14 22:19 G 16133847.26 16133847.43 16133847.62 0.0143 0.0101 Jupiter 39461-04-05 01:26 G 16133988.47 16133988.56 16133988.66 0.0523 0.0472 Jupiter 39462-05-10 15:50 G 16134389.06 16134389.16 16134389.27 0.0528 0.0470 Jupiter 39467-10-29 15:07 G 16136386.90 16136387.13 16136387.35 0.0499 0.0136 Saturn 39470-04-12 18:14 G 16137283.20 16137283.26 16137283.31 0.0303 0.0294 Jupiter 39473-04-09 23:02 G 16138376.29 16138376.46 16138376.63 0.0525 0.0346 Jupiter 39479-11-03 00:14 G 16140774.31 16140774.51 16140774.72 0.0498 0.0243

Saturn 39483-10-05 15:22 G 16142206.89 16142207.14 16142207.38 0.0261 0.0025 Jupiter 39485-04-14 20:38 G 16142764.15 16142764.36 16142764.57 0.0526 0.0219 39486-02-22 19:26 G 16143078.22 16143078.31 16143078.41 0.1636 0.1381 Mars Jupiter 39490-10-06 04:34 G 16144764.59 16144764.69 16144764.80 0.0501 0.0448 Jupiter 39491-11-07 10:19 G 16145161.77 16145161.93 16145162.10 0.0498 0.0353 Pluto 39496-06-12 17:17 G 16146841.04 16146841.22 16146841.46 0.0066 0.0039 Jupiter 39497-04-19 18:58 G 16147152.06 16147152.29 16147152.52 0.0526 0.0087 Pluto 39497-06-14 07:26 G 16147207.66 16147207.81 16147208.00 0.0066 0.0051 Saturn 39499-04-06 16:19 G 16147868.94 16147869.18 16147869.42 0.0302 0.0037 Uranus 39501-05-03 02:24 G 16148625.53 16148625.60 16148625.68 0.0134 0.0128 Uranus 39502-05-07 11:02 G 16148994.74 16148994.96 16148995.20 0.0135 0.0059 Jupiter 39502-10-11 15:22 G 16149151.97 16149152.14 16149152.31 0.0501 0.0339 Uranus 39503-05-11 20:24 G 16149364.09 16149364.35 16149364.60 0.0135 0.0011 Jupiter 39503-11-12 20:38 G 16149549.27 16149549.36 16149549.44 0.0498 0.0458 Uranus 39504-05-15 05:31 G 16149733.54 16149733.73 16149733.94 0.0135 0.0082 Jupiter 39509-04-25 17:17 G 16151539.99 16151540.22 16151540.45 0.0526 0.0047 Saturn 39512-10-01 03:07 G 16152794.47 16152794.63 16152794.81 0.0262 0.0190 Saturn 39513-10-12 14:38 G 16153170.96 16153171.11 16153171.27 0.0260 0.0198 Jupiter 39514-10-16 03:50 G 16153539.45 16153539.66 16153539.87 0.0501 0.0226 Jupiter 39521-04-30 13:41 G 16155927.85 16155928.07 16155928.29 0.0527 0.0179 Neptune 39522-09-20 13:26 G 16156435.95 16156436.06 16156436.23 0.0088 0.0074 Neptune 39523-09-23 00:58 G 16156803.35 16156803.54 16156803.76 0.0088 0.0053 Neptune 39524-09-24 12:29 G 16157170.79 16157171.02 16157171.27 0.0088 0.0032 Neptune 39525-09-27 00:14 G 16157538.25 16157538.51 16157538.77 0.0088 0.0011 Neptune 39526-09-29 11:31 G 16157905.72 16157905.98 16157906.24 0.0088 0.0010 Jupiter 39526-10-20 16:34 G 16157926.96 16157927.19 16157927.42 0.0500 0.0112 Neptune 39527-10-01 22:48 G 16158273.21 16158273.45 16158273.70 0.0088 0.0031 Saturn 39528-03-31 16:19 G 16158455.02 16158455.18 16158455.35 0.0301 0.0220 Neptune 39528-10-03 09:36 G 16158640.71 16158640.90 16158641.13 0.0088 0.0052 Neptune 39529-10-05 20:38 G 16159008.25 16159008.36 16159008.53 0.0088 0.0073 Jupiter 39533-05-05 13:12 G 16160315.87 16160316.05 16160316.24 0.0528 0.0315 Jupiter 39538-10-25 03:36 G 16162314.42 16162314.65 16162314.89 0.0499 0.0002 Saturn 39542-10-08 02:38 G 16163758.36 16163758.61 16163758.85 0.0261 0.0035 Uranus 39542-11-07 07:26 G 16163788.59 16163788.81 16163789.03 0.0143 0.0068 Uranus 39543-11-12 06:14 G 16164158.51 16164158.76 16164159.02 0.0143 0.0018 Jupiter 39544-04-04 21:36 G 16164303.34 16164303.40 16164303.46 0.0524 0.0502 Uranus 39544-11-16 04:34 G 16164528.52 16164528.69 16164528.87 0.0143 0.0101 Jupiter 39545-05-10 13:12 G 16164703.94 16164704.05 16164704.18 0.0528 0.0447 Jupiter 39550-10-29 14:24 G 16166701.87 16166702.10 16166702.33 0.0498 0.0114 Jupiter 39556-04-09 19:41 G 16168691.16 16168691.32 16168691.48 0.0524 0.0377 Saturn 39558-04-09 16:19 G 16169420.97 16169421.18 16169421.40 0.0302 0.0130 Jupiter 39562-11-02 23:46 G 16171089.29 16171089.49 16171089.71 0.0498 0.0224 Mars 39565-02-25 21:36 G 16171935.23 16171935.40 16171935.58 0.1640 0.0582 Jupiter 39568-04-14 17:46 G 16173079.03 16173079.24 16173079.44 0.0525 0.0245 Saturn 39571-10-03 14:53 G 16174345.91 16174346.12 16174346.34 0.0262 0.0129 Saturn 39572-10-14 01:26 G 16174722.55 16174722.56 16174722.60 0.0260 0.0258 Jupiter 39573-10-06 02:10 G 16175079.52 16175079.59 16175079.67 0.0502 0.0473 Jupiter 39574-11-07 10:48 G 16175476.78 16175476.95 16175477.13 0.0498 0.0335 Jupiter 39580-04-19 13:12 G 16177466.83 16177467.05 16177467.28 0.0526 0.0115 Pluto 39583-12-16 00:43 G 16178802.36 16178802.53 16178802.75 0.0078 0.0051 Uranus 39585-05-03 10:19 G 16179306.87 16179306.93 16179307.04 0.0135 0.0127 Jupiter 39585-10-10 15:50 G 16179467.00 16179467.16 16179467.32 0.0502 0.0360 Uranus 39586-05-07 19:12 G 16179676.08 16179676.30 16179676.55 0.0135 0.0057 Jupiter 39586-11-11 22:05 G 16179864.32 16179864.42 16179864.53 0.0498 0.0444 Saturn 39587-04-03 15:22 G 16180006.93 16180007.14 16180007.37 0.0301 0.0129 Uranus 39587-05-12 04:34 G 16180045.44 16180045.69 16180045.95 0.0135 0.0014 Uranus 39588-05-15 13:55 G 16180414.90 16180415.08 16180415.29 0.0135 0.0085 Jupiter 39592-04-24 11:17 G 16181854.73 16181854.97 16181855.20 0.0526 0.0020 Jupiter 39597-10-15 05:02 G 16183854.51 16183854.71 16183854.92 0.0500 0.0248 Saturn 39601-10-09 13:26 G 16185309.83 16185310.06 16185310.29 0.0261 0.0095

Jupiter 39604-04-29 10:05 G 16186242.70 16186242.92 16186243.15 0.0527 0.0153 Neptune 39605-03-20 13:12 G 16186567.98 16186568.05 16186568.17 0.0089 0.0083 Neptune 39606-03-23 01:26 G 16186935.38 16186935.56 16186935.76 0.0089 0.0061 Neptune 39607-03-25 13:41 G 16187302.84 16187303.07 16187303.30 0.0089 0.0039 Neptune 39608-03-27 01:12 G 16187670.31 16187670.55 16187670.82 0.0089 0.0018 Neptune 39609-03-29 13:26 G 16188037.81 16188038.06 16188038.32 0.0089 0.0005 Jupiter 39609-10-19 17:02 G 16188241.99 16188242.21 16188242.44 0.0500 0.0133 Neptune 39610-04-01 01:26 G 16188405.32 16188405.56 16188405.81 0.0089 0.0027 Neptune 39611-04-03 13:26 G 16188772.85 16188773.06 16188773.28 0.0090 0.0049 Neptune 39612-04-05 01:26 G 16189140.42 16189140.56 16189140.73 0.0090 0.0071 Jupiter 39616-05-04 09:50 G 16190630.72 16190630.91 16190631.10 0.0527 0.0287 Saturn 39617-04-11 15:07 G 16190972.96 16190973.13 16190973.29 0.0302 0.0221 Jupiter 39621-10-24 02:10 G 16192629.36 16192629.59 16192629.83 0.0499 0.0023 Uranus 39626-11-07 15:36 G 16194469.93 16194470.15 16194470.39 0.0143 0.0066 Uranus 39627-11-12 14:38 G 16194839.86 16194840.11 16194840.36 0.0143 0.0019 Jupiter 39628-05-09 09:50 G 16195018.77 16195018.91 16195019.05 0.0527 0.0422 Uranus 39628-11-16 12:43 G 16195209.86 16195210.03 16195210.21 0.0143 0.0103 Saturn 39630-10-05 01:26 G 16195897.33 16195897.56 16195897.80 0.0261 0.0070 Jupiter 39633-10-28 13:55 G 16197016.85 16197017.08 16197017.31 0.0499 0.0094 Jupiter 39639-04-09 16:19 G 16199006.03 16199006.18 16199006.32 0.0524 0.0402 Jupiter 39645-11-02 01:55 G 16201404.38 16201404.58 16201404.80 0.0499 0.0208 Saturn 39646-04-05 11:46 G 16201558.75 16201558.99 16201559.23 0.0302 0.0043 Jupiter 39651-04-14 12:58 G 16203393.84 16203394.04 16203394.24 0.0525 0.0272 Jupiter 39656-10-05 04:34 G 16205394.66 16205394.69 16205394.74 0.0502 0.0495 Jupiter 39657-11-06 13:12 G 16205791.88 16205792.05 16205792.24 0.0498 0.0317 Saturn 39659-09-30 10:34 G 16206484.85 16206484.94 16206485.05 0.0262 0.0239 Saturn 39660-10-10 22:34 G 16206861.24 16206861.44 16206861.64 0.0260 0.0151 Jupiter 39663-04-19 10:19 G 16207781.70 16207781.93 16207782.15 0.0526 0.0142 Jupiter 39668-10-09 18:29 G 16209782.12 16209782.27 16209782.42 0.0501 0.0380 Uranus 39669-05-03 19:55 G 16209988.25 16209988.33 16209988.45 0.0135 0.0124

Jupiter 39669-11-11 00:00 G 16210179.38 16210179.50 16210179.62 0.0498 0.0427 Uranus 39670-05-08 05:02 G 16210357.48 16210357.71 16210357.95 0.0135 0.0054 Uranus 39671-05-12 14:24 G 16210726.85 16210727.10 16210727.35 0.0135 0.0016 Uranus 39672-05-15 23:17 G 16211096.30 16211096.47 16211096.69 0.0135 0.0088 Jupiter 39675-04-24 10:19 G 16212169.70 16212169.93 16212170.16 0.0526 0.0006 Jupiter 39680-10-14 03:36 G 16214169.46 16214169.65 16214169.85 0.0501 0.0271 Neptune 39686-09-19 23:31 G 16216336.44 16216336.48 16216336.58 0.0088 0.0085 Jupiter 39687-04-29 10:34 G 16216557.71 16216557.94 16216558.16 0.0527 0.0132 Neptune 39687-09-22 11:02 G 16216703.81 16216703.96 16216704.16 0.0088 0.0064 Neptune 39688-09-23 22:34 G 16217071.24 16217071.44 16217071.69 0.0088 0.0043 Neptune 39689-09-26 10:05 G 16217438.68 16217438.92 16217439.19 0.0088 0.0022 Saturn 39689-10-06 09:50 G 16217448.66 16217448.91 16217449.15 0.0261 0.0015 Neptune 39690-09-28 21:50 G 16217806.15 16217806.41 16217806.67 0.0088 0.0001 Neptune 39691-10-01 08:53 G 16218173.63 16218173.87 16218174.13 0.0088 0.0021 Neptune 39692-10-02 20:10 G 16218541.13 16218541.34 16218541.59 0.0088 0.0042 Jupiter 39692-10-18 16:19 G 16218556.96 16218557.18 16218557.40 0.0500 0.0155 Neptune 39693-10-05 07:26 G 16218908.66 16218908.81 16218909.02 0.0088 0.0063 Neptune 39694-10-07 18:29 G 16219276.22 16219276.27 16219276.37 0.0088 0.0084 Jupiter 39699-05-04 07:26 G 16220945.61 16220945.81 16220946.01 0.0527 0.0265 Jupiter 39704-10-24 05:46 G 16222944.51 16222944.74 16222944.98 0.0500 0.0038 Saturn 39705-04-08 02:38 G 16223110.37 16223110.61 16223110.86 0.0302 0.0034 Uranus 39710-11-09 02:24 G 16225151.39 16225151.60 16225151.84 0.0143 0.0063 Jupiter 39711-05-10 06:43 G 16225333.63 16225333.78 16225333.93 0.0528 0.0400 Uranus 39711-11-14 01:26 G 16225521.32 16225521.56 16225521.82 0.0143 0.0023 Uranus 39712-11-17 23:31 G 16225891.32 16225891.48 16225891.66 0.0143 0.0107 Jupiter 39716-10-28 18:58 G 16227332.06 16227332.29 16227332.52 0.0499 0.0078 Saturn 39718-10-02 18:00 G 16228036.08 16228036.25 16228036.43 0.0262 0.0186 Saturn 39719-10-14 04:48 G 16228412.55 16228412.70 16228412.86 0.0260 0.0203 Jupiter 39722-04-09 15:07 G 16229321.00 16229321.13 16229321.27 0.0524 0.0426 Jupiter 39728-11-02 06:43 G 16231719.57 16231719.78 16231720.00 0.0498 0.0193

Saturn 39734-04-01 18:00 G 16233696.10 16233696.25 16233696.39 0.0300 0.0239 Jupiter 39734-04-14 14:53 G 16233708.93 16233709.12 16233709.31 0.0525 0.0294 Jupiter 39740-11-06 14:53 G 16236106.94 16236107.12 16236107.31 0.0498 0.0302 39743-06-16 21:22 G 16237059.26 16237059.39 16237059.56 0.0066 0.0053 Pluto Pluto 39744-06-17 11:02 G 16237425.76 16237425.96 16237426.20 0.0066 0.0036 Jupiter 39746-04-19 15:07 G 16238096.91 16238097.13 16238097.36 0.0525 0.0158 Saturn 39748-10-08 14:53 G 16238999.87 16239000.12 16239000.37 0.0260 0.0036 Jupiter 39751-10-10 18:00 G 16240097.12 16240097.25 16240097.40 0.0502 0.0401 Jupiter 39752-11-11 02:53 G 16240494.50 16240494.62 16240494.75 0.0498 0.0414 Uranus 39753-05-05 05:02 G 16240669.62 16240669.71 16240669.84 0.0135 0.0122 Uranus 39754-05-09 13:55 G 16241038.85 16241039.08 16241039.32 0.0135 0.0052 Uranus 39755-05-13 23:17 G 16241408.22 16241408.47 16241408.72 0.0135 0.0018 Uranus 39756-05-17 08:38 G 16241777.68 16241777.86 16241778.06 0.0135 0.0090 Jupiter 39758-04-24 12:00 G 16242484.77 16242485.00 16242485.23 0.0526 0.0025 Jupiter 39763-10-15 08:53 G 16244484.68 16244484.87 16244485.07 0.0501 0.0286 Saturn 39764-04-09 11:17 G 16244661.75 16244661.97 16244662.20 0.0303 0.0100 Mars 39770-02-26 00:29 G 16246810.34 16246810.52 16246810.69 0.1633 0.0640 Neptune 39770-03-23 12:00 G 16246835.86 16246836.00 16246836.16 0.0089 0.0072 Jupiter 39770-04-29 10:19 G 16246872.71 16246872.93 16246873.16 0.0526 0.0111 Neptune 39771-03-26 00:14 G 16247203.30 16247203.51 16247203.72 0.0089 0.0050 Neptune 39772-03-27 12:14 G 16247570.77 16247571.01 16247571.26 0.0089 0.0028 Neptune 39773-03-30 00:00 G 16247938.25 16247938.50 16247938.76 0.0089 0.0006 Neptune 39774-04-01 12:00 G 16248305.75 16248306.00 16248306.26 0.0089 0.0016 Neptune 39775-04-03 23:46 G 16248673.28 16248673.49 16248673.74 0.0090 0.0039 Jupiter 39775-10-20 00:00 G 16248872.28 16248872.50 16248872.72 0.0500 0.0168 Neptune 39776-04-05 11:31 G 16249040.81 16249040.98 16249041.19 0.0090 0.0061 Neptune 39777-04-07 23:31 G 16249408.41 16249408.48 16249408.61 0.0090 0.0083 Saturn 39777-10-03 22:05 G 16249587.21 16249587.42 16249587.63 0.0261 0.0137 Saturn 39778-10-15 07:41 G 16249963.77 16249963.82 16249963.90 0.0259 0.0250 Jupiter 39782-05-04 09:36 G 16251260.70 16251260.90 16251261.11 0.0527 0.0248

Jupiter 39787-10-24 13:12 G 16253259.82 16253260.05 16253260.29 0.0500 0.0051 Saturn 39793-04-02 22:34 G 16255247.26 16255247.44 16255247.65 0.0301 0.0182 Uranus 39793-11-04 16:05 G 16255463.15 16255463.17 16255463.22 0.0144 0.0142 Jupiter 39794-05-09 11:31 G 16255648.83 16255648.98 16255649.14 0.0527 0.0387 Uranus 39794-11-09 15:36 G 16255832.92 16255833.15 16255833.38 0.0143 0.0057 Uranus 39795-11-14 14:24 G 16256202.85 16256203.10 16256203.35 0.0143 0.0028 Uranus 39796-11-18 12:14 G 16256572.87 16256573.01 16256573.18 0.0143 0.0112 Jupiter 39799-10-28 21:50 G 16257647.17 16257647.41 16257647.64 0.0499 0.0063 Jupiter 39805-04-10 00:29 G 16259636.39 16259636.52 16259636.64 0.0523 0.0437 Jupiter 39806-05-15 13:41 G 16260037.05 16260037.07 16260037.10 0.0527 0.0522 Saturn 39807-10-11 16:48 G 16260550.97 16260551.20 16260551.44 0.0260 0.0081 Jupiter 39811-11-03 10:19 G 16262034.71 16262034.93 16262035.15 0.0499 0.0179 Jupiter 39817-04-14 20:53 G 16264024.19 16264024.37 16264024.57 0.0524 0.0309 Saturn 39823-04-12 14:10 G 16266212.89 16266213.09 16266213.30 0.0303 0.0156 Jupiter 39823-11-07 23:46 G 16266422.31 16266422.49 16266422.69 0.0499 0.0294 Jupiter 39829-04-19 18:29 G 16268412.05 16268412.27 16268412.49 0.0525 0.0175 Pluto 39830-12-19 04:05 G 16269020.58 16269020.67 16269020.82 0.0078 0.0070 Jupiter 39834-10-11 04:05 G 16270412.55 16270412.67 16270412.81 0.0502 0.0413 Jupiter 39835-11-12 13:12 G 16270809.91 16270810.05 16270810.18 0.0498 0.0406 Saturn 39836-10-05 22:48 G 16271138.22 16271138.45 16271138.68 0.0261 0.0094 Uranus 39837-05-06 14:24 G 16271351.00 16271351.10 16271351.24 0.0135 0.0119 Uranus 39838-05-10 23:17 G 16271720.24 16271720.47 16271720.71 0.0135 0.0049 Uranus 39839-05-15 08:38 G 16272089.61 16272089.86 16272090.11 0.0135 0.0021 Uranus 39840-05-18 18:00 G 16272459.08 16272459.25 16272459.45 0.0135 0.0092 Jupiter 39841-04-24 16:34 G 16272799.96 16272800.19 16272800.43 0.0526 0.0042 Jupiter 39846-10-15 18:58 G 16274800.11 16274800.29 16274800.49 0.0501 0.0295 39849-03-01 02:10 G 16275667.48 16275667.59 16275667.70 0.1636 0.1304 Mars Neptune 39851-09-23 20:53 G 16276604.27 16276604.37 16276604.54 0.0088 0.0075 Saturn 39852-04-04 22:34 G 16276798.23 16276798.44 16276798.66 0.0301 0.0132 Neptune 39852-09-25 08:53 G 16276971.67 16276971.87 16276972.08 0.0088 0.0053 Jupiter 39853-04-29 18:43 G 16277188.05 16277188.28 16277188.50 0.0526 0.0101 Neptune 39853-09-27 20:24 G 16277339.11 16277339.35 16277339.59 0.0088 0.0032 Neptune 39854-09-30 07:26 G 16277706.56 16277706.81 16277707.07 0.0088 0.0011 39855-08-30 08:10 G 16278040.67 16278040.84 16278041.01 0.1901 0.0981 Mars Neptune 39855-10-02 18:58 G 16278074.03 16278074.29 16278074.55 0.0088 0.0010 Neptune 39856-10-04 06:00 G 16278441.52 16278441.75 16278442.01 0.0088 0.0032 Neptune 39857-10-06 17:02 G 16278809.02 16278809.21 16278809.44 0.0088 0.0053 Neptune 39858-10-09 04:19 G 16279176.57 16279176.68 16279176.85 0.0088 0.0074 Jupiter 39858-10-20 04:19 G 16279187.46 16279187.68 16279187.90 0.0501 0.0183 Jupiter 39865-05-04 20:53 G 16281576.16 16281576.37 16281576.58 0.0527 0.0242 Saturn 39866-10-12 15:50 G 16282101.95 16282102.16 16282102.38 0.0260 0.0121 Jupiter 39870-10-24 18:00 G 16283575.01 16283575.25 16283575.48 0.0500 0.0064 Jupiter 39877-05-09 19:26 G 16285964.15 16285964.31 16285964.47 0.0527 0.0376 Uranus 39877-11-06 03:07 G 16286144.59 16286144.63 16286144.73 0.0144 0.0138 Uranus 39878-11-11 03:07 G 16286514.39 16286514.63 16286514.87 0.0144 0.0052 Uranus 39879-11-16 01:55 G 16286884.34 16286884.58 16286884.84 0.0143 0.0034 Uranus 39880-11-20 00:14 G 16287254.38 16287254.51 16287254.66 0.0143 0.0117 Saturn 39882-04-13 11:02 G 16287763.79 16287763.96 16287764.15 0.0303 0.0201 Jupiter 39882-10-29 08:24 G 16287962.61 16287962.85 16287963.08 0.0500 0.0055 Jupiter 39888-04-09 07:12 G 16289951.69 16289951.80 16289951.91 0.0523 0.0451 Jupiter 39889-05-14 18:58 G 16290352.24 16290352.29 16290352.35 0.0527 0.0510 Jupiter 39894-11-02 22:48 G 16292350.24 16292350.45 16292350.67 0.0499 0.0173 Saturn 39895-10-07 20:38 G 16292689.12 16292689.36 16292689.61 0.0261 0.0055 Jupiter 39900-04-15 03:50 G 16294339.48 16294339.66 16294339.85 0.0524 0.0322 Jupiter 39906-11-08 12:00 G 16296737.81 16296738.00 16296738.19 0.0499 0.0289 Saturn 39911-04-07 18:00 G 16298349.02 16298349.25 16298349.49 0.0301 0.0091 Jupiter 39912-04-20 05:17 G 16298727.50 16298727.72 16298727.94 0.0525 0.0184 Jupiter 39917-10-11 10:19 G 16300727.81 16300727.93 16300728.06 0.0502 0.0426 Jupiter 39918-11-12 19:55 G 16301125.19 16301125.33 16301125.47 0.0499 0.0399 Uranus 39921-05-07 22:34 G 16302032.33 16302032.44 16302032.58 0.0134 0.0117

Uranus 39922-05-12 07:26 G 16302401.58 16302401.81 16302402.05 0.0135 0.0047 Uranus 39923-05-16 16:34 G 16302770.94 16302771.19 16302771.44 0.0135 0.0023 Jupiter 39924-04-25 07:12 G 16303115.57 16303115.80 16303116.03 0.0526 0.0045 Uranus 39924-05-20 01:41 G 16303140.41 16303140.57 16303140.78 0.0135 0.0095 Saturn 39924-10-03 01:26 G 16303276.45 16303276.56 16303276.67 0.0262 0.0232 Saturn 39925-10-14 12:43 G 16303652.84 16303653.03 16303653.23 0.0260 0.0159 Jupiter 39929-10-16 00:43 G 16305115.35 16305115.53 16305115.72 0.0502 0.0309 Neptune 39934-03-24 21:07 G 16306736.32 16306736.38 16306736.50 0.0089 0.0084 Neptune 39935-03-27 09:22 G 16307103.72 16307103.89 16307104.09 0.0089 0.0062 Neptune 39936-03-28 21:22 G 16307471.18 16307471.39 16307471.64 0.0089 0.0040 Jupiter 39936-04-30 05:17 G 16307503.49 16307503.72 16307503.95 0.0526 0.0092 Neptune 39937-03-31 09:36 G 16307838.66 16307838.90 16307839.16 0.0089 0.0017 Neptune 39938-04-02 21:50 G 16308206.16 16308206.41 16308206.67 0.0089 0.0006 Neptune 39939-04-05 09:36 G 16308573.67 16308573.90 16308574.16 0.0089 0.0028 Neptune 39940-04-06 21:36 G 16308941.20 16308941.40 16308941.63 0.0089 0.0050 Neptune 39941-04-09 09:36 G 16309308.76 16309308.90 16309309.07 0.0090 0.0072 Saturn 39941-04-15 05:17 G 16309314.58 16309314.72 16309314.87 0.0303 0.0242 Jupiter 39941-10-20 16:05 G 16309502.96 16309503.17 16309503.39 0.0501 0.0191 Jupiter 39948-05-05 04:19 G 16311891.48 16311891.68 16311891.90 0.0526 0.0231 Jupiter 39953-10-25 07:41 G 16313890.59 16313890.82 16313891.05 0.0500 0.0070 Saturn 39954-10-09 16:34 G 16314239.95 16314240.19 16314240.44 0.0261 0.0019 Jupiter 39960-05-10 04:05 G 16316279.50 16316279.67 16316279.83 0.0527 0.0368 Uranus 39961-11-07 12:00 G 16316825.94 16316826.00 16316826.11 0.0144 0.0135 Uranus 39962-11-12 12:14 G 16317195.77 16317196.01 16317196.25 0.0144 0.0049 Uranus 39963-11-17 11:17 G 16317565.73 16317565.97 16317566.22 0.0143 0.0037 Uranus 39964-11-21 09:36 G 16317935.78 16317935.90 16317936.05 0.0143 0.0120 Jupiter 39965-10-29 22:05 G 16318278.19 16318278.42 16318278.65 0.0500 0.0051 Saturn 39970-04-08 10:34 G 16319899.70 16319899.94 16319900.18 0.0301 0.0053 Jupiter 39971-04-10 18:58 G 16320267.19 16320267.29 16320267.41 0.0523 0.0460 Jupiter 39972-05-15 07:41 G 16320667.76 16320667.82 16320667.88 0.0527 0.0508

Jupiter 39977-11-03 06:29 G 16322665.54 16322665.77 16322665.99 0.0499 0.0164

Jupiter 39983-04-15 20:10 G 16324655.16 16324655.34 16324655.52 0.0524 0.0326

Saturn 39983-10-04 20:38 G 16324827.21 16324827.36 16324827.54 0.0262 0.0197

Saturn 39984-10-15 07:55 G 16325203.68 16325203.83 16325204.00 0.0260 0.0196

Jupiter 39989-11-07 19:26 G 16327053.12 16327053.31 16327053.50 0.0499 0.0281

Pluto 39991-06-21 12:00 G 16327643.76 16327644.00 16327644.27 0.0066 0.0015

Jupiter 39995-04-20 18:00 G 16329043.04 16329043.25 16329043.47 0.0525 0.0193

Saturn 40000-04-15 21:36 G 16330865.31 16330865.40 16330865.49 0.0303 0.0280

Jupiter 40000-10-10 22:34 G 16331043.33 16331043.44 16331043.55 0.0503 0.0436

## 41ST MILLENNIUM CE

## This is a list of transits of Earth in the 41st millennium CE.

FROM	MAX-	С	START	MAX	END	SUNRAD	DEPTH	S
	TRANSIT							
	TIME							

Jupiter 40001-11-12 09:22 G 16331440.76 16331440.89 16331441.04 0.0499 0.0397

Uranus 40005-05-08 07:55 G 16332713.71 16332713.83 16332713.98 0.0134 0.0113

Uranus 40006-05-12 16:34 G 16333082.96 16333083.19 16333083.44 0.0135 0.0044

Jupiter 40007-04-25 16:19 G 16333430.95 16333431.18 16333431.41 0.0525 0.0056

Uranus 40007-05-17 01:55 G 16333452.33 16333452.58 16333452.83 0.0135 0.0026

Uranus 40008-05-20 10:48 G 16333821.80 16333821.95 16333822.15 0.0135 0.0098

Jupiter 40012-10-15 15:07 G 16335430.95 16335431.13 16335431.31 0.0502 0.0317

Saturn 40013-10-10 12:00 G 16335790.76 16335791.00 16335791.25 0.0261 0.0019

Neptune 40015-09-24 06:29 G 16336504.74 16336504.77 16336504.85 0.0088 0.0086

Neptune 40016-09-25 18:00 G 16336872.10 16336872.25 16336872.45 0.0088 0.0065

Neptune 40017-09-28 05:31 G 16337239.52 16337239.73 16337239.97 0.0088 0.0043 Neptune 40018-09-30 17:02 G 16337606.96 16337607.21 16337607.47 0.0088 0.0022 Jupiter 40019-04-30 14:38 G 16337818.88 16337819.11 16337819.34 0.0526 0.0082 Neptune 40019-10-03 04:34 G 16337974.43 16337974.69 16337974.95 0.0088 0.0001 Neptune 40020-10-04 15:36 G 16338341.91 16338342.15 16338342.41 0.0088 0.0021 Neptune 40021-10-07 02:53 G 16338709.40 16338709.62 16338709.86 0.0088 0.0042 Neptune 40022-10-09 14:10 G 16339076.92 16339077.09 16339077.27 0.0088 0.0063 Neptune 40023-10-12 00:58 G 16339444.51 16339444.54 16339444.64 0.0088 0.0085 Jupiter 40024-10-20 06:29 G 16339818.55 16339818.77 16339818.98 0.0501 0.0195 Saturn 40029-04-09 03:36 G 16341450.41 16341450.65 16341450.89 0.0301 0.0014 Jupiter 40031-05-05 17:17 G 16342207.01 16342207.22 16342207.43 0.0527 0.0227 Jupiter 40036-10-24 15:50 G 16344205.93 16344206.16 16344206.39 0.0500 0.0081 Saturn 40042-10-05 15:36 G 16346377.97 16346378.15 16346378.36 0.0262 0.0160 Jupiter 40043-05-10 20:10 G 16346595.18 16346595.34 16346595.51 0.0527 0.0368 Saturn 40043-10-17 02:53 G 16346754.52 16346754.62 16346754.74 0.0260 0.0232 Uranus 40045-11-07 18:29 G 16347507.19 16347507.27 16347507.37 0.0144 0.0134 Uranus 40046-11-12 18:14 G 16347877.04 16347877.26 16347877.52 0.0144 0.0049 Uranus 40047-11-17 17:46 G 16348247.01 16348247.24 16348247.50 0.0143 0.0038 Jupiter 40048-10-29 05:17 G 16348593.49 16348593.72 16348593.96 0.0500 0.0041 Uranus 40048-11-21 16:05 G 16348617.06 16348617.17 16348617.33 0.0143 0.0122 40054-03-01 05:46 G 16350542.55 16350542.74 16350542.92 0.1629 0.0117 Mars Jupiter 40054-04-10 08:38 G 16350582.76 16350582.86 16350582.96 0.0523 0.0471 Jupiter 40055-05-15 19:26 G 16350983.24 16350983.31 16350983.38 0.0527 0.0501 Saturn 40058-04-02 12:43 G 16352036.01 16352036.03 16352036.09 0.0300 0.0295 Jupiter 40060-11-02 19:41 G 16352981.10 16352981.32 16352981.54 0.0500 0.0158 Jupiter 40066-04-15 06:00 G 16354970.58 16354970.75 16354970.93 0.0524 0.0338 Saturn 40072-10-11 07:26 G 16357341.57 16357341.81 16357342.06 0.0261 0.0056 Jupiter 40072-11-07 10:05 G 16357368.73 16357368.92 16357369.12 0.0499 0.0277 Jupiter 40078-04-20 02:53 G 16359358.41 16359358.62 16359358.83 0.0525 0.0204 Pluto 40078-12-23 05:17 G 16359605.50 16359605.72 16359605.94 0.0078 0.0041

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Jupiter 40327-04-21 20:10 G 16450304.15 16450304.34 16450304.55 0.0524 0.0259 Jupiter 40332-10-12 05:31 G 16452304.71 16452304.73 16452304.76 0.0502 0.0499 Jupiter 40333-11-13 15:36 G 16452702.00 16452702.15 16452702.32 0.0498 0.0353 Saturn 40337-10-14 16:34 G 16454132.95 16454133.19 16454133.43 0.0263 0.0067 Mars 40338-03-05 11:46 G 16454274.83 16454274.99 16454275.15 0.1625 0.0884 Jupiter 40339-04-26 18:14 G 16454692.04 16454692.26 16454692.49 0.0526 0.0122 Uranus 40341-05-13 02:24 G 16455439.44 16455439.60 16455439.78 0.0134 0.0100 Uranus 40342-05-17 10:48 G 16455808.71 16455808.95 16455809.21 0.0135 0.0031 Uranus 40343-05-21 19:41 G 16456178.09 16456178.32 16456178.58 0.0135 0.0040 Uranus 40344-05-25 04:48 G 16456547.58 16456547.70 16456547.87 0.0135 0.0111 Jupiter 40344-10-16 18:43 G 16456692.14 16456692.28 16456692.44 0.0501 0.0381 Neptune 40345-09-29 22:05 G 16457040.28 16457040.42 16457040.62 0.0088 0.0067 Jupiter 40345-11-18 02:24 G 16457089.53 16457089.60 16457089.69 0.0498 0.0468 Neptune 40346-10-02 09:50 G 16457407.70 16457407.91 16457408.15 0.0088 0.0045 Neptune 40347-10-04 21:36 G 16457775.15 16457775.40 16457775.65 0.0088 0.0023 Neptune 40348-10-06 08:38 G 16458142.61 16458142.86 16458143.12 0.0088 0.0002 Neptune 40349-10-08 19:55 G 16458510.08 16458510.33 16458510.59 0.0088 0.0020 Neptune 40350-10-11 06:43 G 16458877.58 16458877.78 16458878.03 0.0088 0.0042 Jupiter 40351-05-01 16:48 G 16459079.96 16459080.20 16459080.43 0.0526 0.0020 Neptune 40351-10-13 18:00 G 16459245.09 16459245.25 16459245.45 0.0088 0.0063 Neptune 40352-10-15 05:17 G 16459612.66 16459612.72 16459612.81 0.0088 0.0084 Saturn 40353-04-12 21:36 G 16459792.16 16459792.40 16459792.64 0.0300 0.0023 Jupiter 40356-10-21 06:29 G 16461079.58 16461079.77 16461079.98 0.0501 0.0263 Jupiter 40363-05-06 14:38 G 16463467.89 16463468.11 16463468.33 0.0526 0.0160 Saturn 40366-10-10 00:58 G 16464720.32 16464720.54 16464720.77 0.0264 0.0107 Jupiter 40368-10-25 19:41 G 16465467.09 16465467.32 16465467.54 0.0501 0.0141 Jupiter 40375-05-11 11:02 G 16467855.77 16467855.96 16467856.15 0.0527 0.0299 Jupiter 40380-10-30 08:38 G 16469854.63 16469854.86 16469855.10 0.0500 0.0019 Uranus 40381-11-12 15:50 G 16470233.03 16470233.16 16470233.32 0.0144 0.0117 Saturn 40382-04-06 21:50 G 16470378.27 16470378.41 16470378.57 0.0298 0.0235

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Jupiter 40446-05-05 09:22 G 16493782.67 16493782.89 16493783.12 0.0526 0.0132 Jupiter 40451-10-25 20:38 G 16495782.14 16495782.36 16495782.58 0.0500 0.0165 Saturn 40454-10-06 19:26 G 16496859.19 16496859.31 16496859.46 0.0265 0.0221 Saturn 40455-10-18 12:14 G 16497235.85 16497236.01 16497236.19 0.0262 0.0186 Jupiter 40458-05-10 07:55 G 16498170.63 16498170.83 16498171.03 0.0527 0.0271 Jupiter 40463-10-30 08:24 G 16500169.61 16500169.85 16500170.08 0.0500 0.0043 Uranus 40465-11-13 05:17 G 16500914.56 16500914.72 16500914.88 0.0144 0.0111 Uranus 40466-11-18 05:17 G 16501284.48 16501284.72 16501284.98 0.0144 0.0026 Uranus 40467-11-23 04:48 G 16501654.48 16501654.70 16501654.94 0.0143 0.0060 Jupiter 40470-05-15 06:43 G 16502558.65 16502558.78 16502558.93 0.0527 0.0412 Saturn 40471-04-17 18:58 G 16502896.11 16502896.29 16502896.47 0.0301 0.0206 Jupiter 40475-11-03 18:14 G 16504557.03 16504557.26 16504557.49 0.0500 0.0074 Jupiter 40481-04-14 18:58 G 16506546.18 16506546.29 16506546.41 0.0523 0.0451 Saturn 40484-10-12 23:31 G 16507823.23 16507823.48 16507823.72 0.0263 0.0017 Pluto 40486-06-27 13:55 G 16508445.84 16508446.08 16508446.33 0.0066 0.0021 Jupiter 40487-11-08 05:46 G 16508944.53 16508944.74 16508944.96 0.0499 0.0196 Jupiter 40493-04-19 13:26 G 16510933.89 16510934.06 16510934.25 0.0524 0.0319 Jupiter 40499-11-12 18:00 G 16513332.07 16513332.25 16513332.43 0.0499 0.0315 Saturn 40500-04-11 20:38 G 16513482.12 16513482.36 16513482.60 0.0299 0.0052 Jupiter 40505-04-25 09:50 G 16515321.70 16515321.91 16515322.13 0.0525 0.0181 Uranus 40509-05-15 00:14 G 16516802.34 16516802.51 16516802.71 0.0134 0.0092 Neptune 40509-09-30 05:17 G 16516940.63 16516940.72 16516940.85 0.0088 0.0079 Uranus 40510-05-19 08:38 G 16517171.61 16517171.86 16517172.11 0.0135 0.0022 Neptune 40510-10-02 17:02 G 16517308.03 16517308.21 16517308.42 0.0088 0.0057 Jupiter 40510-10-16 18:58 G 16517322.18 16517322.29 16517322.42 0.0502 0.0430 Uranus 40511-05-23 17:02 G 16517540.98 16517541.21 16517541.46 0.0135 0.0048 Neptune 40511-10-05 04:19 G 16517675.46 16517675.68 16517675.93 0.0088 0.0036 Jupiter 40511-11-18 04:34 G 16517719.57 16517719.69 16517719.81 0.0498 0.0429 Uranus 40512-05-27 02:10 G 16517910.47 16517910.59 16517910.72 0.0135 0.0118 Neptune 40512-10-06 16:05 G 16518042.92 16518043.17 16518043.43 0.0088 0.0014

Neptune 40513-10-09 03:36 G 16518410.39 16518410.65 16518410.91 0.0088 0.0008 Saturn 40513-10-09 08:24 G 16518410.66 16518410.85 16518411.06 0.0264 0.0157 \* Neptune 40514-10-11 14:38 G 16518777.88 16518778.11 16518778.36 0.0088 0.0030 Saturn 40514-10-21 00:00 G 16518787.44 16518787.50 16518787.59 0.0262 0.0248 Neptune 40515-10-14 02:10 G 16519145.38 16519145.59 16519145.80 0.0088 0.0051 Neptune 40516-10-15 12:58 G 16519512.91 16519513.04 16519513.19 0.0088 0.0073 Jupiter 40517-04-30 06:43 G 16519709.55 16519709.78 16519710.01 0.0526 0.0043 Jupiter 40522-10-21 08:10 G 16521709.66 16521709.84 16521710.03 0.0501 0.0309 Jupiter 40529-05-05 06:00 G 16524097.52 16524097.75 16524097.97 0.0526 0.0102 Saturn 40530-04-20 18:14 G 16524448.23 16524448.26 16524448.29 0.0301 0.0298 Jupiter 40534-10-25 18:00 G 16526097.03 16526097.25 16526097.47 0.0501 0.0190 Jupiter 40541-05-10 05:02 G 16528485.51 16528485.71 16528485.92 0.0526 0.0245 Mars 40543-03-05 16:48 G 16529150.01 16529150.20 16529150.38 0.1620 0.0245 Saturn 40543-10-16 11:17 G 16529374.73 16529374.97 16529375.21 0.0262 0.0078 Jupiter 40546-10-30 06:14 G 16530484.53 16530484.76 16530485.00 0.0500 0.0068 Uranus 40549-11-14 15:22 G 16531595.97 16531596.14 16531596.31 0.0144 0.0108 Uranus 40550-11-19 15:36 G 16531965.90 16531966.15 16531966.40 0.0144 0.0022 Uranus 40551-11-24 14:53 G 16532335.91 16532336.12 16532336.36 0.0144 0.0065 Jupiter 40553-05-15 01:26 G 16532873.40 16532873.56 16532873.72 0.0527 0.0384 Jupiter 40558-11-03 19:26 G 16534872.07 16534872.31 16534872.54 0.0500 0.0055 Saturn 40559-04-14 17:31 G 16535033.99 16535034.23 16535034.47 0.0300 0.0036 Jupiter 40564-04-14 14:10 G 16536861.00 16536861.09 16536861.18 0.0523 0.0480 Jupiter 40565-05-20 00:00 G 16537261.49 16537261.50 16537261.53 0.0527 0.0524 Jupiter 40570-11-08 07:55 G 16539259.61 16539259.83 16539260.05 0.0499 0.0175 Saturn 40572-10-10 20:38 G 16539962.13 16539962.36 16539962.59 0.0264 0.0095 Pluto 40573-12-30 08:10 G 16540407.67 16540407.84 16540408.05 0.0078 0.0052 Jupiter 40576-04-19 09:07 G 16541248.71 16541248.88 16541249.06 0.0524 0.0349 Jupiter 40582-11-12 19:26 G 16543647.12 16543647.31 16543647.50 0.0498 0.0296 Saturn 40588-04-07 16:19 G 16545620.02 16545620.18 16545620.34 0.0298 0.0225 Jupiter 40588-04-24 08:10 G 16545636.62 16545636.84 16545637.05 0.0525 0.0209

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Jupiter 40648-05-20 00:14 G 16567576.46 16567576.51 16567576.59 0.0527 0.0505 Jupiter 40653-11-08 07:41 G 16569574.60 16569574.82 16569575.05 0.0499 0.0156 Jupiter 40659-04-20 13:55 G 16571563.92 16571564.08 16571564.25 0.0523 0.0366 Saturn 40660-10-08 13:41 G 16572100.93 16572101.07 16572101.22 0.0264 0.0215 Saturn 40661-10-20 05:46 G 16572477.58 16572477.74 16572477.92 0.0262 0.0193 Jupiter 40665-11-12 19:55 G 16573962.14 16573962.33 16573962.53 0.0499 0.0279 Jupiter 40671-04-25 09:50 G 16575951.70 16575951.91 16575952.12 0.0524 0.0230 Neptune 40674-10-02 23:17 G 16577208.34 16577208.47 16577208.65 0.0088 0.0070 Neptune 40675-10-05 11:02 G 16577575.76 16577575.96 16577576.19 0.0088 0.0048 Neptune 40676-10-06 22:48 G 16577943.21 16577943.45 16577943.70 0.0088 0.0026 Jupiter 40676-10-15 19:26 G 16577952.24 16577952.31 16577952.39 0.0503 0.0475 Saturn 40677-04-18 21:50 G 16578137.22 16578137.41 16578137.60 0.0301 0.0187 Uranus 40677-05-16 23:31 G 16578165.30 16578165.48 16578165.70 0.0134 0.0083 Neptune 40677-10-09 10:19 G 16578310.67 16578310.93 16578311.19 0.0088 0.0004 Jupiter 40677-11-17 08:53 G 16578349.74 16578349.87 16578350.02 0.0499 0.0399 Uranus 40678-05-21 07:41 G 16578534.57 16578534.82 16578535.08 0.0134 0.0014 Neptune 40678-10-11 21:22 G 16578678.15 16578678.39 16578678.66 0.0088 0.0018 Uranus 40679-05-25 15:50 G 16578903.94 16578904.16 16578904.40 0.0135 0.0057 Neptune 40679-10-14 08:24 G 16579045.64 16579045.85 16579046.10 0.0088 0.0040 Uranus 40680-05-29 00:43 G 16579273.45 16579273.53 16579273.63 0.0135 0.0126 Neptune 40680-10-15 19:55 G 16579413.15 16579413.33 16579413.52 0.0088 0.0061 Neptune 40681-10-18 06:43 G 16579780.72 16579780.78 16579780.89 0.0088 0.0083 Jupiter 40683-04-30 06:43 G 16580339.55 16580339.78 16580340.00 0.0525 0.0089 Jupiter 40688-10-20 12:00 G 16582339.83 16582340.00 16582340.17 0.0502 0.0350 Saturn 40690-10-15 12:58 G 16583064.79 16583065.04 16583065.29 0.0263 0.0016 Jupiter 40695-05-05 03:50 G 16584727.43 16584727.66 16584727.89 0.0526 0.0055 Jupiter 40700-10-26 02:24 G 16586727.39 16586727.60 16586727.81 0.0501 0.0225 Saturn 40706-04-13 13:41 G 16588722.84 16588723.07 16588723.31 0.0299 0.0090 Jupiter 40707-05-11 04:48 G 16589115.48 16589115.70 16589115.91 0.0526 0.0201 Jupiter 40712-10-30 11:31 G 16591114.75 16591114.98 16591115.21 0.0501 0.0105

Uranus 40717-11-17 08:53 G 16592958.70 16592958.87 16592959.06 0.0144 0.0103 Uranus 40718-11-22 09:36 G 16593328.64 16593328.90 16593329.15 0.0144 0.0016 Jupiter 40719-05-16 06:00 G 16593503.59 16593503.75 16593503.93 0.0527 0.0349 Saturn 40719-10-11 18:58 G 16593652.10 16593652.29 16593652.49 0.0264 0.0163 Uranus 40719-11-27 09:07 G 16593698.67 16593698.88 16593699.11 0.0144 0.0070 Saturn 40720-10-22 10:19 G 16594028.85 16594028.93 16594029.03 0.0261 0.0242 Jupiter 40724-11-04 00:43 G 16595502.30 16595502.53 16595502.77 0.0500 0.0022 Jupiter 40730-04-15 20:38 G 16597491.36 16597491.36 16597491.38 0.0522 0.0521 Jupiter 40731-05-21 04:05 G 16597891.58 16597891.67 16597891.75 0.0527 0.0488 Pluto 40733-07-01 01:12 G 16598663.35 16598663.55 16598663.78 0.0066 0.0037 Pluto 40734-07-02 15:07 G 16599029.99 16599030.13 16599030.30 0.0066 0.0053 Saturn 40736-04-21 02:24 G 16599688.48 16599688.60 16599688.75 0.0301 0.0248 Jupiter 40736-11-08 14:53 G 16599889.90 16599890.12 16599890.34 0.0500 0.0144 Jupiter 40742-04-20 16:48 G 16601879.05 16601879.20 16601879.36 0.0523 0.0387 Mars 40748-03-05 22:48 G 16604025.35 16604025.45 16604025.56 0.1615 0.1336 Jupiter 40748-11-13 05:17 G 16604277.53 16604277.72 16604277.92 0.0499 0.0268 Saturn 40749-10-17 15:36 G 16604615.91 16604616.15 16604616.39 0.0262 0.0063 Jupiter 40754-04-25 12:43 G 16606266.83 16606267.03 16606267.24 0.0524 0.0249 Neptune 40757-04-02 23:17 G 16607340.38 16607340.47 16607340.61 0.0089 0.0080 Neptune 40758-04-05 11:17 G 16607707.80 16607707.97 16607708.19 0.0089 0.0058 Neptune 40759-04-07 23:17 G 16608075.25 16608075.47 16608075.72 0.0089 0.0035 Jupiter 40759-10-17 04:34 G 16608267.64 16608267.69 16608267.76 0.0503 0.0487 Neptune 40760-04-09 11:31 G 16608442.73 16608442.98 16608443.24 0.0089 0.0012 Jupiter 40760-11-17 18:00 G 16608665.11 16608665.25 16608665.40 0.0499 0.0390 Neptune 40761-04-11 23:02 G 16608810.22 16608810.46 16608810.73 0.0089 0.0012 Uranus 40761-05-18 12:00 G 16608846.81 16608847.00 16608847.22 0.0134 0.0078 Neptune 40762-04-14 11:17 G 16609177.74 16609177.97 16609178.21 0.0089 0.0034 Uranus 40762-05-22 20:10 G 16609216.09 16609216.34 16609216.60 0.0134 0.0008 Neptune 40763-04-16 23:17 G 16609545.28 16609545.47 16609545.67 0.0090 0.0057 Uranus 40763-05-27 04:34 G 16609585.46 16609585.69 16609585.91 0.0135 0.0061

Neptune 40764-04-18 11:02 G 16609912.86 16609912.96 16609913.09 0.0090 0.0080 Uranus 40764-05-30 13:12 G 16609955.00 16609955.05 16609955.11 0.0135 0.0131 Saturn 40765-04-14 15:22 G 16610273.90 16610274.14 16610274.38 0.0299 0.0037 Jupiter 40766-04-30 13:26 G 16610654.83 16610655.06 16610655.29 0.0525 0.0103 Jupiter 40771-10-21 14:53 G 16612654.97 16612655.12 16612655.28 0.0502 0.0368 Jupiter 40778-05-05 14:38 G 16615042.88 16615043.11 16615043.34 0.0525 0.0046 Saturn 40778-10-12 20:10 G 16615203.12 16615203.34 16615203.56 0.0264 0.0118 Jupiter 40783-10-26 05:17 G 16617042.52 16617042.72 16617042.93 0.0502 0.0243 40786-09-07 01:55 G 16618089.41 16618089.58 16618089.75 0.1917 0.1061 Mars Jupiter 40790-05-10 12:29 G 16619430.81 16619431.02 16619431.24 0.0526 0.0188 Saturn 40795-04-23 01:55 G 16621239.55 16621239.58 16621239.62 0.0302 0.0297 Jupiter 40795-10-30 20:24 G 16621430.13 16621430.35 16621430.58 0.0501 0.0118 Uranus 40801-11-17 20:38 G 16623640.20 16623640.36 16623640.57 0.0144 0.0099 Jupiter 40802-05-15 10:48 G 16623818.78 16623818.95 16623819.14 0.0526 0.0333 Uranus 40802-11-22 21:36 G 16624010.14 16624010.40 16624010.65 0.0144 0.0011 Uranus 40803-11-27 21:07 G 16624380.18 16624380.38 16624380.61 0.0144 0.0075 Jupiter 40807-11-04 12:14 G 16625817.77 16625818.01 16625818.24 0.0500 0.0011 Saturn 40808-10-18 14:38 G 16626166.90 16626167.11 16626167.35 0.0262 0.0106 Jupiter 40814-05-20 10:05 G 16628206.82 16628206.92 16628207.01 0.0527 0.0476 Jupiter 40819-11-09 02:24 G 16630205.37 16630205.60 16630205.82 0.0500 0.0138 Pluto 40821-01-01 12:43 G 16630624.84 16630625.03 16630625.27 0.0078 0.0045 Saturn 40824-04-15 12:14 G 16631824.76 16631825.01 16631825.25 0.0299 0.0008 Jupiter 40825-04-20 01:55 G 16632194.44 16632194.58 16632194.74 0.0523 0.0399 40827-03-09 00:00 G 16632882.32 16632882.50 16632882.67 0.1617 0.0550 Mars Jupiter 40831-11-13 10:48 G 16634592.75 16634592.95 16634593.15 0.0499 0.0257 Jupiter 40837-04-25 02:53 G 16636582.42 16636582.62 16636582.82 0.0524 0.0256 Saturn 40837-10-13 17:46 G 16636754.01 16636754.24 16636754.48 0.0264 0.0078 Neptune 40838-10-03 05:31 G 16637108.67 16637108.73 16637108.84 0.0088 0.0083 Neptune 40839-10-05 17:02 G 16637476.05 16637476.21 16637476.42 0.0088 0.0061 Neptune 40840-10-07 04:48 G 16637843.48 16637843.70 16637843.94 0.0088 0.0039

Neptune 40841-10-09 16:19 G 16638210.94 16638211.18 16638211.45 0.0088 0.0017 Neptune 40842-10-12 03:50 G 16638578.40 16638578.66 16638578.92 0.0088 0.0005 Neptune 40843-10-14 15:22 G 16638945.89 16638946.14 16638946.39 0.0088 0.0027 Jupiter 40843-11-18 00:00 G 16638980.35 16638980.50 16638980.65 0.0499 0.0380 Neptune 40844-10-16 02:24 G 16639313.40 16639313.60 16639313.83 0.0088 0.0049 Uranus 40845-05-19 02:10 G 16639528.38 16639528.59 16639528.81 0.0134 0.0072 Neptune 40845-10-18 13:26 G 16639680.93 16639681.06 16639681.23 0.0088 0.0071 Uranus 40846-05-23 10:19 G 16639897.67 16639897.93 16639898.18 0.0134 0.0004 Uranus 40847-05-27 18:29 G 16640267.05 16640267.27 16640267.49 0.0135 0.0067 Jupiter 40849-04-30 00:29 G 16640970.29 16640970.52 16640970.75 0.0524 0.0114 Saturn 40853-04-09 00:14 G 16642410.42 16642410.51 16642410.61 0.0298 0.0271 Jupiter 40854-10-21 01:12 G 16642970.41 16642970.55 16642970.72 0.0503 0.0381 Jupiter 40861-05-04 22:34 G 16645358.20 16645358.44 16645358.67 0.0525 0.0033 Jupiter 40866-10-25 18:14 G 16647358.06 16647358.26 16647358.47 0.0502 0.0251 Saturn 40867-10-20 11:02 G 16647717.76 16647717.96 16647718.17 0.0262 0.0144 Jupiter 40873-05-09 20:10 G 16649746.13 16649746.34 16649746.56 0.0526 0.0177 Jupiter 40878-10-30 09:36 G 16651745.68 16651745.90 16651746.13 0.0501 0.0124 Saturn 40883-04-17 05:17 G 16653375.48 16653375.72 16653375.96 0.0299 0.0046 Jupiter 40885-05-14 22:34 G 16654134.26 16654134.44 16654134.62 0.0526 0.0328 Uranus 40885-11-18 12:29 G 16654321.84 16654322.02 16654322.23 0.0144 0.0090 Uranus 40886-11-23 13:12 G 16654691.80 16654692.05 16654692.31 0.0144 0.0004 Uranus 40887-11-28 12:58 G 16655061.84 16655062.04 16655062.25 0.0144 0.0082 Jupiter 40890-11-03 19:26 G 16656133.07 16656133.31 16656133.54 0.0500 0.0009 Saturn 40896-10-14 13:26 G 16658304.82 16658305.06 16658305.31 0.0264 0.0040 Jupiter 40897-05-20 01:12 G 16658522.46 16658522.55 16658522.66 0.0527 0.0476 Jupiter 40902-11-09 08:53 G 16660520.65 16660520.87 16660521.10 0.0500 0.0126 Jupiter 40908-04-20 15:36 G 16662510.01 16662510.15 16662510.29 0.0523 0.0410 Saturn 40912-04-10 16:34 G 16663961.05 16663961.19 16663961.35 0.0298 0.0234 Jupiter 40914-11-13 23:46 G 16664908.29 16664908.49 16664908.69 0.0500 0.0251 Jupiter 40920-04-25 12:43 G 16666897.83 16666898.03 16666898.23 0.0523 0.0269

Neptune 40922-04-05 16:19 G 16667608.05 16667608.18 16667608.36 0.0089 0.0072 Neptune 40923-04-08 04:34 G 16667975.49 16667975.69 16667975.92 0.0089 0.0049 Neptune 40924-04-09 16:19 G 16668342.95 16668343.18 16668343.44 0.0089 0.0026 Neptune 40925-04-12 04:34 G 16668710.43 16668710.69 16668710.95 0.0089 0.0003 Saturn 40925-10-10 12:00 G 16668891.88 16668892.00 16668892.12 0.0265 0.0231 Neptune 40926-04-14 16:19 G 16669077.94 16669078.18 16669078.43 0.0090 0.0020 Saturn 40926-10-22 05:17 G 16669268.55 16669268.72 16669268.91 0.0262 0.0180 Jupiter 40926-11-18 14:24 G 16669295.96 16669296.10 16669296.26 0.0499 0.0377 Neptune 40927-04-17 03:50 G 16669445.45 16669445.66 16669445.90 0.0090 0.0044 Neptune 40928-04-18 15:36 G 16669813.01 16669813.15 16669813.35 0.0090 0.0067 Uranus 40928-05-16 08:10 G 16669840.84 16669840.84 16669840.86 0.0134 0.0134 Neptune 40929-04-21 03:50 G 16670180.66 16670180.66 16670180.70 0.0090 0.0089 Uranus 40929-05-20 15:22 G 16670209.94 16670210.14 16670210.38 0.0134 0.0066 Uranus 40930-05-24 23:46 G 16670579.23 16670579.49 16670579.74 0.0134 0.0004 Uranus 40931-05-29 07:55 G 16670948.62 16670948.83 16670949.05 0.0135 0.0073 Jupiter 40932-04-30 09:36 G 16671285.67 16671285.90 16671286.12 0.0524 0.0126 Jupiter 40937-10-21 15:36 G 16673286.01 16673286.15 16673286.31 0.0503 0.0387 Jupiter 40938-11-23 04:05 G 16673683.66 16673683.67 16673683.69 0.0499 0.0498 Saturn 40942-04-18 21:07 G 16674926.15 16674926.38 16674926.61 0.0299 0.0083 Jupiter 40944-05-05 10:34 G 16675673.71 16675673.94 16675674.18 0.0525 0.0026 Jupiter 40949-10-26 02:38 G 16677673.41 16677673.61 16677673.81 0.0502 0.0265 Saturn 40955-10-17 07:26 G 16679855.56 16679855.81 16679856.06 0.0264 0.0004 Jupiter 40956-05-10 12:29 G 16680061.81 16680062.02 16680062.25 0.0526 0.0175 Jupiter 40961-10-30 17:17 G 16682061.00 16682061.22 16682061.45 0.0501 0.0137 Jupiter 40968-05-15 11:46 G 16684449.80 16684449.99 16684450.17 0.0526 0.0319 Uranus 40969-11-20 03:50 G 16685003.46 16685003.66 16685003.88 0.0144 0.0083 Uranus 40970-11-25 04:48 G 16685373.44 16685373.70 16685373.95 0.0144 0.0005 Saturn 40971-04-12 08:24 G 16685511.68 16685511.85 16685512.04 0.0298 0.0197 Uranus 40971-11-30 04:34 G 16685743.50 16685743.69 16685743.89 0.0144 0.0090 Jupiter 40973-11-04 08:10 G 16686448.60 16686448.84 16686449.07 0.0501 0.0010

Jupiter 40980-05-20 10:34 G 16688837.84 16688837.94 16688838.05 0.0526 0.0465

Pluto 40981-07-04 00:58 G 16689247.29 16689247.54 16689247.80 0.0066 0.0012

Saturn 40984-10-11 06:00 G 16690442.59 16690442.75 16690442.92 0.0265 0.0195

Saturn 40985-10-22 23:31 G 16690819.35 16690819.48 16690819.63 0.0262 0.0216

Jupiter 40985-11-08 23:46 G 16690836.26 16690836.49 16690836.72 0.0500 0.0120

Jupiter 40991-04-21 00:29 G 16692825.40 16692825.52 16692825.67 0.0523 0.0424

Jupiter 40997-11-13 13:55 G 16695223.88 16695224.08 16695224.28 0.0500 0.0248

## **42ND MILLENNIUM CE**

## This is a list of transits of Earth in the 42nd millennium CE.

FROM	MAX-	С	START	MAX	END	SUNRAD	DEPTH	S
	TRANSIT							
	TIME							

Saturn 41001-04-20 13:55 G 16696476.86 16696477.08 16696477.31 0.0299 0.0123

Jupiter 41003-04-27 00:29 G 16697213.33 16697213.52 16697213.72 0.0524 0.0279

Neptune 41003-10-06 22:48 G 16697376.33 16697376.45 16697376.61 0.0088 0.0074

Neptune 41004-10-08 10:19 G 16697743.74 16697743.93 16697744.16 0.0088 0.0052

Neptune 41005-10-10 21:36 G 16698111.17 16698111.40 16698111.66 0.0088 0.0030

Neptune 41006-10-13 09:22 G 16698478.63 16698478.89 16698479.15 0.0088 0.0008

Neptune 41007-10-15 20:24 G 16698846.11 16698846.35 16698846.62 0.0088 0.0015

Neptune 41008-10-17 07:41 G 16699213.60 16699213.82 16699214.07 0.0088 0.0037

Neptune 41009-10-19 18:43 G 16699581.12 16699581.28 16699581.50 0.0088 0.0059

Jupiter 41009-11-18 22:48 G 16699611.29 16699611.45 16699918.88 0.0088 0.0081

Uranus 41012-05-17 21:50 G 16700522.36 16700522.41 16700522.51 0.0134 0.0128

Uranus 41013-05-22 05:31 G 16700891.51 16700891.73 16700891.97 0.0134 0.0060 Uranus 41014-05-26 13:41 G 16701260.82 16701261.07 16701261.32 0.0134 0.0009 Saturn 41014-10-19 01:26 G 16701406.32 16701406.56 16701406.81 0.0264 0.0034 Jupiter 41015-05-02 00:58 G 16701601.32 16701601.54 16701601.77 0.0525 0.0132 Uranus 41015-05-30 21:50 G 16701630.21 16701630.41 16701630.62 0.0135 0.0079 Jupiter 41020-10-21 23:31 G 16703601.35 16703601.48 16703601.63 0.0502 0.0403 Jupiter 41021-11-23 11:31 G 16703998.94 16703998.98 16703999.03 0.0499 0.0488 Jupiter 41027-05-06 23:46 G 16705989.26 16705989.49 16705989.72 0.0525 0.0014 Saturn 41030-04-14 02:38 G 16707062.41 16707062.61 16707062.83 0.0297 0.0155 41032-03-09 06:29 G 16707757.60 16707757.77 16707757.95 0.1612 0.0532 Mars Jupiter 41032-10-26 14:53 G 16707988.92 16707989.12 16707989.31 0.0502 0.0276 Jupiter 41039-05-11 21:50 G 16710377.20 16710377.41 16710377.64 0.0526 0.0162 Saturn 41043-10-14 00:43 G 16711993.33 16711993.53 16711993.73 0.0265 0.0158 Saturn 41044-10-24 18:29 G 16712370.22 16712370.27 16712370.34 0.0262 0.0254 Jupiter 41044-10-31 06:43 G 16712376.55 16712376.78 16712377.00 0.0501 0.0147 Jupiter 41051-05-16 19:41 G 16714765.14 16714765.32 16714765.51 0.0526 0.0308 Uranus 41053-11-21 18:29 G 16715685.06 16715685.27 16715685.49 0.0144 0.0075 Uranus 41054-11-26 19:26 G 16716055.06 16716055.31 16716055.56 0.0144 0.0012 Uranus 41055-12-01 19:12 G 16716425.13 16716425.30 16716425.50 0.0144 0.0098 Jupiter 41056-11-04 21:36 G 16716764.17 16716764.40 16716764.64 0.0501 0.0018 Saturn 41060-04-21 09:07 G 16718027.68 16718027.88 16718028.08 0.0299 0.0167 Jupiter 41063-05-21 21:36 G 16719153.30 16719153.40 16719153.52 0.0527 0.0460 Jupiter 41068-11-09 07:41 G 16721151.59 16721151.82 16721152.05 0.0500 0.0106 Pluto 41069-01-05 14:53 G 16721208.87 16721209.12 16721209.38 0.0078 0.0008 Mars 41070-09-07 22:34 G 16721819.27 16721819.44 16721819.61 0.1923 0.1078 Saturn 41073-10-19 21:22 G 16722957.15 16722957.39 16722957.63 0.0264 0.0073 Jupiter 41074-04-21 13:55 G 16723140.96 16723141.08 16723141.21 0.0523 0.0436 Jupiter 41080-11-13 20:38 G 16725539.16 16725539.36 16725539.57 0.0499 0.0234 Neptune 41086-04-05 20:53 G 16727508.31 16727508.37 16727508.45 0.0089 0.0086 Jupiter 41086-04-26 12:00 G 16727528.81 16727529.00 16727529.19 0.0524 0.0294

Neptune 41087-04-08 08:10 G 16727875.69 16727875.84 16727876.05 0.0089 0.0064 Neptune 41088-04-09 20:53 G 16728243.14 16728243.37 16728243.60 0.0089 0.0040 Neptune 41089-04-12 08:53 G 16728610.62 16728610.87 16728611.12 0.0089 0.0017 Saturn 41089-04-15 00:43 G 16728613.30 16728613.53 16728613.75 0.0297 0.0106 Neptune 41090-04-14 20:38 G 16728978.11 16728978.36 16728978.62 0.0089 0.0007 Neptune 41091-04-17 08:24 G 16729345.62 16729345.85 16729346.11 0.0090 0.0030 Neptune 41092-04-18 20:24 G 16729713.15 16729713.35 16729713.57 0.0090 0.0053 Jupiter 41092-11-18 10:19 G 16729926.77 16729926.93 16729927.10 0.0499 0.0357 Neptune 41093-04-21 08:24 G 16730080.73 16730080.85 16730081.00 0.0090 0.0076 Uranus 41096-05-18 11:46 G 16731203.89 16731203.99 16731204.09 0.0134 0.0121 Uranus 41097-05-22 18:58 G 16731573.06 16731573.29 16731573.52 0.0134 0.0053 Jupiter 41098-05-01 09:36 G 16731916.68 16731916.90 16731917.12 0.0524 0.0148 Uranus 41098-05-27 02:38 G 16731942.36 16731942.61 16731942.87 0.0134 0.0016 Uranus 41099-05-31 10:48 G 16732311.76 16732311.95 16732312.15 0.0134 0.0085 Saturn 41102-10-15 21:22 G 16733544.18 16733544.39 16733544.62 0.0265 0.0116 Jupiter 41103-10-23 10:48 G 16733916.82 16733916.95 16733917.08 0.0503 0.0416 Jupiter 41104-11-24 00:00 G 16734314.45 16734314.50 16734314.57 0.0499 0.0482 Jupiter 41110-05-07 06:00 G 16736304.52 16736304.75 16736304.99 0.0525 0.0008 Mars 41111-03-13 06:58 G 16736614.69 16736614.79 16736614.89 0.1614 0.1337 Jupiter 41115-10-28 02:24 G 16738304.41 16738304.60 16738304.80 0.0502 0.0287 Saturn 41119-04-24 09:36 G 16739578.75 16739578.90 16739579.08 0.0299 0.0223 Jupiter 41122-05-12 06:14 G 16740692.54 16740692.76 16740692.99 0.0526 0.0149 Jupiter 41127-11-01 14:10 G 16742691.87 16742692.09 16742692.32 0.0501 0.0164 Saturn 41132-10-21 19:26 G 16744508.09 16744508.31 16744508.53 0.0264 0.0116 Jupiter 41134-05-17 07:12 G 16745080.61 16745080.80 16745080.99 0.0527 0.0298 Uranus 41137-11-23 03:50 G 16746366.45 16746366.66 16746366.89 0.0144 0.0072 Uranus 41138-11-28 05:17 G 16746736.47 16746736.72 16746736.97 0.0144 0.0016 Jupiter 41139-11-06 03:36 G 16747079.42 16747079.65 16747079.88 0.0500 0.0034 Uranus 41139-12-03 05:17 G 16747106.56 16747106.72 16747106.91 0.0144 0.0102 Jupiter 41146-05-22 06:14 G 16749468.64 16749468.76 16749468.88 0.0527 0.0444

Saturn 41148-04-17 03:22 G 16750164.41 16750164.64 16750164.89 0.0297 0.0048 Jupiter 41151-11-10 16:48 G 16751466.97 16751467.20 16751467.43 0.0500 0.0093 Jupiter 41157-04-21 20:53 G 16753456.26 16753456.37 16753456.49 0.0523 0.0455 Saturn 41161-10-16 21:22 G 16755095.15 16755095.39 16755095.63 0.0265 0.0070 Jupiter 41163-11-15 06:43 G 16755854.57 16755854.78 16755854.99 0.0500 0.0222 Neptune 41167-10-07 04:48 G 16757276.69 16757276.70 16757276.75 0.0088 0.0087 Neptune 41168-10-08 15:50 G 16757644.01 16757644.16 16757644.35 0.0088 0.0065 Jupiter 41169-04-26 16:05 G 16757843.99 16757844.17 16757844.36 0.0523 0.0315 Neptune 41169-10-11 03:22 G 16758011.43 16758011.64 16758011.88 0.0088 0.0043 Neptune 41170-10-13 14:53 G 16758378.88 16758379.12 16758379.38 0.0088 0.0021 Neptune 41171-10-16 02:24 G 16758746.34 16758746.60 16758746.86 0.0088 0.0002 Neptune 41172-10-17 13:26 G 16759113.82 16759114.06 16759114.32 0.0088 0.0024 Neptune 41173-10-20 00:29 G 16759481.32 16759481.52 16759481.76 0.0088 0.0046 Neptune 41174-10-22 12:00 G 16759848.85 16759849.00 16759849.18 0.0088 0.0068 Jupiter 41175-11-19 19:41 G 16760242.16 16760242.32 16760242.50 0.0499 0.0348 Saturn 41178-04-25 15:50 G 16761130.09 16761130.16 16761130.23 0.0300 0.0286 Uranus 41180-05-20 01:41 G 16761885.45 16761885.57 16761885.70 0.0134 0.0115 Jupiter 41181-05-01 14:24 G 16762231.89 16762232.10 16762232.33 0.0524 0.0167 Uranus 41181-05-24 08:53 G 16762254.64 16762254.87 16762255.11 0.0134 0.0047 Uranus 41182-05-28 16:48 G 16762623.95 16762624.20 16762624.45 0.0134 0.0021 Uranus 41183-06-02 00:43 G 16762993.35 16762993.53 16762993.72 0.0134 0.0091 Jupiter 41186-10-22 17:31 G 16764232.11 16764232.23 16764232.34 0.0502 0.0436 Jupiter 41187-11-24 04:48 G 16764629.63 16764629.70 16764629.79 0.0498 0.0465 Saturn 41190-10-11 22:19 G 16765682.38 16765682.43 16765682.50 0.0268 0.0259 Saturn 41191-10-23 20:53 G 16766059.18 16766059.37 16766059.56 0.0264 0.0165 Jupiter 41193-05-06 13:12 G 16766619.82 16766620.05 16766620.29 0.0526 0.0023 Jupiter 41198-10-27 07:26 G 16768619.63 16768619.81 16768620.00 0.0502 0.0307 Jupiter 41205-05-11 12:00 G 16771007.77 16771008.00 16771008.22 0.0526 0.0127 Saturn 41207-04-19 13:12 G 16771715.81 16771716.05 16771716.29 0.0298 0.0022 Jupiter 41210-10-31 20:10 G 16773007.12 16773007.34 16773007.56 0.0501 0.0182

Jupiter 41217-05-16 10:05 G 16775395.72 16775395.92 16775396.12 0.0526 0.0276 Saturn 41220-10-18 00:43 G 16776646.28 16776646.53 16776646.78 0.0265 0.0018 Uranus 41221-11-23 14:10 G 16777047.87 16777048.09 16777048.32 0.0144 0.0068 Jupiter 41222-11-05 10:05 G 16777394.68 16777394.92 16777395.15 0.0501 0.0052 Uranus 41222-11-28 15:22 G 16777417.89 16777418.14 16777418.40 0.0144 0.0019 Uranus 41223-12-03 15:22 G 16777787.99 16777788.14 16777788.34 0.0144 0.0106 Jupiter 41229-05-21 06:29 G 16779783.64 16779783.77 16779783.91 0.0527 0.0423 Pluto 41229-07-07 20:24 G 16779831.09 16779831.35 16779831.61 0.0066 0.0003 Jupiter 41234-11-09 23:46 G 16781782.26 16781782.49 16781782.72 0.0500 0.0078 Saturn 41236-04-12 12:43 G 16782301.90 16782302.03 16782302.18 0.0296 0.0238 41237-03-09 12:58 G 16782633.02 16782633.04 16782633.07 0.1607 0.1591 Mars Jupiter 41240-04-20 22:19 G 16783771.35 16783771.43 16783771.53 0.0523 0.0480 Jupiter 41246-11-14 10:19 G 16786169.71 16786169.93 16786170.14 0.0499 0.0201 Saturn 41249-10-13 03:22 G 16787233.49 16787233.64 16787233.81 0.0267 0.0204 Saturn 41250-10-25 01:26 G 16787610.44 16787610.56 16787610.71 0.0264 0.0220 Neptune 41251-04-08 12:14 G 16787775.90 16787776.01 16787776.15 0.0089 0.0078 Neptune 41252-04-10 00:14 G 16788143.32 16788143.51 16788143.72 0.0089 0.0055 Jupiter 41252-04-25 18:43 G 16788159.11 16788159.28 16788159.46 0.0524 0.0341 Neptune 41253-04-12 12:14 G 16788510.78 16788511.01 16788511.26 0.0089 0.0032 Neptune 41254-04-15 00:14 G 16788878.26 16788878.51 16788878.78 0.0089 0.0009 Neptune 41255-04-17 12:00 G 16789245.76 16789246.00 16789246.26 0.0089 0.0016 Neptune 41256-04-19 00:00 G 16789613.28 16789613.50 16789613.74 0.0090 0.0039 Neptune 41257-04-21 11:46 G 16789980.82 16789980.99 16789981.19 0.0090 0.0062 Neptune 41258-04-23 23:46 G 16790348.43 16790348.49 16790348.59 0.0090 0.0085 Jupiter 41258-11-18 22:05 G 16790557.25 16790557.42 16790557.60 0.0499 0.0326 Jupiter 41264-04-30 16:34 G 16792546.98 16792547.19 16792547.41 0.0524 0.0196 Uranus 41264-05-20 15:50 G 16792567.03 16792567.16 16792567.32 0.0134 0.0109 Uranus 41265-05-24 23:02 G 16792936.23 16792936.46 16792936.71 0.0134 0.0041 Saturn 41266-04-21 03:50 G 16793267.43 16793267.66 16793267.89 0.0298 0.0100 Uranus 41266-05-29 06:43 G 16793305.54 16793305.78 16793306.04 0.0134 0.0028

Uranus 41267-06-02 15:07 G 16793674.95 16793675.13 16793675.30 0.0134 0.0097 Jupiter 41269-10-21 19:55 G 16794547.24 16794547.33 16794547.43 0.0503 0.0459 Jupiter 41270-11-23 09:07 G 16794944.79 16794944.88 16794944.99 0.0449 0.0449 Jupiter 41276-05-05 14:24 G 16796934.87 16796935.10 16796935.33 0.0525 0.0047 Saturn 41279-10-20 07:26 G 16798197.56 16798197.81 16798198.05 0.0265 0.0039 Jupiter 41281-10-26 09:36 G 16798934.73 16798934.90 16798935.09 0.0502 0.0332 Jupiter 41288-05-10 09:36 G 16801322.68 16801322.90 16801323.13 0.0525 0.0100 Jupiter 41293-10-31 00:14 G 16803322.29 16803322.51 16803322.72 0.0501 0.0202 Saturn 41295-04-15 06:43 G 16803853.57 16803853.78 16803853.99 0.0296 0.0155 Jupiter 41300-05-16 08:24 G 16805710.64 16805710.85 16805711.05 0.0526 0.0251 Jupiter 41305-11-05 12:43 G 16807709.80 16807710.03 16807710.26 0.0500 0.0075 Uranus 41305-11-24 23:31 G 16807729.26 16807729.48 16807729.72 0.0145 0.0065 Uranus 41306-11-30 00:58 G 16808099.29 16808099.54 16808099.80 0.0144 0.0023 Uranus 41307-12-05 00:58 G 16808469.40 16808469.54 16808469.73 0.0144 0.0109 Saturn 41308-10-15 12:00 G 16808784.80 16808785.00 16808785.22 0.0267 0.0145 Jupiter 41312-05-21 06:58 G 16810098.64 16810098.79 16810098.94 0.0527 0.0398 Mars 41316-03-12 13:55 G 16811489.89 16811490.08 16811490.26 0.1610 0.0267 Pluto 41317-01-09 13:55 G 16811792.84 16811793.08 16811793.35 0.0078 0.0019 Jupiter 41317-11-10 00:43 G 16812097.30 16812097.53 16812097.77 0.0500 0.0055 Jupiter 41323-04-21 21:22 G 16814086.36 16814086.39 16814086.45 0.0523 0.0512 Saturn 41325-04-23 23:31 G 16814819.31 16814819.48 16814819.68 0.0298 0.0188 Jupiter 41329-11-14 11:31 G 16816484.76 16816484.98 16816485.20 0.0500 0.0180 Neptune 41332-10-08 20:53 G 16817544.28 16817544.37 16817544.51 0.0088 0.0079 Neptune 41333-10-11 08:53 G 16817911.67 16817911.87 16817912.07 0.0088 0.0056 Neptune 41334-10-13 19:55 G 16818279.11 16818279.33 16818279.59 0.0088 0.0034 Jupiter 41335-04-26 18:29 G 16818474.11 16818474.27 16818474.44 0.0523 0.0368 Neptune 41335-10-16 07:26 G 16818646.56 16818646.81 16818647.08 0.0088 0.0012 Neptune 41336-10-17 18:43 G 16819014.03 16819014.28 16819014.54 0.0088 0.0011 Neptune 41337-10-20 06:00 G 16819381.52 16819381.75 16819382.00 0.0088 0.0033 Saturn 41338-10-22 16:48 G 16819748.98 16819749.20 16819749.43 0.0265 0.0099

Neptune 41338-10-22 16:48 G 16819749.03 16819749.20 16819749.43 0.0088 0.0056 \* Neptune 41339-10-25 04:05 G 16820116.58 16820116.67 16820116.82 0.0088 0.0078 Jupiter 41341-11-18 23:31 G 16820872.30 16820872.48 16820872.66 0.0499 0.0306 Jupiter 41347-05-01 12:58 G 16822861.84 16822862.04 16822862.26 0.0524 0.0226 Uranus 41348-05-22 06:29 G 16823248.63 16823248.77 16823248.95 0.0134 0.0103 Uranus 41349-05-26 13:41 G 16823617.84 16823618.07 16823618.33 0.0134 0.0035 Uranus 41350-05-30 21:36 G 16823987.16 16823987.40 16823987.65 0.0134 0.0034 Uranus 41351-06-04 05:17 G 16824356.58 16824356.72 16824356.90 0.0134 0.0104 Jupiter 41352-10-21 21:07 G 16824862.32 16824862.38 16824862.45 0.0503 0.0483 Jupiter 41353-11-23 11:46 G 16825259.87 16825259.99 16825260.11 0.0499 0.0431 Saturn 41354-04-18 03:36 G 16825405.42 16825405.65 16825405.89 0.0296 0.0067 Jupiter 41359-05-06 09:36 G 16827249.68 16827249.90 16827250.13 0.0525 0.0079 Jupiter 41364-10-26 11:46 G 16829249.83 16829249.99 16829250.15 0.0502 0.0356 Saturn 41367-10-17 23:31 G 16830336.24 16830336.48 16830336.72 0.0267 0.0082 Jupiter 41371-05-11 06:29 G 16831637.54 16831637.77 16831638.00 0.0526 0.0068 Jupiter 41376-10-31 00:43 G 16833637.33 16833637.53 16833637.74 0.0501 0.0227 Jupiter 41383-05-16 05:02 G 16836025.51 16836025.71 16836025.93 0.0526 0.0220 Saturn 41384-04-25 22:19 G 16836371.36 16836371.43 16836371.52 0.0298 0.0280 Jupiter 41388-11-04 11:02 G 16838024.73 16838024.96 16838025.19 0.0501 0.0101 Uranus 41389-11-25 14:10 G 16838410.87 16838411.09 16838411.33 0.0144 0.0058 Uranus 41390-11-30 15:36 G 16838780.90 16838781.15 16838781.40 0.0144 0.0029 Uranus 41391-12-05 15:36 G 16839151.01 16839151.15 16839151.32 0.0144 0.0115 Jupiter 41395-05-21 03:50 G 16840413.50 16840413.66 16840413.83 0.0526 0.0370 Saturn 41396-10-12 04:19 G 16840923.68 16840923.68 16840923.70 0.0268 0.0268 Saturn 41397-10-24 04:34 G 16841300.50 16841300.69 16841300.89 0.0265 0.0162 Jupiter 41400-11-09 23:31 G 16842412.24 16842412.48 16842412.71 0.0500 0.0030 Jupiter 41407-05-27 00:00 G 16844801.45 16844801.50 16844801.54 0.0527 0.0514 Jupiter 41412-11-14 12:14 G 16846799.79 16846800.01 16846800.23 0.0500 0.0158 Saturn 41413-04-21 02:38 G 16846957.37 16846957.61 16846957.86 0.0297 0.0025 Neptune 41416-04-11 03:36 G 16848043.51 16848043.65 16848043.83 0.0089 0.0070

Neptune 41417-04-13 16:05 G 16848410.95 16848411.17 16848411.39 0.0089 0.0046 Neptune 41418-04-16 03:50 G 16848778.42 16848778.66 16848778.91 0.0089 0.0023 Jupiter 41418-04-26 12:58 G 16848788.90 16848789.04 16848789.19 0.0523 0.0401 Neptune 41419-04-18 16:05 G 16849145.92 16849146.17 16849146.43 0.0089 0.0001 Neptune 41420-04-20 03:50 G 16849513.43 16849513.66 16849513.92 0.0089 0.0024 Neptune 41421-04-22 15:50 G 16849880.95 16849881.16 16849881.39 0.0090 0.0048 Neptune 41422-04-25 03:50 G 16850248.51 16850248.66 16850248.82 0.0090 0.0071 Jupiter 41424-11-19 00:14 G 16851187.32 16851187.51 16851187.71 0.0499 0.0283 Saturn 41426-10-20 12:00 G 16851887.75 16851888.00 16851888.25 0.0266 0.0018 Jupiter 41430-05-01 07:41 G 16853176.62 16853176.82 16853177.02 0.0524 0.0260 Uranus 41432-05-23 21:50 G 16853930.23 16853930.41 16853930.58 0.0134 0.0096 Uranus 41433-05-28 04:48 G 16854299.46 16854299.70 16854299.95 0.0134 0.0028 Uranus 41434-06-01 12:14 G 16854668.78 16854669.01 16854669.27 0.0134 0.0042 Uranus 41435-06-05 20:24 G 16855038.21 16855038.35 16855038.50 0.0135 0.0110 Jupiter 41436-11-23 11:17 G 16855574.85 16855574.97 16855575.11 0.0498 0.0409 Saturn 41442-04-15 07:26 G 16857543.66 16857543.81 16857543.96 0.0295 0.0227 Jupiter 41442-05-06 06:00 G 16857564.53 16857564.75 16857564.98 0.0525 0.0111 Jupiter 41447-10-27 08:10 G 16859564.70 16859564.84 16859565.00 0.0502 0.0385 Jupiter 41454-05-11 04:34 G 16861952.46 16861952.69 16861952.93 0.0525 0.0042 Saturn 41455-10-15 17:46 G 16862475.09 16862475.24 16862475.41 0.0268 0.0203 Saturn 41456-10-26 16:34 G 16862852.08 16862852.19 16862852.33 0.0264 0.0225 Jupiter 41459-10-31 21:22 G 16863952.19 16863952.39 16863952.59 0.0502 0.0255 Jupiter 41466-05-16 00:00 G 16866340.29 16866340.50 16866340.72 0.0526 0.0189 Jupiter 41471-11-05 11:17 G 16868339.74 16868339.97 16868340.20 0.0501 0.0124 Saturn 41472-04-23 00:14 G 16868509.29 16868509.51 16868509.74 0.0298 0.0114 Uranus 41472-11-22 02:53 G 16868722.57 16868722.62 16868722.71 0.0145 0.0139 Uranus 41473-11-27 04:34 G 16869092.47 16869092.69 16869092.94 0.0145 0.0052 Uranus 41474-12-02 05:46 G 16869462.51 16869462.74 16869463.00 0.0144 0.0036 Uranus 41475-12-07 05:46 G 16869832.63 16869832.74 16869832.90 0.0144 0.0122 Pluto 41477-07-11 13:41 G 16870414.83 16870415.07 16870415.34 0.0066 0.0011

Jupiter 41478-05-20 21:22 G 16870728.22 16870728.39 16870728.57 0.0526 0.0339 Jupiter 41483-11-10 00:58 G 16872727.31 16872727.54 16872727.78 0.0500 0.0007 Saturn 41485-10-22 00:43 G 16873439.29 16873439.53 16873439.77 0.0265 0.0046 Jupiter 41490-05-25 18:58 G 16875116.21 16875116.29 16875116.38 0.0527 0.0486 Jupiter 41495-11-14 13:26 G 16877114.84 16877115.06 16877115.29 0.0500 0.0136 Neptune 41497-10-11 13:41 G 16877811.94 16877812.07 16877812.25 0.0088 0.0070 Neptune 41498-10-14 01:26 G 16878179.36 16878179.56 16878179.79 0.0088 0.0047 Neptune 41499-10-16 12:29 G 16878546.79 16878547.02 16878547.29 0.0088 0.0025 Neptune 41500-10-19 00:14 G 16878914.25 16878914.51 16878914.77 0.0088 0.0002 Saturn 41501-04-18 02:53 G 16879095.42 16879095.62 16879095.84 0.0295 0.0145 Jupiter 41501-04-26 10:05 G 16879103.79 16879103.92 16879104.05 0.0523 0.0431 Neptune 41501-10-21 11:31 G 16879281.73 16879281.98 16879282.23 0.0088 0.0020 Neptune 41502-10-23 22:19 G 16879649.22 16879649.43 16879649.68 0.0088 0.0043 Neptune 41503-10-26 09:36 G 16880016.74 16880016.90 16880017.09 0.0088 0.0065 Neptune 41504-10-27 20:53 G 16880384.35 16880384.37 16880384.41 0.0088 0.0087 Jupiter 41507-11-19 22:05 G 16881502.22 16881502.42 16881502.62 0.0499 0.0261 Jupiter 41513-05-01 08:24 G 16883491.66 16883491.85 16883492.05 0.0524 0.0284 Saturn 41514-10-18 06:43 G 16884026.58 16884026.78 16884027.00 0.0267 0.0138 Uranus 41516-05-25 12:14 G 16884611.84 16884612.01 16884612.22 0.0134 0.0090 Uranus 41517-05-29 19:26 G 16884981.07 16884981.31 16884981.57 0.0134 0.0022 Uranus 41518-06-03 03:07 G 16885350.40 16885350.63 16885350.88 0.0134 0.0047 Uranus 41519-06-07 10:48 G 16885719.85 16885719.95 16885720.10 0.0135 0.0117 Jupiter 41519-11-24 09:50 G 16885889.77 16885889.91 16885890.06 0.0499 0.0388 41521-03-13 20:38 G 16886365.20 16886365.36 16886365.52 0.1605 0.0798 Mars Jupiter 41525-05-06 03:36 G 16887879.43 16887879.65 16887879.88 0.0524 0.0139 Jupiter 41530-10-27 08:38 G 16889879.73 16889879.86 16889880.00 0.0503 0.0408 Saturn 41531-04-26 18:29 G 16890061.09 16890061.27 16890061.45 0.0298 0.0197 Jupiter 41537-05-11 00:00 G 16892267.27 16892267.50 16892267.73 0.0525 0.0011 Jupiter 41542-11-01 00:14 G 16894267.32 16894267.51 16894267.71 0.0502 0.0277 Saturn 41544-10-24 11:46 G 16894990.76 16894990.99 16894991.22 0.0265 0.0107

Jupiter 41549-05-15 20:10 G 16896655.12 16896655.34 16896655.57 0.0526 0.0160 Jupiter 41554-11-05 14:10 G 16898654.87 16898655.09 16898655.32 0.0501 0.0144 Uranus 41556-11-23 19:41 G 16899404.22 16899404.32 16899404.44 0.0145 0.0130 Uranus 41557-11-28 21:22 G 16899774.16 16899774.39 16899774.64 0.0145 0.0043 Uranus 41558-12-03 22:19 G 16900144.20 16900144.43 16900144.68 0.0144 0.0045 Uranus 41559-12-08 22:34 G 16900514.35 16900514.44 16900514.56 0.0144 0.0130 Saturn 41560-04-19 18:00 G 16900647.02 16900647.25 16900647.49 0.0296 0.0069 Jupiter 41561-05-20 20:10 G 16901043.16 16901043.34 16901043.53 0.0526 0.0315 Pluto 41565-01-13 08:10 G 16902376.61 16902376.84 16902377.09 0.0078 0.0028 Jupiter 41566-11-09 23:17 G 16903042.23 16903042.47 16903042.70 0.0501 0.0018 Jupiter 41573-05-25 20:53 G 16905431.27 16905431.37 16905431.48 0.0527 0.0467 Saturn 41573-10-19 17:46 G 16905578.01 16905578.24 16905578.49 0.0267 0.0077 Jupiter 41578-11-14 12:00 G 16907429.77 16907430.00 16907430.23 0.0500 0.0114 Neptune 41580-04-11 07:12 G 16907943.75 16907943.80 16907943.92 0.0089 0.0085 Neptune 41581-04-13 19:12 G 16908311.13 16908311.30 16908311.50 0.0089 0.0061 Neptune 41582-04-16 07:12 G 16908678.58 16908678.80 16908679.05 0.0089 0.0038 Neptune 41583-04-18 19:26 G 16909046.06 16909046.31 16909046.57 0.0089 0.0014 Neptune 41584-04-20 07:26 G 16909413.56 16909413.81 16909414.07 0.0089 0.0010 Jupiter 41584-04-25 11:31 G 16909418.87 16909418.98 16909419.10 0.0522 0.0455 Neptune 41585-04-22 19:12 G 16909781.08 16909781.30 16909781.55 0.0089 0.0034 Neptune 41586-04-25 07:12 G 16910148.62 16910148.80 16910149.01 0.0089 0.0057 Neptune 41587-04-27 18:58 G 16910516.21 16910516.29 16910516.43 0.0090 0.0081 Saturn 41590-04-28 07:41 G 16911612.73 16911612.82 16911612.93 0.0299 0.0271 Jupiter 41590-11-19 01:26 G 16911817.36 16911817.56 16911817.76 0.0500 0.0244 Jupiter 41596-04-30 06:43 G 16913806.60 16913806.78 16913806.98 0.0523 0.0312 41600-03-15 20:53 G 16915222.24 16915222.37 16915222.51 0.1607 0.1060 Mars Uranus 41600-05-26 02:53 G 16915293.42 16915293.62 16915293.82 0.0134 0.0083 Uranus 41601-05-30 09:50 G 16915662.66 16915662.91 16915663.16 0.0134 0.0015 Uranus 41602-06-03 17:17 G 16916031.99 16916032.22 16916032.46 0.0134 0.0054 Saturn 41602-10-14 20:24 G 16916165.34 16916165.35 16916165.38 0.0268 0.0267

Jupiter 41602-11-23 15:22 G 16916204.98 16916205.14 16916205.29 0.0499 0.0372 Uranus 41603-06-08 00:43 G 16916401.44 16916401.53 16916401.65 0.0134 0.0123 Saturn 41603-10-26 20:10 G 16916542.15 16916542.34 16916542.54 0.0264 0.0164 Jupiter 41608-05-05 01:55 G 16918194.36 16918194.58 16918194.80 0.0524 0.0166 Jupiter 41613-10-26 13:55 G 16920194.96 16920195.08 16920195.20 0.0503 0.0426 Saturn 41619-04-22 04:19 G 16922198.44 16922198.68 16922198.92 0.0296 0.0002 Jupiter 41620-05-10 01:41 G 16922582.34 16922582.57 16922582.80 0.0525 0.0013 Jupiter 41625-10-30 23:46 G 16924582.30 16924582.49 16924582.68 0.0502 0.0300 Jupiter 41632-05-15 02:10 G 16926970.37 16926970.59 16926970.82 0.0525 0.0145 Saturn 41632-10-21 01:26 G 16927129.31 16927129.56 16927129.80 0.0266 0.0021 Jupiter 41637-11-04 13:41 G 16928969.85 16928970.07 16928970.30 0.0502 0.0167 Uranus 41640-11-24 07:12 G 16930085.68 16930085.80 16930085.93 0.0145 0.0125 Uranus 41641-11-29 08:53 G 16930455.62 16930455.87 16930456.12 0.0145 0.0038 Uranus 41642-12-04 09:50 G 16930825.68 16930825.91 16930826.16 0.0144 0.0050 Uranus 41643-12-09 10:19 G 16931195.85 16931195.93 16931196.02 0.0144 0.0135 Jupiter 41644-05-19 23:31 G 16931358.29 16931358.48 16931358.67 0.0526 0.0295 Saturn 41648-04-15 01:12 G 16932784.45 16932784.55 16932784.66 0.0295 0.0266 Jupiter 41649-11-09 04:19 G 16933357.44 16933357.68 16933357.91 0.0501 0.0035 Jupiter 41656-05-24 20:53 G 16935746.26 16935746.37 16935746.50 0.0526 0.0446 Neptune 41661-10-11 18:58 G 16937712.22 16937712.29 16937712.39 0.0088 0.0083 Saturn 41661-10-16 02:38 G 16937716.48 16937716.61 16937716.77 0.0267 0.0213 Jupiter 41661-11-13 19:41 G 16937745.09 16937745.32 16937745.55 0.0500 0.0100 Neptune 41662-10-14 06:14 G 16938079.59 16938079.76 16938079.97 0.0088 0.0061 Saturn 41662-10-28 01:26 G 16938093.43 16938093.56 16938093.71 0.0264 0.0216 Neptune 41663-10-16 18:00 G 16938447.03 16938447.25 16938447.50 0.0088 0.0038 Neptune 41664-10-18 05:31 G 16938814.49 16938814.73 16938815.00 0.0088 0.0016 Neptune 41665-10-20 17:02 G 16939181.96 16939182.21 16939182.48 0.0088 0.0008 Neptune 41666-10-23 04:19 G 16939549.44 16939549.68 16939549.93 0.0088 0.0030 Jupiter 41667-04-25 12:43 G 16939733.95 16939734.03 16939734.13 0.0522 0.0478 Neptune 41667-10-25 15:07 G 16939916.95 16939917.13 16939917.36 0.0088 0.0053

Neptune 41668-10-27 02:24 G 16940284.49 16940284.60 16940284.76 0.0088 0.0075 Jupiter 41673-11-18 09:07 G 16942132.68 16942132.88 16942133.09 0.0500 0.0232 Saturn 41678-04-23 08:10 G 16943749.60 16943749.84 16943750.08 0.0297 0.0056 Jupiter 41679-04-30 11:46 G 16944121.81 16944121.99 16944122.17 0.0523 0.0330 Uranus 41684-05-26 16:19 G 16945974.97 16945975.18 16945975.39 0.0134 0.0077 Uranus 41685-05-30 23:02 G 16946344.21 16946344.46 16946344.72 0.0134 0.0009 Jupiter 41685-11-22 17:46 G 16946520.08 16946520.24 16946520.40 0.0499 0.0357 Uranus 41686-06-04 06:14 G 16946713.54 16946713.76 16946714.00 0.0134 0.0060 Uranus 41687-06-08 13:41 G 16947083.02 16947083.07 16947083.16 0.0134 0.0129 Jupiter 41691-05-05 11:46 G 16948509.78 16948509.99 16948510.21 0.0524 0.0178 Saturn 41691-10-23 05:31 G 16948680.48 16948680.73 16948680.98 0.0266 0.0031 Jupiter 41696-10-25 15:07 G 16950510.03 16950510.13 16950510.24 0.0503 0.0449 Jupiter 41697-11-27 06:14 G 16950907.72 16950907.76 16950907.82 0.0499 0.0486 Jupiter 41703-05-11 09:07 G 16952897.65 16952897.88 16952898.11 0.0524 0.0028 Saturn 41707-04-18 02:24 G 16954335.45 16954335.60 16954335.78 0.0295 0.0215 Jupiter 41708-10-31 06:43 G 16954897.60 16954897.78 16954897.97 0.0503 0.0317 Jupiter 41715-05-16 06:14 G 16957285.54 16957285.76 16957285.99 0.0525 0.0126 41717-09-14 05:02 G 16958137.50 16958137.71 16958137.91 0.1929 0.0134 Mars Saturn 41720-10-18 05:02 G 16959267.53 16959267.71 16959267.92 0.0267 0.0164 Jupiter 41720-11-04 23:17 G 16959285.26 16959285.47 16959285.69 0.0502 0.0180 Saturn 41721-10-30 03:07 G 16959644.62 16959644.63 16959644.67 0.0264 0.0263 Uranus 41724-11-25 17:31 G 16960767.09 16960767.23 16960767.37 0.0145 0.0121 Pluto 41725-07-15 04:05 G 16960998.42 16960998.67 16960998.93 0.0066 0.0009 Uranus 41725-11-30 18:58 G 16961137.05 16961137.29 16961137.54 0.0145 0.0034 Uranus 41726-12-05 19:55 G 16961507.11 16961507.33 16961507.58 0.0144 0.0054 Jupiter 41727-05-21 03:36 G 16961673.45 16961673.65 16961673.84 0.0526 0.0278 Uranus 41727-12-10 20:38 G 16961877.30 16961877.36 16961877.43 0.0144 0.0139 Jupiter 41732-11-09 14:38 G 16963672.87 16963673.11 16963673.34 0.0501 0.0044 Saturn 41737-04-25 06:43 G 16965300.56 16965300.78 16965301.01 0.0297 0.0104 Jupiter 41739-05-26 05:17 G 16966061.59 16966061.72 16966061.85 0.0526 0.0435

Jupiter 41744-11-14 00:00 G 16968060.27 16968060.50 16968060.73 0.0500 0.0083 Neptune 41745-04-14 00:00 G 16968211.39 16968211.50 16968211.67 0.0089 0.0076 Neptune 41746-04-16 12:00 G 16968578.81 16968579.00 16968579.22 0.0089 0.0052 Neptune 41747-04-18 23:46 G 16968946.26 16968946.49 16968946.75 0.0089 0.0028 Neptune 41748-04-20 12:00 G 16969313.74 16969314.00 16969314.25 0.0089 0.0004 Neptune 41749-04-22 23:31 G 16969681.24 16969681.48 16969681.74 0.0089 0.0020 Neptune 41750-04-25 11:46 G 16970048.77 16970048.99 16970049.22 0.0089 0.0043 Jupiter 41750-04-26 01:26 G 16970049.49 16970049.56 16970049.64 0.0522 0.0489 Saturn 41750-10-25 06:00 G 16970231.51 16970231.75 16970231.99 0.0266 0.0077 Neptune 41751-04-27 23:17 G 16970416.33 16970416.47 16970416.67 0.0089 0.0067 Jupiter 41756-11-18 13:26 G 16972447.85 16972448.06 16972448.28 0.0500 0.0217 Jupiter 41762-04-30 22:34 G 16974437.27 16974437.44 16974437.62 0.0523 0.0344 Saturn 41766-04-18 22:34 G 16975886.26 16975886.44 16975886.65 0.0295 0.0171 Uranus 41768-05-28 05:31 G 16976656.53 16976656.73 16976656.96 0.0134 0.0072 Jupiter 41768-11-23 04:05 G 16976835.51 16976835.67 16976835.84 0.0500 0.0348 Uranus 41769-06-01 12:43 G 16977025.78 16977026.03 16977026.28 0.0134 0.0003 Uranus 41770-06-05 19:55 G 16977395.11 16977395.33 16977395.56 0.0134 0.0065 Uranus 41771-06-10 03:07 G 16977764.63 16977764.63 16977764.67 0.0134 0.0134 Jupiter 41774-05-05 19:26 G 16978825.09 16978825.31 16978825.52 0.0523 0.0195 Saturn 41779-10-20 04:05 G 16980818.46 16980818.67 16980818.90 0.0267 0.0120 Jupiter 41779-10-27 02:24 G 16980825.51 16980825.60 16980825.70 0.0504 0.0462 Jupiter 41780-11-27 18:58 G 16981223.23 16981223.29 16981223.35 0.0499 0.0479 Jupiter 41786-05-10 15:36 G 16983212.92 16983213.15 16983213.39 0.0524 0.0045 Jupiter 41791-10-31 18:58 G 16985213.11 16985213.29 16985213.47 0.0503 0.0326 Saturn 41796-04-26 02:10 G 16986851.39 16986851.59 16986851.81 0.0297 0.0148 Jupiter 41798-05-15 16:19 G 16987600.96 16987601.18 16987601.41 0.0525 0.0116 Jupiter 41803-11-06 05:46 G 16989600.53 16989600.74 16989600.96 0.0502 0.0197 Mars 41805-03-17 04:34 G 16990097.50 16990097.69 16990097.88 0.1604 0.0017 Uranus 41808-11-26 23:46 G 16991448.38 16991448.49 16991448.66 0.0145 0.0121 Saturn 41809-10-27 03:22 G 16991782.42 16991782.64 16991782.87 0.0266 0.0119

Uranus 41809-12-02 01:55 G 16991818.33 16991818.58 16991818.83 0.0145 0.0033 Jupiter 41810-05-21 18:14 G 16991989.07 16991989.26 16991989.47 0.0526 0.0274 Uranus 41810-12-07 02:53 G 16992188.39 16992188.62 16992188.86 0.0144 0.0055 Uranus 41811-12-12 03:22 G 16992558.60 16992558.64 16992558.71 0.0144 0.0140 Pluto 41813-01-17 00:00 G 16992960.26 16992960.50 16992960.74 0.0078 0.0030 Jupiter 41815-11-10 20:24 G 16993988.12 16993988.35 16993988.59 0.0501 0.0061 Jupiter 41822-05-26 17:02 G 16996377.08 16996377.21 16996377.35 0.0526 0.0425 Saturn 41825-04-20 16:34 G 16997436.97 16997437.19 16997437.41 0.0295 0.0129 Neptune 41826-10-15 11:31 G 16997979.86 16997979.98 16997980.14 0.0088 0.0074 Neptune 41827-10-17 23:31 G 16998347.27 16998347.48 16998347.69 0.0088 0.0051 Jupiter 41827-11-15 11:31 G 16998375.75 16998375.98 16998376.21 0.0501 0.0074 Neptune 41828-10-19 10:48 G 16998714.72 16998714.95 16998715.21 0.0088 0.0029 Neptune 41829-10-21 22:34 G 16999082.19 16999082.44 16999082.71 0.0088 0.0006 Neptune 41830-10-24 09:50 G 16999449.66 16999449.91 16999450.17 0.0088 0.0017 Neptune 41831-10-26 20:53 G 16999817.16 16999817.37 16999817.62 0.0088 0.0040 Neptune 41832-10-28 08:38 G 17000184.68 17000184.86 17000185.04 0.0088 0.0062 Jupiter 41833-04-26 11:46 G 17000364.93 17000364.99 17000365.04 0.0522 0.0504 Neptune 41833-10-30 19:12 G 17000552.27 17000552.30 17000552.40 0.0088 0.0085 Saturn 41838-10-22 00:00 G 17002369.27 17002369.50 17002369.74 0.0267 0.0080 Jupiter 41839-11-20 03:22 G 17002763.43 17002763.64 17002763.85 0.0500 0.0210 Jupiter 41845-05-01 06:58 G 17004752.62 17004752.79 17004752.96 0.0523 0.0359 Jupiter 41851-11-24 17:46 G 17007151.07 17007151.24 17007151.41 0.0500 0.0344 Uranus 41852-05-29 18:43 G 17007338.08 17007338.28 17007338.52 0.0134 0.0067 Uranus 41853-06-03 01:55 G 17007707.33 17007707.58 17007707.84 0.0134 0.0002 Uranus 41854-06-07 09:22 G 17008076.67 17008076.89 17008077.10 0.0134 0.0071 Saturn 41855-04-28 18:43 G 17008402.10 17008402.28 17008402.47 0.0297 0.0187 Jupiter 41857-05-06 06:29 G 17009140.56 17009140.77 17009140.99 0.0524 0.0206 Jupiter 41862-10-27 10:48 G 17011140.89 17011140.95 17011141.03 0.0503 0.0478 Jupiter 41863-11-29 02:24 G 17011538.53 17011538.60 17011538.69 0.0499 0.0469 Saturn 41868-10-27 22:19 G 17013333.24 17013333.43 17013333.64 0.0266 0.0158

Jupiter 41869-05-11 07:12 G 17013528.57 17013528.80 17013529.03 0.0525 0.0051 Jupiter 41874-11-01 02:38 G 17015528.44 17015528.61 17015528.78 0.0502 0.0343 Jupiter 41881-05-16 06:00 G 17017916.53 17017916.75 17017916.98 0.0525 0.0105 Saturn 41884-04-21 09:22 G 17018987.66 17018987.89 17018988.12 0.0295 0.0090 Jupiter 41886-11-05 18:00 G 17019916.04 17019916.25 17019916.46 0.0502 0.0208 Uranus 41892-11-27 10:19 G 17022129.80 17022129.93 17022130.10 0.0145 0.0117 Jupiter 41893-05-21 04:19 G 17022304.48 17022304.68 17022304.88 0.0525 0.0261 Uranus 41893-12-02 12:14 G 17022499.77 17022500.01 17022500.26 0.0145 0.0029 Uranus 41894-12-07 13:26 G 17022869.83 17022870.06 17022870.29 0.0144 0.0058 Uranus 41895-12-12 13:55 G 17023240.08 17023240.08 17023240.09 0.0144 0.0144 Saturn 41897-10-22 18:43 G 17023920.03 17023920.28 17023920.52 0.0267 0.0041 Jupiter 41898-11-10 10:19 G 17024303.69 17024303.93 17024304.16 0.0501 0.0069 Jupiter 41905-05-27 01:55 G 17026692.44 17026692.58 17026692.72 0.0526 0.0414 Neptune 41909-04-15 05:46 G 17028111.74 17028111.74 17028111.77 0.0089 0.0089 Neptune 41910-04-17 17:31 G 17028479.07 17028479.23 17028479.41 0.0089 0.0066 Jupiter 41910-11-16 01:41 G 17028691.34 17028691.57 17028691.81 0.0501 0.0069 Neptune 41911-04-20 05:02 G 17028846.50 17028846.71 17028846.96 0.0089 0.0043 Neptune 41912-04-21 17:02 G 17029213.96 17029214.21 17029214.46 0.0089 0.0018 Neptune 41913-04-24 05:02 G 17029581.46 17029581.71 17029581.97 0.0089 0.0005 Neptune 41914-04-26 16:34 G 17029948.96 17029949.19 17029949.45 0.0089 0.0030 Saturn 41914-04-30 11:31 G 17029952.83 17029952.98 17029953.14 0.0297 0.0227 Neptune 41915-04-29 04:48 G 17030316.50 17030316.70 17030316.91 0.0089 0.0053 Jupiter 41916-04-26 22:48 G 17030680.43 17030680.45 17030680.49 0.0522 0.0517 Neptune 41916-04-30 16:34 G 17030684.08 17030684.19 17030684.34 0.0089 0.0077 Jupiter 41922-11-20 11:46 G 17033078.78 17033078.99 17033079.21 0.0500 0.0196 Saturn 41926-10-18 13:41 G 17034506.98 17034507.07 17034507.18 0.0270 0.0244 Saturn 41927-10-30 16:19 G 17034884.02 17034884.18 17034884.35 0.0266 0.0195 Jupiter 41928-05-01 21:50 G 17035068.25 17035068.41 17035068.58 0.0523 0.0370 Jupiter 41934-11-25 01:26 G 17037466.39 17037466.56 17037466.74 0.0499 0.0331 Uranus 41935-05-28 01:12 G 17037650.51 17037650.55 17037650.64 0.0134 0.0129

Uranus 41936-05-31 08:10 G 17038019.63 17038019.84 17038020.08 0.0134 0.0061 Uranus 41937-06-04 15:22 G 17038388.89 17038389.14 17038389.40 0.0134 0.0008 Uranus 41938-06-08 22:48 G 17038758.25 17038758.45 17038758.67 0.0134 0.0076 Jupiter 41940-05-06 20:10 G 17039456.13 17039456.34 17039456.55 0.0524 0.0219 Saturn 41943-04-24 02:38 G 17040538.38 17040538.61 17040538.85 0.0295 0.0049 Jupiter 41945-10-27 22:34 G 17041456.40 17041456.44 17041456.50 0.0504 0.0492 Jupiter 41946-11-29 15:36 G 17041854.07 17041854.15 17041854.24 0.0499 0.0462 Jupiter 41952-05-11 18:00 G 17043844.02 17043844.25 17043844.48 0.0524 0.0064 Saturn 41956-10-24 12:43 G 17045470.78 17045471.03 17045471.28 0.0267 0.0004 Jupiter 41957-11-01 15:22 G 17045843.98 17045844.14 17045844.31 0.0503 0.0355 Jupiter 41964-05-16 14:24 G 17048231.88 17048232.10 17048232.33 0.0525 0.0092 Jupiter 41969-11-06 07:41 G 17050231.61 17050231.82 17050232.03 0.0502 0.0216 Saturn 41973-05-01 06:00 G 17051503.65 17051503.75 17051503.85 0.0297 0.0270 Pluto 41973-07-18 15:22 G 17051581.88 17051582.14 17051582.40 0.0066 0.0001 Jupiter 41976-05-21 15:07 G 17052619.93 17052620.13 17052620.34 0.0526 0.0252 Uranus 41976-11-28 22:34 G 17052811.29 17052811.44 17052811.61 0.0145 0.0112 Uranus 41977-12-04 00:00 G 17053181.25 17053181.50 17053181.75 0.0145 0.0025 Uranus 41978-12-09 00:43 G 17053551.31 17053551.53 17053551.77 0.0144 0.0063 Jupiter 41981-11-10 19:26 G 17054619.08 17054619.31 17054619.55 0.0501 0.0086 Saturn 41985-10-19 07:55 G 17056057.68 17056057.83 17056058.00 0.0270 0.0205 Saturn 41986-10-31 10:48 G 17056434.84 17056434.95 17056435.07 0.0266 0.0234 Jupiter 41988-05-26 16:34 G 17057008.05 17057008.19 17057008.34 0.0527 0.0408 Neptune 41990-10-15 17:31 G 17057880.21 17057880.23 17057880.27 0.0088 0.0087 Neptune 41991-10-18 04:48 G 17058247.55 17058247.70 17058247.90 0.0088 0.0065 Neptune 41992-10-19 16:48 G 17058614.99 17058615.20 17058615.44 0.0088 0.0042 Neptune 41993-10-22 04:34 G 17058982.44 17058982.69 17058982.95 0.0088 0.0019 Jupiter 41993-11-15 09:36 G 17059006.66 17059006.90 17059007.13 0.0500 0.0053 Neptune 41994-10-24 16:19 G 17059349.92 17059350.18 17059350.44 0.0088 0.0004 Neptune 41995-10-27 03:36 G 17059717.41 17059717.65 17059717.91 0.0088 0.0027 Neptune 41996-10-28 14:53 G 17060084.92 17060085.12 17060085.35 0.0088 0.0050

## **43RD MILLENNIUM CE**

## This is a list of transits of Earth in the 43rd millennium CE.

FROM	MAX-	С	START	MAX	END	SUNRAD	DEPTH	S
	TRANSIT							
	TIME							

Saturn 42002-04-24 23:17 G 17062089.23 17062089.47 17062089.71 0.0295 0.0002 Jupiter 42005-11-19 23:31 G 17063394.27 17063394.48 17063394.70 0.0500 0.0187 Mars 42010-03-17 13:26 G 17064972.91 17064973.06 17064973.20 0.1600 0.0990 Jupiter 42011-05-02 08:10 G 17065383.69 17065383.84 17065384.00 0.0523 0.0386 Saturn 42015-10-26 07:41 G 17067021.58 17067021.82 17067022.07 0.0267 0.0036 Jupiter 42017-11-24 14:10 G 17067781.92 17067782.09 17067782.27 0.0500 0.0323 Uranus 42019-05-28 14:24 G 17068332.02 17068332.10 17068332.21 0.0134 0.0124 Uranus 42020-05-31 21:22 G 17068701.17 17068701.39 17068701.63 0.0134 0.0056 Uranus 42021-06-05 04:48 G 17069070.45 17069070.70 17069070.96 0.0134 0.0013 Uranus 42022-06-09 12:14 G 17069439.81 17069440.01 17069440.22 0.0134 0.0082 Jupiter 42023-05-07 03:50 G 17069771.45 17069771.66 17069771.87 0.0523 0.0236 Jupiter 42028-10-27 11:02 G 17071771.96 17071771.96 17071771.97 0.0504 0.0503 Jupiter 42029-11-29 04:05 G 17072169.58 17072169.67 17072169.77 0.0499 0.0456 Saturn 42031-04-18 19:41 G 17072675.23 17072675.32 17072675.42 0.0292 0.0268 Jupiter 42035-05-12 02:38 G 17074159.38 17074159.61 17074159.84 0.0524 0.0079 Jupiter 42040-11-01 00:29 G 17076159.38 17076159.52 17076159.69 0.0502 0.0373 Saturn 42044-10-20 03:50 G 17077608.47 17077608.66 17077608.86 0.0270 0.0164 Jupiter 42047-05-17 02:10 G 17078547.36 17078547.59 17078547.82 0.0526 0.0078

Jupiter 42052-11-05 15:22 G 17080546.93 17080547.14 17080547.35 0.0502 0.0235 Jupiter 42059-05-22 01:12 G 17082935.35 17082935.55 17082935.76 0.0526 0.0235 Uranus 42060-11-29 13:26 G 17083492.90 17083493.06 17083493.25 0.0145 0.0105 Pluto 42061-01-19 09:36 G 17083543.66 17083543.90 17083544.17 0.0078 0.0012 Saturn 42061-04-25 23:31 G 17083640.24 17083640.48 17083640.72 0.0295 0.0052 Uranus 42061-12-04 15:07 G 17083862.88 17083863.13 17083863.38 0.0144 0.0017 Uranus 42062-12-09 16:05 G 17084232.95 17084233.17 17084233.40 0.0144 0.0069 Jupiter 42064-11-10 05:02 G 17084934.48 17084934.71 17084934.95 0.0501 0.0100 Jupiter 42071-05-26 23:46 G 17087323.33 17087323.49 17087323.64 0.0526 0.0391 Neptune 42074-04-17 00:00 G 17088379.41 17088379.50 17088379.64 0.0089 0.0080 Saturn 42074-10-27 05:17 G 17088572.48 17088572.72 17088572.95 0.0267 0.0080 Neptune 42075-04-19 11:46 G 17088746.80 17088746.99 17088747.20 0.0089 0.0056 Neptune 42076-04-20 23:17 G 17089114.25 17089114.47 17089114.73 0.0089 0.0033 Jupiter 42076-11-14 19:41 G 17089322.09 17089322.32 17089322.56 0.0501 0.0040 Neptune 42077-04-23 11:17 G 17089481.72 17089481.97 17089482.23 0.0089 0.0008 Neptune 42078-04-25 23:02 G 17089849.21 17089849.46 17089849.72 0.0089 0.0016 Neptune 42079-04-28 10:34 G 17090216.72 17090216.94 17090217.18 0.0089 0.0040 Neptune 42080-04-29 22:05 G 17090584.27 17090584.42 17090584.63 0.0089 0.0064 Neptune 42081-05-02 09:50 G 17090951.89 17090951.91 17090952.00 0.0089 0.0088 Jupiter 42088-11-19 10:05 G 17093709.70 17093709.92 17093710.14 0.0500 0.0176 42089-03-19 12:58 G 17093829.88 17093830.04 17093830.20 0.1602 0.0825 Mars Saturn 42090-04-19 23:02 G 17094226.29 17094226.46 17094226.63 0.0293 0.0210 Jupiter 42094-05-01 14:10 G 17095698.95 17095699.09 17095699.24 0.0523 0.0407 Jupiter 42100-11-24 20:38 G 17098097.18 17098097.36 17098097.55 0.0499 0.0305 Uranus 42103-05-30 03:36 G 17099013.55 17099013.65 17099013.79 0.0134 0.0118 Saturn 42103-10-23 02:53 G 17099159.40 17099159.62 17099159.85 0.0270 0.0118 Uranus 42104-06-02 10:48 G 17099382.72 17099382.95 17099383.19 0.0134 0.0050 Uranus 42105-06-06 18:00 G 17099752.00 17099752.25 17099752.51 0.0134 0.0019 Jupiter 42106-05-07 11:17 G 17100086.77 17100086.97 17100087.17 0.0524 0.0258 Uranus 42106-06-11 01:26 G 17100121.38 17100121.56 17100121.77 0.0134 0.0087

Jupiter 42112-11-29 09:22 G 17102484.78 17102484.89 17102485.00 0.0499 0.0437 Jupiter 42118-05-12 09:36 G 17104474.68 17104474.90 17104475.13 0.0525 0.0103 Saturn 42120-04-28 05:31 G 17105191.51 17105191.73 17105191.96 0.0295 0.0115 Jupiter 42123-11-02 07:41 G 17106474.67 17106474.82 17106474.97 0.0503 0.0391 Jupiter 42130-05-17 07:41 G 17108862.59 17108862.82 17108863.05 0.0525 0.0057 Saturn 42133-10-29 05:46 G 17110123.53 17110123.74 17110123.96 0.0267 0.0128 Jupiter 42135-11-06 22:05 G 17110862.22 17110862.42 17110862.62 0.0502 0.0253 Jupiter 42142-05-22 03:22 G 17113250.43 17113250.64 17113250.85 0.0526 0.0211 Uranus 42144-12-01 02:24 G 17114174.42 17114174.60 17114174.80 0.0145 0.0099 Uranus 42145-12-06 04:05 G 17114544.42 17114544.67 17114544.93 0.0144 0.0011 Uranus 42146-12-11 05:02 G 17114914.50 17114914.71 17114914.93 0.0144 0.0076 Jupiter 42147-11-11 12:58 G 17115249.82 17115250.04 17115250.27 0.0501 0.0116 Saturn 42149-04-22 07:12 G 17115777.60 17115777.80 17115778.03 0.0293 0.0144 Jupiter 42154-05-27 02:38 G 17117638.45 17117638.61 17117638.77 0.0526 0.0370 Neptune 42155-10-18 11:02 G 17118147.87 17118147.96 17118148.10 0.0088 0.0078 Neptune 42156-10-19 22:34 G 17118515.26 17118515.44 17118515.67 0.0088 0.0055 Neptune 42157-10-22 10:34 G 17118882.71 17118882.94 17118883.19 0.0088 0.0032 Neptune 42158-10-24 22:19 G 17119250.18 17119250.43 17119250.70 0.0088 0.0009 Neptune 42159-10-27 10:05 G 17119617.67 17119617.92 17119618.18 0.0088 0.0014 Jupiter 42159-11-16 01:26 G 17119637.32 17119637.56 17119637.79 0.0500 0.0017 Neptune 42160-10-28 21:36 G 17119985.17 17119985.40 17119985.64 0.0088 0.0037 Neptune 42161-10-31 09:07 G 17120352.70 17120352.88 17120353.07 0.0088 0.0060 Saturn 42162-10-24 06:00 G 17120710.52 17120710.75 17120711.00 0.0270 0.0066 Neptune 42162-11-02 20:24 G 17120720.28 17120720.35 17120720.44 0.0088 0.0083 Jupiter 42166-06-01 01:41 G 17122026.56 17122026.57 17122026.60 0.0527 0.0526 Jupiter 42171-11-20 14:24 G 17124024.87 17124025.10 17124025.32 0.0500 0.0154 Jupiter 42177-05-01 17:31 G 17126014.11 17126014.23 17126014.36 0.0523 0.0435 Saturn 42179-04-30 17:17 G 17126743.04 17126743.22 17126743.41 0.0295 0.0189 Jupiter 42183-11-25 01:41 G 17128412.39 17128412.57 17128412.77 0.0499 0.0288 Uranus 42187-05-30 15:50 G 17129695.04 17129695.16 17129695.30 0.0134 0.0113

Uranus 42188-06-02 22:48 G 17130064.22 17130064.45 17130064.70 0.0134 0.0045 Jupiter 42189-05-06 14:53 G 17130401.93 17130402.12 17130402.32 0.0523 0.0282 Uranus 42189-06-07 06:14 G 17130433.51 17130433.76 17130434.01 0.0134 0.0023 Uranus 42190-06-11 13:26 G 17130802.89 17130803.06 17130803.26 0.0134 0.0092 Saturn 42191-10-19 03:36 G 17131297.62 17131297.65 17131297.70 0.0271 0.0268 Saturn 42192-10-30 10:34 G 17131674.78 17131674.94 17131675.13 0.0267 0.0184 Jupiter 42195-11-29 14:24 G 17132799.99 17132800.10 17132800.23 0.0499 0.0421 Jupiter 42201-05-12 09:36 G 17134789.68 17134789.90 17134790.13 0.0524 0.0129 Jupiter 42206-11-02 12:00 G 17136789.88 17136790.00 17136790.14 0.0503 0.0413 Saturn 42208-04-24 22:05 G 17137329.18 17137329.42 17137329.66 0.0293 0.0066 Jupiter 42213-05-17 06:58 G 17139177.56 17139177.79 17139178.02 0.0525 0.0029 Jupiter 42218-11-07 02:38 G 17141177.42 17141177.61 17141177.81 0.0502 0.0277 Pluto 42221-07-21 23:31 G 17142165.25 17142165.48 17142165.75 0.0066 0.0018 Saturn 42221-10-26 12:58 G 17142261.80 17142262.04 17142262.29 0.0269 0.0009 Jupiter 42225-05-22 04:05 G 17143565.45 17143565.67 17143565.89 0.0526 0.0184 Uranus 42228-12-02 13:12 G 17144855.87 17144856.05 17144856.26 0.0145 0.0094 Uranus 42229-12-07 15:07 G 17145225.88 17145226.13 17145226.39 0.0144 0.0007 Jupiter 42230-11-11 16:05 G 17145564.94 17145565.17 17145565.39 0.0501 0.0140 Uranus 42230-12-12 16:05 G 17145595.97 17145596.17 17145596.40 0.0144 0.0081 Jupiter 42237-05-27 02:53 G 17147953.45 17147953.62 17147953.80 0.0526 0.0342 Saturn 42238-05-03 09:50 G 17148294.83 17148294.91 17148295.02 0.0295 0.0270 Neptune 42239-04-20 19:12 G 17148647.16 17148647.30 17148647.49 0.0089 0.0069 Neptune 42240-04-22 06:58 G 17149014.59 17149014.79 17149015.03 0.0089 0.0046 Neptune 42241-04-24 18:58 G 17149382.05 17149382.29 17149382.55 0.0089 0.0021 Neptune 42242-04-27 06:43 G 17149749.53 17149749.78 17149750.04 0.0089 0.0003 Jupiter 42242-11-16 03:07 G 17149952.40 17149952.63 17149952.87 0.0501 0.0007 Neptune 42243-04-29 18:14 G 17150117.03 17150117.26 17150117.52 0.0089 0.0027 Neptune 42244-05-01 06:00 G 17150484.55 17150484.75 17150484.98 0.0089 0.0051 Neptune 42245-05-03 17:31 G 17150852.12 17150852.23 17150852.40 0.0089 0.0075 Jupiter 42249-06-01 01:26 G 17152341.50 17152341.56 17152341.64 0.0527 0.0499

Saturn 42250-10-21 13:26 G 17152848.90 17152849.06 17152849.22 0.0271 0.0206 Saturn 42251-11-02 19:41 G 17153226.23 17153226.32 17153226.43 0.0267 0.0243 Jupiter 42254-11-20 15:50 G 17154339.94 17154340.16 17154340.39 0.0500 0.0132 Jupiter 42260-05-01 16:05 G 17156329.07 17156329.17 17156329.28 0.0522 0.0464 Jupiter 42266-11-25 04:48 G 17158727.51 17158727.70 17158727.90 0.0500 0.0268 Saturn 42267-04-27 16:34 G 17158880.95 17158881.19 17158881.43 0.0294 0.0018 Uranus 42271-06-01 03:50 G 17160376.52 17160376.66 17160376.82 0.0134 0.0108 Jupiter 42272-05-06 11:31 G 17160716.80 17160716.98 17160717.17 0.0523 0.0315 Uranus 42272-06-04 10:48 G 17160745.72 17160745.95 17160746.20 0.0134 0.0040 Uranus 42273-06-08 18:00 G 17161115.01 17161115.25 17161115.50 0.0134 0.0028 Uranus 42274-06-13 01:41 G 17161484.40 17161484.57 17161484.75 0.0134 0.0096 Jupiter 42278-11-29 16:34 G 17163115.05 17163115.19 17163115.34 0.0499 0.0398 Saturn 42280-10-27 23:46 G 17163813.25 17163813.49 17163813.74 0.0269 0.0056 Jupiter 42284-05-11 06:29 G 17165104.55 17165104.77 17165104.99 0.0525 0.0163 Jupiter 42289-11-01 14:10 G 17167104.99 17167105.09 17167105.21 0.0503 0.0438 Mars 42294-03-20 22:05 G 17168705.24 17168705.42 17168705.61 0.1599 0.0160 Saturn 42296-04-21 01:41 G 17169467.43 17169467.57 17169467.74 0.0291 0.0226 Jupiter 42296-05-16 04:48 G 17169492.47 17169492.70 17169492.93 0.0525 0.0007 Jupiter 42301-11-07 01:12 G 17171492.37 17171492.55 17171492.74 0.0502 0.0304 Jupiter 42308-05-22 02:53 G 17173880.40 17173880.62 17173880.85 0.0525 0.0156 Pluto 42309-01-23 17:31 G 17174126.98 17174127.23 17174127.49 0.0078 0.0013 Saturn 42309-10-24 01:55 G 17174400.38 17174400.58 17174400.81 0.0271 0.0140 Uranus 42312-12-03 20:24 G 17175537.17 17175537.35 17175537.56 0.0145 0.0093 Jupiter 42313-11-11 14:24 G 17175879.88 17175880.10 17175880.32 0.0502 0.0167 Uranus 42313-12-08 22:34 G 17175907.18 17175907.44 17175907.69 0.0144 0.0005 Uranus 42314-12-13 23:17 G 17176277.28 17176277.47 17176277.69 0.0144 0.0082 Jupiter 42320-05-26 22:19 G 17178268.25 17178268.43 17178268.62 0.0526 0.0310 Neptune 42320-10-21 06:00 G 17178415.61 17178415.75 17178415.94 0.0088 0.0068 Neptune 42321-10-23 17:31 G 17178783.03 17178783.23 17178783.48 0.0088 0.0045 Neptune 42322-10-26 05:31 G 17179150.49 17179150.73 17179150.99 0.0088 0.0022

Neptune 42323-10-28 17:17 G 17179517.96 17179518.22 17179518.48 0.0088 0.0002 Neptune 42324-10-30 04:34 G 17179885.45 17179885.69 17179885.95 0.0088 0.0025 Neptune 42325-11-01 16:19 G 17180252.97 17180253.18 17180253.40 0.0088 0.0048 Jupiter 42325-11-16 04:05 G 17180267.43 17180267.67 17180267.90 0.0501 0.0031 Saturn 42326-04-30 13:41 G 17180432.85 17180433.07 17180433.30 0.0294 0.0108 Neptune 42326-11-04 03:36 G 17180620.52 17180620.65 17180620.82 0.0088 0.0071 Jupiter 42332-05-31 19:41 G 17182656.22 17182656.32 17182656.43 0.0527 0.0468 Jupiter 42337-11-20 17:31 G 17184655.00 17184655.23 17184655.46 0.0500 0.0107 Saturn 42339-10-31 12:58 G 17185364.83 17185365.04 17185365.27 0.0268 0.0123 Jupiter 42343-05-02 10:19 G 17186643.88 17186643.93 17186644.00 0.0522 0.0501 Jupiter 42349-11-25 05:31 G 17189042.53 17189042.73 17189042.94 0.0499 0.0244 Saturn 42355-04-24 22:34 G 17191019.23 17191019.44 17191019.66 0.0292 0.0141 Jupiter 42355-05-07 07:55 G 17191031.66 17191031.83 17191032.00 0.0523 0.0348 Uranus 42355-06-02 15:22 G 17191057.98 17191058.14 17191058.30 0.0134 0.0104 Uranus 42356-06-05 22:19 G 17191427.18 17191427.43 17191427.67 0.0134 0.0036 Uranus 42357-06-10 05:31 G 17191796.49 17191796.73 17191796.98 0.0134 0.0032 Uranus 42358-06-14 12:29 G 17192165.88 17192166.02 17192166.21 0.0134 0.0101 Jupiter 42361-11-29 14:38 G 17193429.96 17193430.11 17193430.27 0.0499 0.0374 Mars 42364-09-20 12:14 G 17194455.87 17194456.01 17194456.14 0.1934 0.1424 Jupiter 42367-05-12 06:00 G 17195419.53 17195419.75 17195419.96 0.0524 0.0191 Saturn 42368-10-25 16:48 G 17195951.97 17195952.20 17195952.45 0.0270 0.0070 Jupiter 42372-11-01 09:50 G 17197419.84 17197419.91 17197420.01 0.0503 0.0469 Jupiter 42379-05-17 00:43 G 17199807.30 17199807.53 17199807.76 0.0524 0.0037 Jupiter 42384-11-06 00:29 G 17201807.35 17201807.52 17201807.70 0.0503 0.0332 Saturn 42385-05-02 11:46 G 17201984.82 17201984.99 17201985.18 0.0295 0.0198 Jupiter 42391-05-21 20:53 G 17204195.15 17204195.37 17204195.60 0.0525 0.0121 Jupiter 42396-11-10 15:36 G 17206194.94 17206195.15 17206195.38 0.0502 0.0193 Uranus 42396-12-04 03:50 G 17206218.47 17206218.66 17206218.86 0.0145 0.0091 Saturn 42397-10-20 19:12 G 17206539.26 17206539.30 17206539.36 0.0272 0.0266 Uranus 42397-12-09 05:46 G 17206588.49 17206588.74 17206589.00 0.0144 0.0004

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Jupiter 42604-05-06 11:31 G 17281976.85 17281976.98 17281977.12 0.0522 0.0426 Saturn 42604-11-03 11:31 G 17282157.81 17282157.98 17282158.17 0.0268 0.0179 Uranus 42607-06-06 00:29 G 17283102.35 17283102.52 17283102.71 0.0134 0.0093 Uranus 42608-06-09 07:41 G 17283471.57 17283471.82 17283472.07 0.0134 0.0025 Uranus 42609-06-13 14:53 G 17283840.89 17283841.12 17283841.37 0.0134 0.0044 Uranus 42610-06-17 22:05 G 17284210.30 17284210.42 17284210.58 0.0134 0.0113 Jupiter 42610-11-29 21:07 G 17284375.20 17284375.38 17284375.56 0.0500 0.0317 Jupiter 42616-05-11 08:10 G 17286364.64 17286364.84 17286365.04 0.0523 0.0271 Saturn 42620-04-27 03:36 G 17287811.43 17287811.65 17287811.88 0.0292 0.0110 Jupiter 42622-12-04 11:02 G 17288762.87 17288762.96 17288763.06 0.0500 0.0453 Jupiter 42628-05-16 04:19 G 17290752.46 17290752.68 17290752.91 0.0524 0.0113 Saturn 42633-10-29 09:36 G 17292744.65 17292744.90 17292745.14 0.0269 0.0022 Jupiter 42633-11-06 08:53 G 17292752.73 17292752.87 17292753.02 0.0504 0.0399 Jupiter 42640-05-21 00:00 G 17295140.27 17295140.50 17295140.73 0.0525 0.0047 Jupiter 42645-11-11 00:58 G 17297140.34 17297140.54 17297140.75 0.0503 0.0256 Mars 42648-09-21 05:02 G 17298185.54 17298185.71 17298185.88 0.1937 0.1106 Uranus 42648-12-07 13:26 G 17298262.86 17298263.06 17298263.29 0.0144 0.0079 Neptune 42649-10-24 10:05 G 17298583.79 17298583.92 17298584.10 0.0088 0.0070 Uranus 42649-12-12 15:07 G 17298632.87 17298633.13 17298633.38 0.0144 0.0009 Saturn 42650-05-05 05:46 G 17298776.58 17298776.74 17298776.93 0.0295 0.0208 Neptune 42650-10-26 22:05 G 17298951.20 17298951.42 17298951.65 0.0088 0.0046 Uranus 42650-12-17 15:07 G 17299002.96 17299003.13 17299003.34 0.0144 0.0095 Neptune 42651-10-29 09:36 G 17299318.66 17299318.90 17299319.16 0.0088 0.0023 Jupiter 42652-05-26 00:00 G 17299528.29 17299528.50 17299528.72 0.0525 0.0213 Neptune 42652-10-30 21:22 G 17299686.13 17299686.39 17299686.65 0.0088 0.0001 Neptune 42653-11-02 08:38 G 17300053.62 17300053.86 17300054.12 0.0088 0.0024 Neptune 42654-11-04 20:10 G 17300421.13 17300421.34 17300421.57 0.0088 0.0047 Neptune 42655-11-07 07:26 G 17300788.68 17300788.81 17300788.99 0.0088 0.0071 Jupiter 42657-11-15 11:31 G 17301527.76 17301527.98 17301528.22 0.0502 0.0121 Saturn 42662-10-24 05:46 G 17303331.62 17303331.74 17303331.89 0.0272 0.0228

Saturn 42663-11-05 13:41 G 17303708.94 17303709.07 17303709.20 0.0268 0.0228 Jupiter 42664-05-31 01:41 G 17303916.41 17303916.57 17303916.73 0.0526 0.0379 Jupiter 42669-11-20 01:55 G 17305915.34 17305915.58 17305915.81 0.0501 0.0025 Saturn 42679-04-29 01:41 G 17309362.34 17309362.57 17309362.81 0.0292 0.0063 Jupiter 42681-11-24 16:34 G 17310302.97 17310303.19 17310303.42 0.0501 0.0165 Jupiter 42687-05-06 18:43 G 17312292.17 17312292.28 17312292.41 0.0522 0.0445 Uranus 42691-06-06 10:19 G 17313783.77 17313783.93 17313784.14 0.0134 0.0090 Uranus 42692-06-09 17:46 G 17314152.99 17314153.24 17314153.49 0.0134 0.0021 Saturn 42692-10-30 09:36 G 17314295.65 17314295.90 17314296.15 0.0269 0.0025 Uranus 42693-06-14 00:43 G 17314522.31 17314522.53 17314522.78 0.0134 0.0048 Jupiter 42693-11-29 08:24 G 17314690.66 17314690.85 17314691.03 0.0500 0.0308 Uranus 42694-06-18 08:24 G 17314891.74 17314891.85 17314891.99 0.0134 0.0116 Jupiter 42699-05-11 13:41 G 17316679.88 17316680.07 17316680.27 0.0523 0.0290 Jupiter 42705-12-04 22:19 G 17319078.34 17319078.43 17319078.54 0.0499 0.0447 Saturn 42709-05-07 01:55 G 17320327.47 17320327.58 17320327.72 0.0295 0.0253 Jupiter 42711-05-17 12:58 G 17321067.81 17321068.04 17321068.26 0.0524 0.0127 Jupiter 42716-11-06 15:07 G 17323068.00 17323068.13 17323068.26 0.0503 0.0420 Pluto 42718-07-29 22:48 G 17323698.19 17323698.45 17323698.70 0.0066 0.0015 Saturn 42721-10-26 04:19 G 17324882.51 17324882.68 17324882.87 0.0272 0.0183 Jupiter 42723-05-22 13:41 G 17325455.84 17325456.07 17325456.30 0.0525 0.0037 Jupiter 42728-11-11 06:29 G 17327455.58 17327455.77 17327455.97 0.0502 0.0276 Neptune 42732-04-24 10:19 G 17328715.86 17328715.93 17328716.03 0.0089 0.0084 Uranus 42732-12-09 01:26 G 17328944.34 17328944.56 17328944.78 0.0144 0.0073 Neptune 42733-04-26 22:19 G 17329083.25 17329083.43 17329083.62 0.0089 0.0060 Uranus 42733-12-14 02:24 G 17329314.35 17329314.60 17329314.86 0.0144 0.0014 Neptune 42734-04-29 09:50 G 17329450.69 17329450.91 17329451.16 0.0089 0.0036 Uranus 42734-12-19 02:38 G 17329684.45 17329684.61 17329684.81 0.0144 0.0100 Neptune 42735-05-01 21:50 G 17329818.16 17329818.41 17329818.67 0.0089 0.0011 Jupiter 42735-05-27 12:00 G 17329843.79 17329844.00 17329844.22 0.0525 0.0200 Neptune 42736-05-03 09:36 G 17330185.65 17330185.90 17330186.16 0.0089 0.0013

Neptune 42737-05-05 21:22 G 17330553.17 17330553.39 17330553.63 0.0089 0.0038 Saturn 42738-04-30 19:55 G 17330913.09 17330913.33 17330913.57 0.0292 0.0021 Neptune 42738-05-08 09:07 G 17330920.70 17330920.88 17330921.07 0.0089 0.0062 Neptune 42739-05-10 20:24 G 17331288.31 17331288.35 17331288.45 0.0089 0.0087 Jupiter 42740-11-15 21:50 G 17331843.19 17331843.41 17331843.64 0.0502 0.0134 Jupiter 42747-06-01 10:05 G 17334231.75 17334231.92 17334232.09 0.0526 0.0364 Saturn 42751-11-02 06:29 G 17335846.54 17335846.77 17335847.02 0.0269 0.0068 Jupiter 42752-11-20 14:24 G 17336230.86 17336231.10 17336231.33 0.0501 0.0013 Jupiter 42759-06-06 07:12 G 17338619.79 17338619.80 17338619.83 0.0526 0.0524 Jupiter 42764-11-25 05:46 G 17340618.52 17340618.74 17340618.96 0.0501 0.0158 Saturn 42767-04-24 17:17 G 17341499.19 17341499.22 17341499.26 0.0290 0.0286 Saturn 42768-05-07 19:26 G 17341878.29 17341878.31 17341878.34 0.0295 0.0293 Jupiter 42770-05-07 04:48 G 17342607.61 17342607.70 17342607.82 0.0522 0.0460 Uranus 42775-06-07 20:24 G 17344465.17 17344465.35 17344465.56 0.0134 0.0086 Uranus 42776-06-11 03:36 G 17344834.40 17344834.65 17344834.90 0.0134 0.0018 Jupiter 42776-11-29 15:36 G 17345005.96 17345006.15 17345006.34 0.0500 0.0292 Uranus 42777-06-15 10:48 G 17345203.72 17345203.95 17345204.19 0.0134 0.0050 Uranus 42778-06-19 18:14 G 17345573.15 17345573.26 17345573.38 0.0134 0.0119 Saturn 42780-10-27 00:14 G 17346433.30 17346433.51 17346433.72 0.0272 0.0141 Jupiter 42782-05-12 04:05 G 17346995.49 17346995.67 17346995.87 0.0523 0.0302 42783-03-25 16:48 G 17347313.02 17347313.20 17347313.39 0.1596 0.0302 Mars Jupiter 42788-12-04 05:31 G 17349393.62 17349393.73 17349393.85 0.0499 0.0432 Jupiter 42794-05-17 02:38 G 17351383.39 17351383.61 17351383.83 0.0524 0.0140 Saturn 42797-05-01 13:12 G 17352463.80 17352464.05 17352464.29 0.0292 0.0019 Jupiter 42799-11-07 02:24 G 17353383.48 17353383.60 17353383.72 0.0504 0.0434 Pluto 42806-01-30 22:19 G 17355660.22 17355660.43 17355660.65 0.0078 0.0043 Jupiter 42806-05-22 00:14 G 17355771.28 17355771.51 17355771.74 0.0524 0.0023 Saturn 42810-11-03 01:12 G 17357397.33 17357397.55 17357397.78 0.0269 0.0107 Jupiter 42811-11-11 19:12 G 17357771.11 17357771.30 17357771.49 0.0503 0.0288 Neptune 42813-10-24 19:26 G 17358484.24 17358484.31 17358484.42 0.0088 0.0082

Neptune 42814-10-27 07:41 G 17358851.63 17358851.82 17358852.02 0.0088 0.0059 Neptune 42815-10-29 19:12 G 17359219.07 17359219.30 17359219.55 0.0088 0.0035 Neptune 42816-10-31 07:12 G 17359586.54 17359586.80 17359587.05 0.0088 0.0011 Uranus 42816-12-09 09:22 G 17359625.68 17359625.89 17359626.13 0.0144 0.0071 Neptune 42817-11-02 18:29 G 17359954.02 17359954.27 17359954.53 0.0088 0.0012 Uranus 42817-12-14 11:02 G 17359995.70 17359995.96 17359996.21 0.0144 0.0017 Jupiter 42818-05-26 20:38 G 17360159.14 17360159.36 17360159.58 0.0525 0.0186 Neptune 42818-11-05 05:46 G 17360321.52 17360321.74 17360321.99 0.0088 0.0036 Uranus 42818-12-19 11:02 G 17360365.81 17360365.96 17360366.16 0.0144 0.0103 Neptune 42819-11-07 17:17 G 17360689.05 17360689.22 17360689.43 0.0088 0.0059 Neptune 42820-11-09 04:34 G 17361056.63 17361056.69 17361056.81 0.0088 0.0083 Jupiter 42823-11-16 11:46 G 17362158.77 17362158.99 17362159.22 0.0502 0.0142 Saturn 42826-04-25 09:22 G 17363049.78 17363049.89 17363050.03 0.0290 0.0248 Jupiter 42830-05-31 21:22 G 17364547.23 17364547.39 17364547.57 0.0526 0.0355 Jupiter 42835-11-20 23:31 G 17366546.24 17366546.48 17366546.71 0.0501 0.0003 Saturn 42839-10-28 18:29 G 17367984.05 17367984.27 17367984.50 0.0272 0.0102 Jupiter 42842-06-05 23:02 G 17368935.43 17368935.46 17368935.50 0.0527 0.0520 Jupiter 42847-11-25 13:55 G 17370933.86 17370934.08 17370934.31 0.0500 0.0141 Jupiter 42853-05-06 18:43 G 17372923.19 17372923.28 17372923.38 0.0522 0.0476 Saturn 42856-05-02 05:46 G 17374014.50 17374014.74 17374014.98 0.0292 0.0059 Uranus 42859-06-08 05:31 G 17375146.54 17375146.73 17375146.94 0.0134 0.0083 Jupiter 42859-11-30 04:19 G 17375321.49 17375321.68 17375321.88 0.0500 0.0283 Uranus 42860-06-11 12:29 G 17375515.77 17375516.02 17375516.27 0.0134 0.0015 Uranus 42861-06-15 19:26 G 17375885.09 17375885.31 17375885.55 0.0134 0.0053 Mars 42862-03-27 15:50 G 17376170.11 17376170.16 17376170.22 0.1597 0.1515 Uranus 42862-06-20 03:07 G 17376254.53 17376254.63 17376254.74 0.0134 0.0122 Jupiter 42865-05-11 15:50 G 17377310.98 17377311.16 17377311.35 0.0523 0.0317 Saturn 42869-11-03 19:26 G 17378948.11 17378948.31 17378948.53 0.0269 0.0147 Jupiter 42871-12-04 19:26 G 17379709.20 17379709.31 17379709.44 0.0500 0.0426 Jupiter 42877-05-16 11:46 G 17381698.77 17381698.99 17381699.21 0.0524 0.0157

Jupiter 42882-11-06 15:50 G 17383699.06 17383699.16 17383699.28 0.0504 0.0445 Saturn 42885-04-26 03:50 G 17384600.50 17384600.66 17384600.84 0.0290 0.0206 Jupiter 42889-05-21 10:48 G 17386086.72 17386086.95 17386087.18 0.0525 0.0012 Jupiter 42894-11-11 05:46 G 17388086.55 17388086.74 17388086.92 0.0502 0.0306 Neptune 42897-04-26 08:10 G 17388983.72 17388983.84 17388984.02 0.0089 0.0073 Neptune 42898-04-28 20:24 G 17389351.15 17389351.35 17389351.58 0.0089 0.0048 Saturn 42898-10-29 12:29 G 17389534.79 17389535.02 17389535.27 0.0272 0.0063 Neptune 42899-05-01 07:55 G 17389718.60 17389718.83 17389719.09 0.0089 0.0024 Neptune 42900-05-03 19:55 G 17390086.08 17390086.33 17390086.59 0.0089 0.0001 Uranus 42900-12-10 15:22 G 17390306.92 17390307.14 17390307.36 0.0144 0.0070 Neptune 42901-05-06 07:41 G 17390453.58 17390453.82 17390454.07 0.0089 0.0026 Jupiter 42901-05-27 11:02 G 17390474.74 17390474.96 17390475.18 0.0526 0.0176 Uranus 42901-12-15 16:19 G 17390676.93 17390677.18 17390677.44 0.0144 0.0017 Neptune 42902-05-08 19:41 G 17390821.11 17390821.32 17390821.53 0.0089 0.0050 Uranus 42902-12-20 16:48 G 17391047.04 17391047.20 17391047.39 0.0144 0.0103 Neptune 42903-05-11 06:43 G 17391188.67 17391188.78 17391188.95 0.0089 0.0075 Jupiter 42906-11-16 20:53 G 17392474.15 17392474.37 17392474.59 0.0501 0.0160 Jupiter 42913-06-01 10:19 G 17394862.76 17394862.93 17394863.11 0.0526 0.0342 Saturn 42915-05-05 00:43 G 17395565.31 17395565.53 17395565.76 0.0292 0.0104 Jupiter 42918-11-21 11:17 G 17396861.73 17396861.97 17396862.20 0.0501 0.0015 Jupiter 42925-06-06 09:07 G 17399250.82 17399250.88 17399250.94 0.0526 0.0506 Saturn 42928-11-05 14:10 G 17400498.92 17400499.09 17400499.27 0.0270 0.0187 Jupiter 42930-11-26 02:38 G 17401249.39 17401249.61 17401249.84 0.0501 0.0132 Jupiter 42936-05-07 03:36 G 17403238.58 17403238.65 17403238.72 0.0522 0.0494 Jupiter 42942-11-30 17:31 G 17405637.03 17405637.23 17405637.43 0.0500 0.0275 Uranus 42943-06-09 14:24 G 17405827.92 17405828.10 17405828.33 0.0134 0.0081 Saturn 42944-04-28 00:29 G 17406151.32 17406151.52 17406151.73 0.0290 0.0159 Uranus 42944-06-12 21:36 G 17406197.15 17406197.40 17406197.66 0.0134 0.0013 Uranus 42945-06-17 04:48 G 17406566.48 17406566.70 17406566.94 0.0134 0.0056 Uranus 42946-06-21 12:00 G 17406935.92 17406936.00 17406936.11 0.0134 0.0124

Jupiter 42948-05-12 01:12 G 17407626.37 17407626.55 17407626.73 0.0523 0.0333 Jupiter 42954-12-05 04:19 G 17410024.55 17410024.68 17410024.81 0.0499 0.0409 Saturn 42957-10-31 07:55 G 17411085.59 17411085.83 17411086.08 0.0272 0.0021 Jupiter 42960-05-16 23:02 G 17412014.24 17412014.46 17412014.68 0.0524 0.0174 Jupiter 42965-11-07 01:26 G 17414014.47 17414014.56 17414014.65 0.0503 0.0463 Pluto 42966-07-31 23:17 G 17414281.23 17414281.47 17414281.72 0.0066 0.0023 Jupiter 42972-05-21 22:05 G 17416402.19 17416402.42 17416402.65 0.0525 0.0009 Saturn 42974-05-06 00:14 G 17417116.30 17417116.51 17417116.72 0.0292 0.0155 Jupiter 42977-11-11 15:36 G 17418401.98 17418402.15 17418402.34 0.0503 0.0322 Neptune 42978-10-27 16:34 G 17418752.07 17418752.19 17418752.37 0.0088 0.0071 Neptune 42979-10-30 04:48 G 17419119.50 17419119.70 17419119.93 0.0088 0.0047 Neptune 42980-10-31 16:34 G 17419486.95 17419487.19 17419487.45 0.0088 0.0024 Neptune 42981-11-03 04:19 G 17419854.42 17419854.68 17419854.94 0.0088 0.0000 Neptune 42982-11-05 15:36 G 17420221.91 17420222.15 17420222.41 0.0088 0.0024 Neptune 42983-11-08 03:07 G 17420589.43 17420589.63 17420589.87 0.0088 0.0048 Jupiter 42984-05-26 20:10 G 17420790.12 17420790.34 17420790.56 0.0525 0.0159 Neptune 42984-11-09 14:38 G 17420956.97 17420957.11 17420957.27 0.0088 0.0071 Uranus 42984-12-10 20:38 G 17420988.14 17420988.36 17420988.59 0.0144 0.0070 Uranus 42985-12-15 21:50 G 17421358.16 17421358.41 17421358.67 0.0144 0.0017 Saturn 42986-10-25 21:22 G 17421672.28 17421672.39 17421672.51 0.0274 0.0241 Uranus 42986-12-20 22:19 G 17421728.27 17421728.43 17421728.62 0.0144 0.0103 Saturn 42987-11-07 10:48 G 17422049.83 17422049.95 17422050.08 0.0270 0.0230 Mars 42988-03-25 02:24 G 17422188.49 17422188.60 17422188.71 0.1594 0.1281 Jupiter 42989-11-16 06:58 G 17422789.57 17422789.79 17422790.02 0.0502 0.0175 Jupiter 42996-05-31 16:34 G 17425178.00 17425178.19 17425178.37 0.0526 0.0323

### **44TH MILLENNIUM CE**

#### This is a list of transits of Earth in the 44th millennium CE.

FROM MAX- C START MAX END SUNRAD DEPTH S

TRANSIT

TIME

Jupiter 43001-11-21 22:34 G 17427177.21 17427177.44 17427177.68 0.0501 0.0028 Saturn 43003-05-01 01:41 G 17427702.35 17427702.57 17427702.80 0.0290 0.0104 Jupiter 43008-06-06 16:05 G 17429566.10 17429566.17 17429566.26 0.0526 0.0491 Jupiter 43013-11-26 10:48 G 17431564.73 17431564.95 17431565.19 0.0500 0.0113 Saturn 43016-11-02 05:31 G 17432636.49 17432636.73 17432636.98 0.0272 0.0026 Jupiter 43019-05-08 11:02 G 17433553.94 17433553.96 17433553.99 0.0522 0.0518 Jupiter 43025-12-01 00:29 G 17435952.32 17435952.52 17435952.73 0.0499 0.0256 Uranus 43027-06-10 23:02 G 17436509.27 17436509.46 17436509.68 0.0134 0.0079 Uranus 43028-06-14 06:00 G 17436878.50 17436878.75 17436879.01 0.0134 0.0011 Uranus 43029-06-18 13:12 G 17437247.84 17437248.05 17437248.29 0.0134 0.0058 Uranus 43030-06-22 20:53 G 17437617.30 17437617.37 17437617.46 0.0134 0.0127 Jupiter 43031-05-13 09:07 G 17437941.71 17437941.88 17437942.05 0.0523 0.0357 Saturn 43033-05-08 03:36 G 17438667.49 17438667.65 17438667.82 0.0292 0.0214 Jupiter 43037-12-05 12:58 G 17440339.90 17440340.04 17440340.19 0.0499 0.0396 Jupiter 43043-05-18 06:43 G 17442329.57 17442329.78 17442330.00 0.0524 0.0194 Saturn 43045-10-27 20:53 G 17443223.20 17443223.37 17443223.55 0.0274 0.0193 Jupiter 43048-11-07 08:24 G 17444329.79 17444329.85 17444329.92 0.0504 0.0483 Pluto 43054-02-02 17:31 G 17446242.99 17446243.23 17446243.49 0.0078 0.0024 Jupiter 43055-05-23 01:55 G 17446717.35 17446717.58 17446717.81 0.0524 0.0033 Jupiter 43060-11-12 00:14 G 17448717.35 17448717.51 17448717.69 0.0503 0.0339 Neptune 43061-04-27 19:26 G 17448884.25 17448884.31 17448884.42 0.0089 0.0085 Neptune 43062-04-30 06:58 G 17449251.63 17449251.79 17449252.00 0.0089 0.0061

Saturn 43062-05-02 08:10 G 17449253.60 17449253.84 17449254.08 0.0290 0.0041 Neptune 43063-05-02 18:58 G 17449619.06 17449619.29 17449619.53 0.0089 0.0035 Neptune 43064-05-04 06:43 G 17449986.53 17449986.78 17449987.04 0.0089 0.0011 Neptune 43065-05-06 18:29 G 17450354.02 17450354.27 17450354.53 0.0089 0.0014 Neptune 43066-05-09 06:00 G 17450721.54 17450721.75 17450722.00 0.0089 0.0038 Mars 43067-03-29 01:55 G 17451045.40 17451045.58 17451045.75 0.1595 0.0532 Neptune 43067-05-11 18:00 G 17451089.08 17451089.25 17451089.44 0.0089 0.0063 Jupiter 43067-05-28 00:00 G 17451105.28 17451105.50 17451105.73 0.0525 0.0136 Neptune 43068-05-13 05:31 G 17451456.70 17451456.73 17451456.81 0.0089 0.0088 Uranus 43068-12-12 04:19 G 17451669.46 17451669.68 17451669.91 0.0144 0.0068 Uranus 43069-12-17 05:31 G 17452039.48 17452039.73 17452039.99 0.0144 0.0018 Uranus 43070-12-22 06:14 G 17452409.59 17452409.76 17452409.93 0.0144 0.0104 Jupiter 43072-11-16 14:38 G 17453104.90 17453105.11 17453105.33 0.0501 0.0196 Saturn 43075-11-04 06:58 G 17454187.55 17454187.79 17454188.03 0.0272 0.0075 Jupiter 43079-06-01 21:50 G 17455493.23 17455493.41 17455493.61 0.0526 0.0301 Jupiter 43084-11-21 04:48 G 17457492.46 17457492.70 17457492.93 0.0501 0.0050 Saturn 43091-04-26 16:48 G 17459840.18 17459840.20 17459840.26 0.0287 0.0283 Jupiter 43091-06-06 21:22 G 17459881.29 17459881.39 17459881.50 0.0527 0.0467 Saturn 43092-05-09 12:43 G 17460218.99 17460219.03 17460219.10 0.0292 0.0283 Jupiter 43096-11-25 16:48 G 17461879.97 17461880.20 17461880.43 0.0500 0.0094 Saturn 43104-10-30 00:14 G 17464774.30 17464774.51 17464774.72 0.0274 0.0139 Jupiter 43108-12-01 06:00 G 17466267.55 17466267.75 17466267.96 0.0500 0.0238 Uranus 43111-06-12 08:10 G 17467190.64 17467190.84 17467191.05 0.0134 0.0076 Uranus 43112-06-15 15:22 G 17467559.89 17467560.14 17467560.39 0.0134 0.0008 Uranus 43113-06-19 22:48 G 17467929.23 17467929.45 17467929.68 0.0134 0.0060 Jupiter 43114-05-13 11:17 G 17468256.82 17468256.97 17468257.13 0.0523 0.0384 Uranus 43114-06-24 06:00 G 17468298.71 17468298.75 17468298.84 0.0134 0.0130 Jupiter 43120-12-05 19:26 G 17470655.17 17470655.31 17470655.47 0.0499 0.0381 Saturn 43121-05-04 19:41 G 17470805.08 17470805.32 17470805.57 0.0290 0.0031 Jupiter 43126-05-18 07:26 G 17472644.60 17472644.81 17472645.02 0.0524 0.0223

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Jupiter 43203-12-05 21:50 G 17500970.25 17500970.41 17500970.57 0.0499 0.0356 Saturn 43209-04-30 23:46 G 17502943.28 17502943.49 17502943.72 0.0288 0.0131 Jupiter 43209-05-17 06:00 G 17502959.55 17502959.75 17502959.95 0.0524 0.0257 Pluto 43214-08-03 22:48 G 17504864.42 17504864.45 17504864.54 0.0066 0.0064 Pluto 43215-08-05 12:58 G 17505230.82 17505231.04 17505231.30 0.0066 0.0027 Jupiter 43215-12-10 07:55 G 17505357.80 17505357.83 17505357.86 0.0499 0.0494 Jupiter 43221-05-22 03:36 G 17507347.43 17507347.65 17507347.88 0.0524 0.0091 Saturn 43222-11-02 19:41 G 17507877.07 17507877.32 17507877.56 0.0273 0.0014 Neptune 43226-04-30 18:14 G 17509152.13 17509152.26 17509152.43 0.0089 0.0072 Jupiter 43226-11-12 03:36 G 17509347.51 17509347.65 17509347.80 0.0503 0.0392 Neptune 43227-05-03 06:14 G 17509519.55 17509519.76 17509519.98 0.0089 0.0048 Neptune 43228-05-04 17:31 G 17509887.00 17509887.23 17509887.49 0.0089 0.0024 Neptune 43229-05-07 05:31 G 17510254.47 17510254.73 17510254.98 0.0089 0.0002 Neptune 43230-05-09 16:48 G 17510621.97 17510622.20 17510622.46 0.0089 0.0026 Neptune 43231-05-12 04:48 G 17510989.49 17510989.70 17510989.91 0.0089 0.0051 Neptune 43232-05-13 16:05 G 17511357.06 17511357.17 17511357.33 0.0089 0.0076 Jupiter 43233-05-26 22:34 G 17511735.21 17511735.44 17511735.67 0.0525 0.0074 Uranus 43236-12-14 02:38 G 17513032.39 17513032.61 17513032.85 0.0144 0.0059 Uranus 43237-12-19 04:05 G 17513402.42 17513402.67 17513402.92 0.0144 0.0027 Jupiter 43238-11-16 18:00 G 17513735.05 17513735.25 17513735.46 0.0502 0.0246 Uranus 43238-12-24 04:34 G 17513772.54 17513772.69 17513772.85 0.0144 0.0113 Saturn 43239-05-09 07:12 G 17513908.63 17513908.80 17513908.98 0.0291 0.0197 Jupiter 43245-05-31 18:58 G 17516123.09 17516123.29 17516123.50 0.0526 0.0241 Jupiter 43250-11-21 08:53 G 17518122.64 17518122.87 17518123.10 0.0501 0.0099 Saturn 43251-10-28 18:00 G 17518464.12 17518464.25 17518464.41 0.0275 0.0220 Saturn 43252-11-09 09:36 G 17518841.83 17518841.90 17518841.97 0.0271 0.0258 Jupiter 43257-06-05 14:53 G 17520510.97 17520511.12 17520511.27 0.0527 0.0404 Jupiter 43262-11-25 22:05 G 17522510.19 17522510.42 17522510.66 0.0500 0.0048 Saturn 43268-05-02 19:41 G 17524495.08 17524495.32 17524495.56 0.0289 0.0047 43272-03-28 10:48 G 17525920.77 17525920.95 17525921.13 0.1594 0.0457 Mars

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Saturn 43327-05-06 14:53 G 17546046.88 17546047.12 17546047.36 0.0289 0.0036 Jupiter 43328-05-31 14:38 G 17546437.90 17546438.11 17546438.33 0.0526 0.0208 Jupiter 43333-11-21 05:31 G 17548437.50 17548437.73 17548437.96 0.0502 0.0129 Jupiter 43340-06-05 14:24 G 17550825.94 17550826.10 17550826.26 0.0526 0.0377 Saturn 43340-11-07 01:41 G 17550980.36 17550980.57 17550980.79 0.0272 0.0129 Jupiter 43345-11-25 18:14 G 17552825.02 17552825.26 17552825.49 0.0501 0.0020 43351-04-01 10:19 G 17554777.84 17554777.93 17554778.03 0.1595 0.1358 Mars Saturn 43356-04-30 02:53 G 17556633.46 17556633.62 17556633.80 0.0288 0.0204 Jupiter 43357-11-30 07:26 G 17557212.59 17557212.81 17557213.04 0.0500 0.0163 Jupiter 43363-05-12 04:19 G 17559201.59 17559201.68 17559201.76 0.0522 0.0483 Uranus 43363-06-14 10:19 G 17559234.71 17559234.93 17559235.15 0.0134 0.0068 Uranus 43364-06-17 17:31 G 17559603.98 17559604.23 17559604.48 0.0134 0.0001 Uranus 43365-06-22 00:29 G 17559973.32 17559973.52 17559973.76 0.0134 0.0069 Saturn 43369-11-02 02:10 G 17561567.35 17561567.59 17561567.83 0.0274 0.0075 Jupiter 43369-12-04 21:50 G 17561600.22 17561600.41 17561600.59 0.0500 0.0309 Jupiter 43375-05-16 20:53 G 17563589.19 17563589.37 17563589.55 0.0523 0.0328 Jupiter 43381-12-09 10:05 G 17565987.83 17565987.92 17565988.02 0.0499 0.0451 Saturn 43386-05-08 08:53 G 17567598.65 17567598.87 17567599.09 0.0290 0.0117 Jupiter 43387-05-21 18:43 G 17567977.06 17567977.28 17567977.50 0.0524 0.0160 Neptune 43390-05-01 05:46 G 17569052.69 17569052.74 17569052.85 0.0089 0.0085 Neptune 43391-05-03 17:46 G 17569420.06 17569420.24 17569420.44 0.0089 0.0060 Neptune 43392-05-05 05:31 G 17569787.50 17569787.73 17569787.97 0.0089 0.0035 Jupiter 43392-11-11 00:58 G 17569977.45 17569977.54 17569977.65 0.0503 0.0451 Neptune 43393-05-07 16:48 G 17570154.96 17570155.20 17570155.46 0.0089 0.0011 Neptune 43394-05-10 04:34 G 17570522.44 17570522.69 17570522.95 0.0089 0.0015 Neptune 43395-05-12 15:50 G 17570889.95 17570890.16 17570890.41 0.0089 0.0040 Neptune 43396-05-14 03:22 G 17571257.49 17571257.64 17571257.85 0.0089 0.0065 Neptune 43397-05-16 15:07 G 17571625.12 17571625.13 17571625.18 0.0089 0.0089 Jupiter 43399-05-26 17:46 G 17572365.01 17572365.24 17572365.47 0.0525 0.0011 Saturn 43399-11-09 16:34 G 17572532.03 17572532.19 17572532.36 0.0271 0.0199

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Jupiter 43689-11-30 03:07 G 17678473.40 17678473.63 17678473.86 0.0501 0.0083 Saturn 43693-11-06 02:38 G 17679910.36 17679910.61 17679910.85 0.0275 0.0005 Uranus 43698-06-13 13:26 G 17681591.01 17681591.06 17681591.15 0.0134 0.0128 Uranus 43699-06-17 20:24 G 17681960.13 17681960.35 17681960.58 0.0134 0.0060 Uranus 43700-06-22 03:36 G 17682329.40 17682329.65 17682329.91 0.0134 0.0008 Uranus 43701-06-26 10:34 G 17682698.75 17682698.94 17682699.17 0.0134 0.0077 Jupiter 43701-12-05 17:46 G 17682861.03 17682861.24 17682861.45 0.0500 0.0235 Jupiter 43707-05-18 00:00 G 17684850.37 17684850.50 17684850.65 0.0522 0.0415 Saturn 43710-05-11 22:48 G 17685940.24 17685940.45 17685940.67 0.0289 0.0137 43711-08-11 09:22 G 17686396.87 17686396.89 17686396.95 0.0066 0.0065 Pluto Pluto 43712-08-11 23:02 G 17686763.25 17686763.46 17686763.72 0.0066 0.0026 Jupiter 43713-12-10 07:55 G 17687248.69 17687248.83 17687248.99 0.0500 0.0384 Neptune 43719-05-05 15:50 G 17689221.10 17689221.16 17689221.27 0.0089 0.0084 Jupiter 43719-05-22 21:07 G 17689238.18 17689238.38 17689238.59 0.0523 0.0246 Neptune 43720-05-07 03:36 G 17689588.48 17689588.65 17689588.86 0.0089 0.0060 Neptune 43721-05-09 15:22 G 17689955.92 17689956.14 17689956.39 0.0089 0.0035 Neptune 43722-05-12 03:07 G 17690323.38 17690323.63 17690323.89 0.0089 0.0010 Saturn 43722-11-01 11:17 G 17690496.85 17690496.97 17690497.12 0.0277 0.0231 Neptune 43723-05-14 14:38 G 17690690.87 17690691.11 17690691.37 0.0089 0.0016 Saturn 43723-11-14 06:29 G 17690874.69 17690874.77 17690874.84 0.0272 0.0258 Neptune 43724-05-16 02:10 G 17691058.37 17691058.59 17691058.83 0.0089 0.0041 Neptune 43725-05-18 13:41 G 17691425.91 17691426.07 17691426.26 0.0089 0.0066 Jupiter 43731-05-27 16:34 G 17693625.97 17693626.19 17693626.42 0.0524 0.0077 Jupiter 43736-11-16 19:55 G 17695626.18 17695626.33 17695626.48 0.0504 0.0382 Saturn 43739-05-06 00:00 G 17696526.28 17696526.50 17696526.72 0.0287 0.0125 Uranus 43739-12-16 02:38 G 17696750.53 17696750.61 17696750.73 0.0144 0.0132 Uranus 43740-12-20 04:34 G 17697120.45 17697120.69 17697120.94 0.0144 0.0045 Uranus 43741-12-25 05:17 G 17697490.49 17697490.72 17697490.98 0.0144 0.0041 Uranus 43742-12-30 06:00 G 17697860.64 17697860.75 17697860.88 0.0144 0.0126 Jupiter 43743-06-01 16:05 G 17698013.94 17698014.17 17698014.39 0.0525 0.0100

Jupiter 43748-11-21 09:22 G 17700013.68 17700013.89 17700014.10 0.0502 0.0234 Saturn 43752-11-07 20:53 G 17701461.13 17701461.37 17701461.62 0.0275 0.0042 Jupiter 43755-06-06 16:19 G 17702401.99 17702402.18 17702402.38 0.0526 0.0275 Jupiter 43760-11-26 00:43 G 17704401.30 17704401.53 17704401.76 0.0501 0.0081 Mars 43761-04-02 05:17 G 17704528.55 17704528.72 17704528.89 0.1594 0.0632 Jupiter 43767-06-11 16:05 G 17706790.06 17706790.17 17706790.29 0.0526 0.0448 Saturn 43769-05-12 15:36 G 17707490.97 17707491.15 17707491.36 0.0289 0.0178 Jupiter 43772-11-30 15:22 G 17708788.91 17708789.14 17708789.37 0.0501 0.0071 Saturn 43781-11-02 04:34 G 17712047.52 17712047.69 17712047.87 0.0277 0.0192 Uranus 43782-06-14 22:48 G 17712272.38 17712272.45 17712272.56 0.0134 0.0125 Uranus 43783-06-19 06:00 G 17712641.52 17712641.75 17712641.98 0.0134 0.0057 Uranus 43784-06-22 12:58 G 17713010.79 17713011.04 17713011.29 0.0134 0.0011 Jupiter 43784-12-05 07:12 G 17713176.59 17713176.80 17713177.01 0.0501 0.0226 Uranus 43785-06-26 19:55 G 17713380.14 17713380.33 17713380.55 0.0134 0.0079 Jupiter 43790-05-17 09:50 G 17715165.78 17715165.91 17715166.04 0.0522 0.0432 Jupiter 43796-12-09 22:19 G 17717564.28 17717564.43 17717564.58 0.0500 0.0377 Saturn 43798-05-06 17:02 G 17718076.98 17718077.21 17718077.45 0.0287 0.0084 Pluto 43800-02-14 03:07 G 17718725.50 17718725.63 17718725.81 0.0078 0.0062 Neptune 43800-11-04 20:38 G 17718989.27 17718989.36 17718989.45 0.0088 0.0083 Neptune 43801-11-07 07:55 G 17719356.65 17719356.83 17719357.04 0.0088 0.0059 Jupiter 43802-05-23 07:41 G 17719553.62 17719553.82 17719554.02 0.0523 0.0262 Neptune 43802-11-09 19:41 G 17719724.09 17719724.32 17719724.57 0.0088 0.0034 Neptune 43803-11-12 07:41 G 17720091.56 17720091.82 17720092.08 0.0088 0.0010 Neptune 43804-11-13 19:12 G 17720459.05 17720459.30 17720459.57 0.0088 0.0015 Neptune 43805-11-16 06:43 G 17720826.56 17720826.78 17720827.03 0.0088 0.0039 Neptune 43806-11-18 18:14 G 17721194.10 17721194.26 17721194.46 0.0088 0.0063 Neptune 43807-11-21 06:00 G 17721561.74 17721561.75 17721561.80 0.0088 0.0087 Saturn 43811-11-10 13:41 G 17723011.83 17723012.07 17723012.31 0.0275 0.0081 Jupiter 43814-05-28 06:14 G 17723941.53 17723941.76 17723941.99 0.0524 0.0091 Jupiter 43819-11-18 06:14 G 17725941.62 17725941.76 17725941.90 0.0503 0.0400

Uranus 43823-12-17 15:07 G 17727432.01 17727432.13 17727432.25 0.0144 0.0126 Uranus 43824-12-21 16:48 G 17727801.95 17727802.20 17727802.44 0.0144 0.0040 Uranus 43825-12-26 17:31 G 17728171.99 17728172.23 17728172.47 0.0144 0.0046 Jupiter 43826-06-02 05:31 G 17728329.51 17728329.73 17728329.96 0.0525 0.0085 Uranus 43826-12-31 18:14 G 17728542.16 17728542.26 17728542.36 0.0144 0.0131 Saturn 43828-05-14 09:22 G 17729041.74 17729041.89 17729042.06 0.0289 0.0218 Jupiter 43831-11-22 21:07 G 17730329.18 17730329.38 17730329.58 0.0502 0.0248 Jupiter 43838-06-07 03:50 G 17732717.46 17732717.66 17732717.86 0.0525 0.0260 43840-04-05 04:34 G 17733385.57 17733385.69 17733385.81 0.1594 0.1214 Mars Saturn 43840-11-03 21:50 G 17733598.22 17733598.41 17733598.63 0.0277 0.0153 Jupiter 43843-11-27 12:58 G 17734716.81 17734717.04 17734717.28 0.0502 0.0094 Jupiter 43850-06-12 00:43 G 17737105.40 17737105.53 17737105.66 0.0526 0.0432 Jupiter 43855-12-02 04:48 G 17739104.47 17739104.70 17739104.94 0.0501 0.0063 Saturn 43857-05-08 12:00 G 17739627.76 17739628.00 17739628.24 0.0287 0.0041 Uranus 43866-06-16 07:41 G 17742953.73 17742953.82 17742953.93 0.0134 0.0122 Uranus 43867-06-20 14:10 G 17743322.87 17743323.09 17743323.33 0.0134 0.0055 Jupiter 43867-12-06 17:17 G 17743492.01 17743492.22 17743492.44 0.0500 0.0209 Uranus 43868-06-23 21:22 G 17743692.14 17743692.39 17743692.65 0.0134 0.0013 Uranus 43869-06-28 04:19 G 17744061.49 17744061.68 17744061.90 0.0134 0.0081 Saturn 43870-11-11 07:12 G 17744562.58 17744562.80 17744563.03 0.0275 0.0121 Jupiter 43873-05-17 20:38 G 17745481.25 17745481.36 17745481.48 0.0523 0.0453 Jupiter 43879-12-11 07:12 G 17747879.65 17747879.80 17747879.97 0.0499 0.0361 Neptune 43884-05-07 14:38 G 17749488.97 17749489.11 17749489.27 0.0089 0.0072 Neptune 43885-05-10 02:24 G 17749856.39 17749856.60 17749856.82 0.0089 0.0047 Jupiter 43885-05-22 19:26 G 17749869.11 17749869.31 17749869.50 0.0523 0.0281 Neptune 43886-05-12 14:10 G 17750223.84 17750224.09 17750224.34 0.0089 0.0022 Neptune 43887-05-15 01:55 G 17750591.32 17750591.58 17750591.83 0.0089 0.0003 Saturn 43887-05-16 06:14 G 17750592.67 17750592.76 17750592.86 0.0289 0.0265 Neptune 43888-05-16 13:12 G 17750958.82 17750959.05 17750959.30 0.0089 0.0029 Neptune 43889-05-19 00:58 G 17751326.34 17751326.54 17751326.75 0.0089 0.0054

Neptune 43890-05-21 12:29 G 17751693.92 17751694.02 17751694.16 0.0089 0.0079 Jupiter 43897-05-27 17:17 G 17754256.99 17754257.22 17754257.45 0.0524 0.0106 Saturn 43899-11-05 16:34 G 17755148.96 17755149.19 17755149.41 0.0277 0.0113 Jupiter 43902-11-18 16:34 G 17756257.06 17756257.19 17756257.32 0.0503 0.0416 Uranus 43907-12-19 01:26 G 17758113.43 17758113.56 17758113.70 0.0144 0.0122 Uranus 43908-12-23 03:07 G 17758483.38 17758483.63 17758483.88 0.0144 0.0035 Jupiter 43909-06-02 12:58 G 17758644.82 17758645.04 17758645.27 0.0525 0.0066 Uranus 43909-12-28 03:50 G 17758853.44 17758853.66 17758853.92 0.0144 0.0051 Uranus 43911-01-02 04:48 G 17759223.63 17759223.70 17759223.79 0.0144 0.0136 Jupiter 43914-11-23 09:07 G 17760644.68 17760644.88 17760645.08 0.0503 0.0262 Saturn 43916-05-10 10:19 G 17761178.69 17761178.93 17761179.17 0.0287 0.0009 Jupiter 43921-06-07 11:46 G 17763032.79 17763032.99 17763033.20 0.0525 0.0242 Jupiter 43926-11-27 23:17 G 17765032.24 17765032.47 17765032.70 0.0501 0.0112 Saturn 43929-11-13 03:22 G 17766113.45 17766113.64 17766113.84 0.0275 0.0164 Jupiter 43933-06-12 10:34 G 17767420.81 17767420.94 17767421.09 0.0527 0.0416 Jupiter 43938-12-02 13:55 G 17769419.85 17769420.08 17769420.32 0.0500 0.0043 Mars 43942-10-04 09:36 G 17770821.72 17770821.90 17770822.09 0.1939 0.0788 Saturn 43945-05-04 18:43 G 17771765.16 17771765.28 17771765.43 0.0284 0.0235 Uranus 43950-06-17 16:48 G 17773635.10 17773635.20 17773635.33 0.0134 0.0119 Jupiter 43950-12-07 02:53 G 17773807.41 17773807.62 17773807.84 0.0500 0.0195 Uranus 43951-06-21 23:31 G 17774004.25 17774004.48 17774004.72 0.0134 0.0052 Uranus 43952-06-25 06:29 G 17774373.52 17774373.77 17774374.03 0.0134 0.0016 Uranus 43953-06-29 13:12 G 17774742.87 17774743.05 17774743.27 0.0134 0.0085 Jupiter 43956-05-18 06:29 G 17775796.68 17775796.77 17775796.87 0.0522 0.0471 Saturn 43958-11-07 14:10 G 17776699.86 17776700.09 17776700.34 0.0277 0.0066 Pluto 43960-08-14 19:55 G 17777346.11 17777346.33 17777346.60 0.0066 0.0025 Jupiter 43962-12-11 16:48 G 17778195.04 17778195.20 17778195.37 0.0500 0.0347 Neptune 43965-11-07 18:14 G 17779257.12 17779257.26 17779257.43 0.0088 0.0071 Neptune 43966-11-10 06:00 G 17779624.55 17779624.75 17779624.99 0.0088 0.0046 Neptune 43967-11-12 18:14 G 17779992.01 17779992.26 17779992.51 0.0088 0.0021 Jupiter 43968-05-23 01:26 G 17780184.38 17780184.56 17780184.75 0.0523 0.0304 Neptune 43968-11-14 05:46 G 17780359.48 17780359.74 17780360.00 0.0088 0.0003 Neptune 43969-11-16 17:17 G 17780726.98 17780727.22 17780727.47 0.0088 0.0027 Neptune 43970-11-19 04:19 G 17781094.50 17781094.68 17781094.92 0.0088 0.0052 Neptune 43971-11-21 16:19 G 17781462.07 17781462.18 17781462.33 0.0088 0.0076 Jupiter 43974-12-16 07:12 G 17782582.77 17782582.80 17782582.83 0.0499 0.0495 Saturn 43975-05-12 13:55 G 17782729.85 17782730.08 17782730.32 0.0287 0.0067 Jupiter 43980-05-27 22:34 G 17784572.21 17784572.44 17784572.66 0.0524 0.0131 Jupiter 43985-11-18 02:10 G 17786572.48 17786572.59 17786572.71 0.0503 0.0436 Saturn 43988-11-14 02:53 G 17787664.47 17787664.62 17787664.78 0.0275 0.0212 Uranus 43991-12-19 08:53 G 17788794.73 17788794.87 17788795.01 0.0144 0.0120 Jupiter 43992-06-01 18:58 G 17788960.06 17788960.29 17788960.52 0.0525 0.0040 Uranus 43992-12-23 10:34 G 17789164.69 17789164.94 17789165.19 0.0144 0.0033 Uranus 43993-12-28 11:31 G 17789534.75 17789534.98 17789535.23 0.0144 0.0053 Uranus 43995-01-02 12:14 G 17789904.96 17789905.01 17789905.10 0.0144 0.0138 Jupiter 43997-11-22 17:17 G 17790960.03 17790960.22 17790960.42 0.0502 0.0282

## **45TH MILLENNIUM CE**

#### This is a list of transits of Earth in the 45th millennium CE.

FROM MAX- C START MAX END SUNRAD DEPTH S

TRANSIT

TIME

Saturn 44004-05-06 00:14 G 17793316.33 17793316.51 17793316.71 0.0284 0.0175

Jupiter 44004-06-06 18:00 G 17793348.05 17793348.25 17793348.47 0.0526 0.0219

Jupiter 44009-11-27 06:00 G 17795347.53 17795347.75 17795347.98 0.0502 0.0131

Jupiter 44016-06-11 16:48 G 17797736.05 17797736.20 17797736.36 0.0526 0.0396 Saturn 44017-11-08 16:05 G 17798250.92 17798251.17 17798251.42 0.0277 0.0013 Jupiter 44021-12-01 20:10 G 17799735.10 17799735.34 17799735.58 0.0501 0.0024 Jupiter 44033-12-06 10:34 G 17804122.72 17804122.94 17804123.16 0.0500 0.0178 Saturn 44034-05-13 22:05 G 17804281.21 17804281.42 17804281.64 0.0287 0.0133 Uranus 44034-06-18 01:41 G 17804316.46 17804316.57 17804316.71 0.0134 0.0117 Uranus 44035-06-22 07:55 G 17804685.61 17804685.83 17804686.08 0.0134 0.0050 Uranus 44036-06-25 15:07 G 17805054.88 17805055.13 17805055.38 0.0134 0.0018 Uranus 44037-06-29 21:50 G 17805424.23 17805424.41 17805424.62 0.0134 0.0086 Jupiter 44039-05-18 08:53 G 17806111.82 17806111.87 17806111.95 0.0522 0.0500 44045-04-05 14:10 G 17808260.91 17808261.09 17808261.28 0.1594 0.0217 Mars Jupiter 44045-12-10 23:31 G 17808510.31 17808510.48 17808510.66 0.0499 0.0326 Saturn 44046-11-03 06:14 G 17808837.65 17808837.76 17808837.90 0.0279 0.0240 Saturn 44047-11-16 06:43 G 17809215.73 17809215.78 17809215.84 0.0274 0.0267 Pluto 44048-02-16 17:31 G 17809307.98 17809308.23 17809308.48 0.0078 0.0022 Neptune 44048-05-08 00:43 G 17809389.48 17809389.53 17809389.64 0.0089 0.0085 Neptune 44049-05-10 12:29 G 17809756.85 17809757.02 17809757.23 0.0089 0.0060 Neptune 44050-05-13 00:14 G 17810124.29 17810124.51 17810124.76 0.0089 0.0035 Neptune 44051-05-15 12:14 G 17810491.76 17810492.01 17810492.27 0.0089 0.0009 Jupiter 44051-05-23 02:38 G 17810499.44 17810499.61 17810499.79 0.0523 0.0337 Neptune 44052-05-16 23:46 G 17810859.25 17810859.49 17810859.75 0.0089 0.0016 Neptune 44053-05-19 11:17 G 17811226.76 17811226.97 17811227.22 0.0089 0.0042 Neptune 44054-05-21 22:48 G 17811594.30 17811594.45 17811594.64 0.0089 0.0067 Jupiter 44057-12-15 12:14 G 17812897.94 17812898.01 17812898.08 0.0499 0.0474 Saturn 44063-05-08 11:31 G 17814867.76 17814867.98 17814868.21 0.0284 0.0106 Jupiter 44063-05-28 01:12 G 17814887.33 17814887.55 17814887.77 0.0524 0.0161 Jupiter 44068-11-17 05:31 G 17816887.65 17816887.73 17816887.83 0.0503 0.0461 Jupiter 44075-06-01 23:02 G 17819275.23 17819275.46 17819275.70 0.0525 0.0019 Uranus 44075-12-19 14:38 G 17819475.99 17819476.11 17819476.27 0.0145 0.0120 Saturn 44076-11-09 22:19 G 17819802.19 17819802.43 17819802.68 0.0277 0.0046

Uranus 44076-12-23 16:34 G 17819845.95 17819846.19 17819846.44 0.0144 0.0033 Uranus 44077-12-28 18:00 G 17820216.01 17820216.25 17820216.49 0.0144 0.0053 Uranus 44079-01-02 18:43 G 17820586.24 17820586.28 17820586.36 0.0144 0.0139 Jupiter 44080-11-21 19:55 G 17821275.15 17821275.33 17821275.52 0.0503 0.0307 Jupiter 44087-06-06 18:29 G 17823663.06 17823663.27 17823663.49 0.0525 0.0189 Jupiter 44092-11-26 10:34 G 17825662.71 17825662.94 17825663.16 0.0502 0.0154 Saturn 44093-05-15 11:17 G 17825832.82 17825832.97 17825833.15 0.0288 0.0209 Jupiter 44099-06-11 15:22 G 17828050.99 17828051.14 17828051.32 0.0526 0.0365 Jupiter 44104-12-02 01:12 G 17830050.32 17830050.55 17830050.79 0.0501 0.0004 Saturn 44105-11-05 14:53 G 17830388.95 17830389.12 17830389.33 0.0279 0.0177 Jupiter 44116-12-06 14:38 G 17834437.89 17834438.11 17834438.34 0.0500 0.0155 Uranus 44118-06-19 11:02 G 17834997.84 17834997.96 17834998.10 0.0134 0.0114 Uranus 44119-06-23 17:46 G 17835367.01 17835367.24 17835367.48 0.0134 0.0047 Uranus 44120-06-27 00:29 G 17835736.28 17835736.52 17835736.78 0.0134 0.0021 Uranus 44121-07-01 07:12 G 17836105.63 17836105.80 17836106.01 0.0134 0.0089 Saturn 44122-05-11 02:38 G 17836419.37 17836419.61 17836419.85 0.0285 0.0030 Jupiter 44128-12-11 01:12 G 17838825.36 17838825.55 17838825.73 0.0500 0.0303 Neptune 44129-11-08 03:22 G 17839157.58 17839157.64 17839157.75 0.0088 0.0083 Neptune 44130-11-10 15:36 G 17839524.97 17839525.15 17839525.36 0.0088 0.0058 Neptune 44131-11-13 03:22 G 17839892.41 17839892.64 17839892.89 0.0088 0.0034 Neptune 44132-11-14 15:22 G 17840259.88 17840260.14 17840260.40 0.0088 0.0009 Neptune 44133-11-17 02:53 G 17840627.37 17840627.62 17840627.88 0.0088 0.0015 Jupiter 44134-05-23 05:46 G 17840814.57 17840814.74 17840814.90 0.0523 0.0362 Neptune 44134-11-19 14:10 G 17840994.88 17840995.09 17840995.35 0.0088 0.0040 Saturn 44135-11-13 09:07 G 17841353.66 17841353.88 17841354.12 0.0276 0.0113 Neptune 44135-11-22 01:41 G 17841362.42 17841362.57 17841362.77 0.0088 0.0064 Jupiter 44140-12-15 13:26 G 17843212.96 17843213.06 17843213.15 0.0499 0.0452 Jupiter 44146-05-28 00:14 G 17845202.30 17845202.51 17845202.73 0.0523 0.0193 Saturn 44151-05-05 19:26 G 17847006.22 17847006.31 17847006.41 0.0283 0.0260 Jupiter 44151-11-18 06:58 G 17847202.74 17847202.79 17847202.84 0.0504 0.0489

Jupiter 44158-06-01 19:41 G 17849590.09 17849590.32 17849590.56 0.0524 0.0023 Uranus 44159-12-20 21:22 G 17850157.26 17850157.39 17850157.55 0.0145 0.0119 Uranus 44160-12-24 23:17 G 17850527.23 17850527.47 17850527.73 0.0144 0.0033 Uranus 44161-12-30 00:58 G 17850897.30 17850897.54 17850897.78 0.0144 0.0054 Uranus 44163-01-04 01:41 G 17851267.53 17851267.57 17851267.65 0.0144 0.0140 Jupiter 44163-11-22 23:17 G 17851590.30 17851590.47 17851590.65 0.0503 0.0334 Saturn 44164-11-07 04:19 G 17851940.46 17851940.68 17851940.92 0.0278 0.0106 Jupiter 44170-06-06 13:55 G 17853977.86 17853978.08 17853978.30 0.0526 0.0151 Jupiter 44175-11-27 13:26 G 17855977.85 17855978.06 17855978.29 0.0502 0.0179 Saturn 44181-05-12 20:53 G 17857971.13 17857971.37 17857971.61 0.0285 0.0051 Jupiter 44182-06-11 12:43 G 17858365.85 17858366.03 17858366.21 0.0526 0.0331 Jupiter 44187-12-02 00:00 G 17860365.27 17860365.50 17860365.74 0.0501 0.0029 Jupiter 44194-06-16 11:46 G 17862753.94 17862753.99 17862754.06 0.0527 0.0510 Saturn 44194-11-14 23:17 G 17862905.29 17862905.47 17862905.66 0.0276 0.0183 Jupiter 44199-12-06 12:29 G 17864752.79 17864753.02 17864753.25 0.0500 0.0126 Uranus 44202-06-20 19:55 G 17865679.21 17865679.33 17865679.48 0.0134 0.0112 Uranus 44203-06-25 02:24 G 17866048.37 17866048.60 17866048.85 0.0134 0.0045 Uranus 44204-06-28 09:36 G 17866417.65 17866417.90 17866418.15 0.0134 0.0023 Uranus 44205-07-02 16:19 G 17866787.01 17866787.18 17866787.38 0.0134 0.0092 Pluto 44209-08-19 08:24 G 17868295.61 17868295.85 17868296.10 0.0066 0.0021 Saturn 44210-05-08 13:26 G 17868557.87 17868558.06 17868558.25 0.0284 0.0181 Jupiter 44211-12-12 01:41 G 17869140.38 17869140.57 17869140.77 0.0500 0.0277 Neptune 44213-05-11 22:48 G 17869657.32 17869657.45 17869657.62 0.0089 0.0073 Neptune 44214-05-14 10:19 G 17870024.74 17870024.93 17870025.17 0.0089 0.0048 Neptune 44215-05-16 22:19 G 17870392.19 17870392.43 17870392.68 0.0089 0.0022 Neptune 44216-05-18 10:05 G 17870759.67 17870759.92 17870760.18 0.0089 0.0004 Neptune 44217-05-20 21:22 G 17871127.17 17871127.39 17871127.65 0.0089 0.0030 Jupiter 44217-05-23 01:12 G 17871129.41 17871129.55 17871129.70 0.0522 0.0400 Neptune 44218-05-23 09:07 G 17871494.70 17871494.88 17871495.11 0.0089 0.0055 Neptune 44219-05-25 20:53 G 17871862.28 17871862.37 17871862.50 0.0089 0.0080 Saturn 44223-11-10 20:10 G 17873492.10 17873492.34 17873492.59 0.0277 0.0032 Jupiter 44223-12-16 15:07 G 17873528.02 17873528.13 17873528.26 0.0499 0.0429 44226-10-05 02:10 G 17874551.53 17874551.59 17874551.65 0.1938 0.1847 Mars Jupiter 44229-05-27 17:46 G 17875517.04 17875517.24 17875517.45 0.0524 0.0234 Saturn 44240-05-15 15:36 G 17879522.95 17879523.15 17879523.38 0.0286 0.0135 Jupiter 44241-06-01 15:22 G 17879904.91 17879905.14 17879905.37 0.0524 0.0057 Uranus 44243-12-22 07:55 G 17880838.69 17880838.83 17880838.99 0.0145 0.0115 Uranus 44244-12-26 09:36 G 17881208.66 17881208.90 17881209.16 0.0144 0.0029 Uranus 44245-12-31 10:48 G 17881578.73 17881578.95 17881579.20 0.0144 0.0059 Jupiter 44246-11-22 19:55 G 17881905.17 17881905.33 17881905.49 0.0503 0.0366 Uranus 44247-01-05 12:00 G 17881948.99 17881949.00 17881949.04 0.0144 0.0143 44250-04-07 00:00 G 17883136.34 17883136.50 17883136.66 0.1594 0.0767 Mars Saturn 44252-11-04 14:24 G 17884079.01 17884079.10 17884079.21 0.0280 0.0255 Jupiter 44253-06-06 14:10 G 17884292.87 17884293.09 17884293.32 0.0525 0.0123 Saturn 44253-11-17 15:22 G 17884457.06 17884457.14 17884457.23 0.0275 0.0256 Jupiter 44258-11-27 09:22 G 17886292.68 17886292.89 17886293.10 0.0502 0.0212 Jupiter 44265-06-11 09:50 G 17888680.72 17888680.91 17888681.10 0.0525 0.0297 Saturn 44269-05-10 07:12 G 17890109.58 17890109.80 17890110.03 0.0285 0.0102 Jupiter 44270-12-01 23:02 G 17890680.23 17890680.46 17890680.70 0.0502 0.0058 Jupiter 44277-06-16 05:46 G 17893068.65 17893068.74 17893068.85 0.0526 0.0472 Saturn 44282-11-12 12:58 G 17895043.79 17895044.04 17895044.28 0.0277 0.0043 Jupiter 44282-12-06 14:10 G 17895067.86 17895068.09 17895068.32 0.0501 0.0100 Uranus 44286-06-21 05:46 G 17896360.62 17896360.74 17896360.91 0.0134 0.0109 Uranus 44287-06-25 12:43 G 17896729.80 17896730.03 17896730.28 0.0134 0.0042 Uranus 44288-06-28 20:10 G 17897099.09 17897099.34 17897099.58 0.0134 0.0026 Uranus 44289-07-03 02:53 G 17897468.45 17897468.62 17897468.81 0.0134 0.0094 Neptune 44294-11-11 00:29 G 17899425.39 17899425.52 17899425.70 0.0088 0.0071 Jupiter 44294-12-11 03:36 G 17899455.44 17899455.65 17899455.85 0.0500 0.0254 Neptune 44295-11-13 12:43 G 17899792.81 17899793.03 17899793.25 0.0088 0.0047 Neptune 44296-11-15 00:14 G 17900160.27 17900160.51 17900160.77 0.0088 0.0022

Pluto 44297-02-20 12:58 G 17900257.89 17900258.04 17900258.25 0.0077 0.0057 Neptune 44297-11-17 12:14 G 17900527.76 17900528.01 17900528.28 0.0088 0.0003 Neptune 44298-11-20 00:00 G 17900895.25 17900895.50 17900895.74 0.0088 0.0027 Saturn 44299-05-18 09:22 G 17901074.74 17901074.89 17901075.06 0.0287 0.0215 Neptune 44299-11-22 11:02 G 17901262.77 17901262.96 17901263.19 0.0088 0.0052 Jupiter 44300-05-22 20:53 G 17901444.25 17901444.37 17901444.50 0.0522 0.0437 Neptune 44300-11-24 23:02 G 17901630.33 17901630.46 17901630.59 0.0088 0.0076 Jupiter 44306-12-16 12:14 G 17903842.88 17903843.01 17903843.15 0.0499 0.0400 Saturn 44311-11-08 07:55 G 17905630.65 17905630.83 17905631.03 0.0279 0.0177 Jupiter 44312-05-27 19:12 G 17905832.10 17905832.30 17905832.50 0.0523 0.0262 Jupiter 44324-06-01 14:38 G 17910219.88 17910220.11 17910220.34 0.0524 0.0090 Uranus 44327-12-23 19:55 G 17911520.18 17911520.33 17911520.51 0.0145 0.0110 Saturn 44328-05-12 22:34 G 17911661.20 17911661.44 17911661.68 0.0285 0.0026 Uranus 44328-12-27 22:05 G 17911890.17 17911890.42 17911890.68 0.0144 0.0023 Mars 44329-04-09 23:46 G 17911993.35 17911993.49 17911993.62 0.1594 0.1079 Jupiter 44329-11-22 18:29 G 17912220.13 17912220.27 17912220.42 0.0504 0.0399 Uranus 44330-01-01 23:31 G 17912260.26 17912260.48 17912260.72 0.0144 0.0063 Jupiter 44336-06-06 09:50 G 17914607.69 17914607.91 17914608.14 0.0525 0.0086 Saturn 44341-11-15 05:02 G 17916595.49 17916595.71 17916595.93 0.0276 0.0118 Jupiter 44341-11-27 10:48 G 17916607.75 17916607.95 17916608.16 0.0503 0.0240 Jupiter 44348-06-11 03:50 G 17918995.46 17918995.66 17918995.86 0.0526 0.0260 Jupiter 44353-12-02 01:41 G 17920995.34 17920995.57 17920995.81 0.0502 0.0082 Saturn 44357-05-07 14:38 G 17922248.02 17922248.11 17922248.21 0.0283 0.0259 Jupiter 44360-06-16 03:07 G 17923383.51 17923383.63 17923383.75 0.0526 0.0441 Jupiter 44365-12-06 11:17 G 17925382.74 17925382.97 17925383.21 0.0501 0.0070 Uranus 44370-06-22 16:19 G 17927042.03 17927042.18 17927042.34 0.0134 0.0105 Saturn 44370-11-09 23:46 G 17927182.26 17927182.49 17927182.72 0.0278 0.0101 Uranus 44371-06-26 22:48 G 17927411.22 17927411.45 17927411.70 0.0134 0.0038 Uranus 44372-06-30 05:46 G 17927780.50 17927780.74 17927780.99 0.0134 0.0030 Uranus 44373-07-04 12:58 G 17928149.88 17928150.04 17928150.22 0.0134 0.0097

Neptune 44377-05-12 08:24 G 17929557.80 17929557.85 17929557.95 0.0089 0.0086 Jupiter 44377-12-11 00:14 G 17929770.31 17929770.51 17929770.73 0.0500 0.0224 Neptune 44378-05-14 19:55 G 17929925.16 17929925.33 17929925.54 0.0089 0.0061 Neptune 44379-05-17 07:26 G 17930292.60 17930292.81 17930293.07 0.0089 0.0036 Neptune 44380-05-18 19:26 G 17930660.05 17930660.31 17930660.56 0.0089 0.0010 Neptune 44381-05-21 06:43 G 17931027.54 17931027.78 17931028.05 0.0089 0.0017 Neptune 44382-05-23 18:14 G 17931395.05 17931395.26 17931395.50 0.0089 0.0042 Jupiter 44383-05-22 23:17 G 17931759.37 17931759.47 17931759.57 0.0522 0.0467 Neptune 44383-05-26 06:14 G 17931762.60 17931762.76 17931762.94 0.0089 0.0067 Saturn 44387-05-15 10:05 G 17933212.68 17933212.92 17933213.16 0.0286 0.0045 Jupiter 44389-12-15 13:41 G 17934157.92 17934158.07 17934158.23 0.0500 0.0376 Jupiter 44395-05-27 17:46 G 17936147.06 17936147.24 17936147.44 0.0523 0.0297 Saturn 44400-11-16 17:46 G 17938147.07 17938147.24 17938147.43 0.0275 0.0187 Jupiter 44407-06-01 11:02 G 17940534.74 17940534.96 17940535.19 0.0524 0.0125 Uranus 44411-12-24 09:22 G 17942201.72 17942201.89 17942202.07 0.0145 0.0103 Jupiter 44412-11-21 22:34 G 17942535.31 17942535.44 17942535.57 0.0504 0.0422 Uranus 44412-12-28 11:31 G 17942571.73 17942571.98 17942572.23 0.0144 0.0017 Uranus 44414-01-02 13:12 G 17942941.83 17942942.05 17942942.27 0.0144 0.0070 Saturn 44416-05-08 23:02 G 17943799.29 17943799.46 17943799.64 0.0283 0.0196 Jupiter 44419-06-06 09:07 G 17944922.65 17944922.88 17944923.11 0.0525 0.0055 Jupiter 44424-11-26 09:36 G 17946922.71 17946922.90 17946923.11 0.0503 0.0272 Saturn 44429-11-11 12:29 G 17948733.77 17948734.02 17948734.26 0.0278 0.0031 Jupiter 44431-06-11 09:22 G 17949310.68 17949310.89 17949311.10 0.0525 0.0239 Jupiter 44436-12-01 00:00 G 17951310.27 17951310.50 17951310.73 0.0502 0.0113 Jupiter 44443-06-16 06:43 G 17953698.65 17953698.78 17953698.92 0.0526 0.0416 Saturn 44446-05-16 16:48 G 17954763.98 17954764.20 17954764.43 0.0286 0.0108 Jupiter 44448-12-05 14:10 G 17955697.86 17955698.09 17955698.33 0.0501 0.0045 Uranus 44454-06-23 02:53 G 17957723.47 17957723.62 17957723.80 0.0134 0.0101 Uranus 44455-06-27 09:50 G 17958092.67 17958092.91 17958093.16 0.0134 0.0034 Uranus 44456-06-30 16:34 G 17958461.96 17958462.19 17958462.45 0.0134 0.0034

Uranus 44457-07-04 23:31 G 17958831.33 17958831.48 17958831.66 0.0134 0.0102 Pluto 44457-08-21 04:34 G 17958878.48 17958878.69 17958878.95 0.0066 0.0030 Pluto 44458-08-22 18:29 G 17959245.21 17959245.27 17959245.38 0.0066 0.0063 Saturn 44458-11-06 01:12 G 17959320.48 17959320.55 17959320.64 0.0280 0.0263 Neptune 44458-11-11 08:38 G 17959325.81 17959325.86 17959325.96 0.0088 0.0085 Neptune 44459-11-13 20:53 G 17959693.19 17959693.37 17959693.57 0.0088 0.0060 Saturn 44459-11-19 03:07 G 17959698.54 17959698.63 17959698.74 0.0275 0.0251 Neptune 44460-11-15 08:38 G 17960060.64 17960060.86 17960061.12 0.0088 0.0035 Jupiter 44460-12-10 06:00 G 17960085.54 17960085.75 17960085.97 0.0501 0.0204 Neptune 44461-11-17 20:38 G 17960428.11 17960428.36 17960428.63 0.0088 0.0010 Neptune 44462-11-20 08:24 G 17960795.61 17960795.85 17960796.12 0.0088 0.0015 Neptune 44463-11-22 19:41 G 17961163.11 17961163.32 17961163.57 0.0088 0.0040 Neptune 44464-11-24 07:26 G 17961530.65 17961530.81 17961531.01 0.0088 0.0064 Jupiter 44466-05-21 22:48 G 17962074.40 17962074.45 17962074.52 0.0521 0.0499 Jupiter 44472-12-14 20:24 G 17964473.19 17964473.35 17964473.51 0.0500 0.0360 Saturn 44475-05-11 03:22 G 17965350.44 17965350.64 17965350.86 0.0284 0.0138 Jupiter 44478-05-26 19:55 G 17966462.15 17966462.33 17966462.51 0.0522 0.0324 Saturn 44488-11-12 20:10 G 17970285.09 17970285.34 17970285.58 0.0278 0.0033 Jupiter 44490-05-31 19:12 G 17970850.07 17970850.30 17970850.52 0.0524 0.0147 Jupiter 44495-11-21 23:31 G 17972850.38 17972850.48 17972850.59 0.0504 0.0452 Uranus 44495-12-24 19:55 G 17972883.16 17972883.33 17972883.53 0.0145 0.0099 Uranus 44496-12-28 22:34 G 17973253.18 17973253.44 17973253.69 0.0144 0.0012 Uranus 44498-01-03 00:14 G 17973623.30 17973623.51 17973623.74 0.0144 0.0075 Jupiter 44502-06-06 16:48 G 17975237.97 17975238.20 17975238.43 0.0524 0.0033 Saturn 44505-05-18 18:29 G 17976315.07 17976315.27 17976315.47 0.0286 0.0163 Jupiter 44507-11-27 14:38 G 17977237.92 17977238.11 17977238.30 0.0503 0.0296 Jupiter 44514-06-11 13:26 G 17979625.85 17979626.06 17979626.27 0.0525 0.0213 Saturn 44517-11-08 06:58 G 17980871.63 17980871.79 17980871.96 0.0280 0.0203 Jupiter 44519-12-02 07:12 G 17981625.58 17981625.80 17981626.03 0.0502 0.0132 Jupiter 44526-06-16 08:53 G 17984013.72 17984013.87 17984014.03 0.0526 0.0391

Jupiter 44531-12-06 23:02 G 17986013.23 17986013.46 17986013.70 0.0502 0.0029 44534-04-10 09:07 G 17986868.69 17986868.88 17986869.06 0.1595 0.0088 Mars Saturn 44534-05-13 02:53 G 17986901.39 17986901.62 17986901.86 0.0284 0.0087 Uranus 44538-06-24 13:12 G 17988404.90 17988405.05 17988405.24 0.0133 0.0098 Uranus 44539-06-28 19:55 G 17988774.10 17988774.33 17988774.59 0.0134 0.0031 Uranus 44540-07-02 02:38 G 17989143.37 17989143.61 17989143.86 0.0134 0.0037 Uranus 44541-07-06 09:36 G 17989512.75 17989512.90 17989513.06 0.0134 0.0104 Neptune 44542-05-15 05:31 G 17989825.60 17989825.73 17989825.88 0.0089 0.0074 Neptune 44543-05-17 16:48 G 17990193.00 17990193.20 17990193.43 0.0089 0.0049 Jupiter 44543-12-11 09:50 G 17990400.69 17990400.91 17990401.13 0.0500 0.0180 Neptune 44544-05-19 04:19 G 17990560.45 17990560.68 17990560.94 0.0089 0.0024 Pluto 44545-02-23 03:22 G 17990840.41 17990840.64 17990840.89 0.0078 0.0027 Neptune 44545-05-21 16:05 G 17990927.91 17990928.17 17990928.43 0.0089 0.0003 Neptune 44546-05-24 03:22 G 17991295.41 17991295.64 17991295.90 0.0089 0.0028 Neptune 44547-05-26 15:07 G 17991662.94 17991663.13 17991663.35 0.0089 0.0054 Saturn 44547-11-15 23:31 G 17991836.25 17991836.48 17991836.71 0.0277 0.0089 Neptune 44548-05-28 02:10 G 17992030.51 17992030.59 17992030.74 0.0089 0.0080 Jupiter 44549-05-22 08:38 G 17992389.86 17992389.86 17992389.88 0.0522 0.0521 Jupiter 44555-12-16 00:00 G 17994788.33 17994788.50 17994788.68 0.0500 0.0337 Jupiter 44561-05-27 06:14 G 17996777.59 17996777.76 17996777.94 0.0523 0.0346 Saturn 44564-05-19 16:48 G 17997866.05 17997866.20 17997866.38 0.0286 0.0213 Jupiter 44567-12-20 13:55 G 17999176.05 17999176.08 17999176.12 0.0500 0.0491 Jupiter 44573-06-01 02:53 G 18001165.41 18001165.62 18001165.84 0.0523 0.0169 Saturn 44576-11-09 07:41 G 18002422.62 18002422.82 18002423.03 0.0280 0.0150 Jupiter 44578-11-22 08:10 G 18003165.77 18003165.84 18003165.92 0.0504 0.0472 Uranus 44579-12-26 04:34 G 18003564.51 18003564.69 18003564.89 0.0145 0.0096 Uranus 44580-12-30 07:12 G 18003934.55 18003934.80 18003935.06 0.0145 0.0009 Uranus 44582-01-04 08:53 G 18004304.67 18004304.87 18004305.10 0.0144 0.0077 Jupiter 44585-06-05 21:50 G 18005553.18 18005553.41 18005553.64 0.0524 0.0010 44589-10-09 14:53 G 18007140.09 18007140.12 18007140.15 0.1937 0.1913 Mars

Jupiter 44590-11-27 01:26 G 18007553.38 18007553.56 18007553.75 0.0503 0.0311 Saturn 44593-05-13 22:48 G 18008452.21 18008452.45 18008452.70 0.0284 0.0042 Jupiter 44597-06-10 21:07 G 18009941.16 18009941.38 18009941.59 0.0525 0.0194 Jupiter 44602-12-02 14:10 G 18011940.87 18011941.09 18011941.32 0.0502 0.0156 Saturn 44606-11-17 22:34 G 18013387.23 18013387.44 18013387.66 0.0277 0.0138 Jupiter 44609-06-16 21:36 G 18014329.24 18014329.40 18014329.56 0.0526 0.0379 Jupiter 44614-12-07 05:31 G 18016328.49 18016328.73 18016328.97 0.0501 0.0006 Uranus 44622-06-26 01:12 G 18019086.37 18019086.55 18019086.73 0.0133 0.0093 Saturn 44623-05-22 12:00 G 18019416.89 18019417.00 18019417.11 0.0286 0.0256 Uranus 44623-06-30 07:26 G 18019455.57 18019455.81 18019456.06 0.0134 0.0026 Neptune 44623-11-15 04:05 G 18019593.55 18019593.67 18019593.84 0.0088 0.0073 Uranus 44624-07-03 13:55 G 18019824.85 18019825.08 18019825.33 0.0134 0.0041 Neptune 44624-11-16 16:19 G 18019960.97 18019961.18 18019961.41 0.0088 0.0048 Uranus 44625-07-07 20:38 G 18020194.22 18020194.36 18020194.51 0.0134 0.0108 Neptune 44625-11-19 04:19 G 18020328.43 18020328.68 18020328.94 0.0088 0.0023 Neptune 44626-11-21 16:05 G 18020695.91 18020696.17 18020696.43 0.0088 0.0002 Jupiter 44626-12-11 19:55 G 18020716.11 18020716.33 18020716.56 0.0501 0.0166 Neptune 44627-11-24 03:50 G 18021063.41 18021063.66 18021063.91 0.0088 0.0026 Neptune 44628-11-25 15:22 G 18021430.95 18021431.14 18021431.37 0.0088 0.0051 Neptune 44629-11-28 02:38 G 18021798.51 18021798.61 18021798.77 0.0088 0.0076 Saturn 44635-11-12 05:02 G 18023973.48 18023973.71 18023973.94 0.0280 0.0104 Jupiter 44638-12-16 11:46 G 18025103.81 18025103.99 18025104.17 0.0500 0.0326 Jupiter 44644-05-27 14:10 G 18027092.94 18027093.09 18027093.26 0.0522 0.0368 Jupiter 44650-12-21 02:53 G 18029491.57 18029491.62 18029491.68 0.0500 0.0483 Saturn 44652-05-15 17:31 G 18030002.98 18030003.23 18030003.47 0.0284 0.0005 Jupiter 44656-06-01 12:00 G 18031480.79 18031481.00 18031481.22 0.0523 0.0188 Jupiter 44661-11-22 18:00 G 18033481.22 18033481.25 18033481.30 0.0504 0.0494 Uranus 44663-12-27 11:46 G 18034245.81 18034245.99 18034246.20 0.0145 0.0095 Uranus 44664-12-31 14:24 G 18034615.85 18034616.10 18034616.36 0.0145 0.0008 Saturn 44665-11-18 18:29 G 18034938.09 18034938.27 18034938.46 0.0277 0.0183

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Uranus 44747-12-28 20:53 G 18064927.18 18064927.37 18064927.57 0.0145 0.0092 Uranus 44749-01-01 23:17 G 18065297.21 18065297.47 18065297.73 0.0145 0.0006 Uranus 44750-01-07 01:12 G 18065667.34 18065667.55 18065667.76 0.0144 0.0081 Jupiter 44751-06-07 23:17 G 18066184.24 18066184.47 18066184.70 0.0524 0.0021 Saturn 44753-11-14 16:48 G 18067074.95 18067075.20 18067075.45 0.0280 0.0022 Jupiter 44756-11-27 22:19 G 18068184.26 18068184.43 18068184.60 0.0503 0.0346 Jupiter 44763-06-12 19:26 G 18070572.09 18070572.31 18070572.53 0.0525 0.0161 Jupiter 44768-12-02 15:07 G 18072571.91 18072572.13 18072572.35 0.0502 0.0183 Saturn 44770-05-19 06:00 G 18073104.52 18073104.75 18073104.98 0.0284 0.0086 Jupiter 44775-06-17 18:29 G 18074960.10 18074960.27 18074960.44 0.0526 0.0347 Jupiter 44780-12-07 05:02 G 18076959.48 18076959.71 18076959.95 0.0501 0.0025 Saturn 44782-11-08 21:22 G 18077661.33 18077661.39 18077661.47 0.0283 0.0269 Saturn 44783-11-22 05:17 G 18078039.65 18078039.72 18078039.81 0.0278 0.0263 Neptune 44787-11-15 11:17 G 18079493.96 18079493.97 18079494.05 0.0088 0.0087 Neptune 44788-11-16 23:31 G 18079861.32 18079861.48 18079861.69 0.0088 0.0062 Neptune 44789-11-19 11:17 G 18080228.75 18080228.97 18080229.22 0.0088 0.0037 Uranus 44790-06-27 23:31 G 18080449.30 18080449.48 18080449.69 0.0134 0.0085 Neptune 44790-11-21 23:17 G 18080596.22 18080596.47 18080596.74 0.0088 0.0012 Uranus 44791-07-02 06:00 G 18080818.50 18080818.75 18080819.00 0.0134 0.0019 Neptune 44791-11-24 11:17 G 18080963.72 18080963.97 18080964.23 0.0088 0.0013 Uranus 44792-07-05 12:00 G 18081187.78 18081188.00 18081188.25 0.0134 0.0049 Neptune 44792-11-25 22:48 G 18081331.23 18081331.45 18081331.70 0.0088 0.0038 Jupiter 44792-12-11 20:10 G 18081347.12 18081347.34 18081347.57 0.0500 0.0138 Uranus 44793-07-09 18:29 G 18081557.17 18081557.27 18081557.42 0.0134 0.0116 Neptune 44793-11-28 10:19 G 18081698.77 18081698.93 18081699.13 0.0088 0.0063 Pluto 44794-02-27 23:17 G 18081790.31 18081790.47 18081790.68 0.0077 0.0054 Neptune 44794-11-30 21:50 G 18082066.41 18082066.41 18082066.45 0.0088 0.0088 Saturn 44799-05-13 14:38 G 18083690.92 18083691.11 18083691.32 0.0281 0.0159 Jupiter 44804-12-16 09:36 G 18085734.72 18085734.90 18085735.10 0.0500 0.0297 Jupiter 44810-05-28 14:38 G 18087723.97 18087724.11 18087724.26 0.0522 0.0402

Saturn 44812-11-15 10:19 G 18088625.69 18088625.93 18088626.18 0.0280 0.0019 Jupiter 44816-12-21 00:14 G 18090122.42 18090122.51 18090122.60 0.0500 0.0456 44818-04-13 18:00 G 18090601.10 18090601.25 18090601.40 0.1596 0.0938 Mars Jupiter 44822-06-02 10:05 G 18092111.72 18092111.92 18092112.13 0.0523 0.0226 Saturn 44829-05-20 03:07 G 18094655.41 18094655.63 18094655.84 0.0284 0.0133 Uranus 44831-12-29 09:07 G 18095608.68 18095608.88 18095609.09 0.0145 0.0087 Uranus 44833-01-02 11:17 G 18095978.72 18095978.97 18095979.23 0.0145 0.0002 Uranus 44834-01-07 12:58 G 18096348.85 18096349.04 18096349.26 0.0144 0.0086 Jupiter 44834-06-07 07:41 G 18096499.59 18096499.82 18096500.05 0.0524 0.0041 Jupiter 44839-11-28 10:05 G 18098499.76 18098499.92 18098500.08 0.0503 0.0365 Saturn 44841-11-09 16:34 G 18099212.05 18099212.19 18099212.34 0.0283 0.0227 Jupiter 44846-06-12 05:02 G 18100887.49 18100887.71 18100887.93 0.0526 0.0141 Jupiter 44851-12-03 01:41 G 18102887.36 18102887.57 18102887.79 0.0502 0.0200 Saturn 44858-05-14 14:24 G 18105241.87 18105242.10 18105242.32 0.0281 0.0109 Jupiter 44858-06-17 04:48 G 18105275.52 18105275.70 18105275.88 0.0526 0.0329 Jupiter 44863-12-07 15:22 G 18107274.91 18107275.14 18107275.38 0.0501 0.0040 Jupiter 44870-06-22 03:50 G 18109663.62 18109663.66 18109663.72 0.0526 0.0514 Neptune 44871-05-18 07:55 G 18109993.72 18109993.83 18109993.98 0.0089 0.0077 Saturn 44871-11-17 06:14 G 18110176.52 18110176.76 18110177.00 0.0280 0.0062 Neptune 44872-05-19 19:41 G 18110361.12 18110361.32 18110361.54 0.0089 0.0052 Neptune 44873-05-22 07:12 G 18110728.57 18110728.80 18110729.05 0.0089 0.0026 44873-10-10 07:12 G 18110869.61 18110869.80 18110869.99 0.1935 0.0743 Mars Neptune 44874-05-24 18:58 G 18111096.03 18111096.29 18111096.54 0.0089 0.0002 Uranus 44874-06-28 11:17 G 18111130.78 18111130.97 18111131.18 0.0134 0.0081 Neptune 44875-05-27 06:14 G 18111463.52 18111463.76 18111464.01 0.0089 0.0026 Uranus 44875-07-02 17:46 G 18111499.99 18111500.24 18111500.49 0.0134 0.0014 Jupiter 44875-12-12 05:46 G 18111662.51 18111662.74 18111662.97 0.0501 0.0123 Neptune 44876-05-28 17:31 G 18111831.04 18111831.23 18111831.45 0.0089 0.0052 Uranus 44876-07-05 23:46 G 18111869.27 18111869.49 18111869.73 0.0134 0.0053 Neptune 44877-05-31 05:31 G 18112198.60 18112198.73 18112198.86 0.0089 0.0077

Uranus 44877-07-10 06:29 G 18112238.67 18112238.77 18112238.89 0.0134 0.0120 Jupiter 44887-12-16 20:53 G 18116050.17 18116050.37 18116050.56 0.0500 0.0283 Saturn 44888-05-21 03:50 G 18116206.49 18116206.66 18116206.86 0.0284 0.0187 Jupiter 44893-05-27 21:07 G 18118039.25 18118039.38 18118039.51 0.0522 0.0426 Jupiter 44899-12-21 09:36 G 18120437.80 18120437.90 18120438.02 0.0499 0.0438 Saturn 44900-11-11 13:41 G 18120762.90 18120763.07 18120763.27 0.0282 0.0182 Jupiter 44905-06-02 15:50 G 18122426.96 18122427.16 18122427.36 0.0524 0.0253 Uranus 44915-12-30 23:02 G 18126290.25 18126290.46 18126290.68 0.0145 0.0080 Uranus 44917-01-04 01:26 G 18126660.30 18126660.56 18126660.81 0.0145 0.0007 Saturn 44917-05-16 17:31 G 18126792.99 18126793.23 18126793.47 0.0281 0.0054 Jupiter 44917-06-07 14:38 G 18126814.88 18126815.11 18126815.34 0.0525 0.0066 Uranus 44918-01-09 03:07 G 18127030.44 18127030.63 18127030.83 0.0145 0.0093 Jupiter 44922-11-28 17:31 G 18128815.09 18128815.23 18128815.39 0.0503 0.0384 Jupiter 44929-06-12 13:12 G 18131202.83 18131203.05 18131203.28 0.0525 0.0122 Saturn 44930-11-19 06:00 G 18131727.53 18131727.75 18131727.98 0.0280 0.0112 Jupiter 44934-12-03 08:24 G 18133202.64 18133202.85 18133203.06 0.0502 0.0221 Jupiter 44941-06-17 09:07 G 18135590.70 18135590.88 18135591.08 0.0526 0.0304 Jupiter 44946-12-07 23:31 G 18137590.25 18137590.48 18137590.71 0.0502 0.0058 Saturn 44947-05-24 09:50 G 18137757.80 18137757.91 18137758.04 0.0284 0.0248 Neptune 44952-11-17 05:46 G 18139761.64 18139761.74 18139761.90 0.0088 0.0077 Jupiter 44953-06-22 06:58 G 18139978.71 18139978.79 18139978.88 0.0526 0.0488 Neptune 44953-11-19 17:46 G 18140129.04 18140129.24 18140129.47 0.0088 0.0051 Pluto 44954-08-28 13:12 G 18140410.85 18140411.05 18140411.30 0.0066 0.0034 Neptune 44954-11-22 05:31 G 18140496.50 18140496.73 18140496.99 0.0088 0.0026 Pluto 44955-08-30 02:53 G 18140777.54 18140777.62 18140777.78 0.0066 0.0060 Neptune 44955-11-24 17:31 G 18140863.97 18140864.23 18140864.49 0.0088 0.0001 Neptune 44956-11-26 05:17 G 18141231.47 18141231.72 18141231.97 0.0088 0.0024 Neptune 44957-11-28 16:34 G 18141598.99 18141599.19 18141599.42 0.0088 0.0049 Uranus 44958-06-30 00:29 G 18141812.31 18141812.52 18141812.73 0.0134 0.0075 Neptune 44958-12-01 04:19 G 18141966.56 18141966.68 18141966.84 0.0088 0.0074 Jupiter 44958-12-12 14:10 G 18141977.86 18141978.09 18141978.32 0.0500 0.0103

Uranus 44959-07-04 06:29 G 18142181.52 18142181.77 18142182.03 0.0134 0.0009

Saturn 44959-11-13 15:50 G 18142313.94 18142314.16 18142314.38 0.0282 0.0128

Uranus 44960-07-07 12:29 G 18142550.81 18142551.02 18142551.26 0.0134 0.0059

Uranus 44961-07-11 19:26 G 18142920.23 18142920.31 18142920.40 0.0134 0.0125

Jupiter 44970-12-17 04:05 G 18146365.47 18146365.67 18146365.87 0.0499 0.0264

Saturn 44976-05-18 01:26 G 18148344.32 18148344.56 18148344.81 0.0281 0.0010

Jupiter 44976-05-28 00:14 G 18148354.41 18148354.51 18148354.63 0.0523 0.0457

Jupiter 44988-06-01 22:05 G 18150753.02 18150753.14 18150753.27 0.0499 0.0420

Jupiter 44988-06-01 22:05 G 18152742.23 18152742.42 18152742.62 0.0523 0.0276

Saturn 44989-11-20 10:05 G 18153278.72 18153278.92 18153279.12 0.0280 0.0168

Uranus 44999-12-31 13:26 G 18156971.85 18156972.06 18156972.29 0.0145 0.0073

# **46TH MILLENNIUM CE**

#### This is a list of transits of Earth in the 46th millennium CE.

FROM MAX- C START MAX END SUNRAD DEPTH S

TRANSIT

TIME

Uranus 45001-01-05 15:50 G 18157341.90 18157342.16 18157342.41 0.0145 0.0014
Uranus 45002-01-10 17:31 G 18157712.06 18157712.23 18157712.43 0.0145 0.0100
Saturn 45005-05-13 18:58 G 18158931.14 18158931.29 18158931.44 0.0279 0.0219
Jupiter 45005-11-28 22:34 G 18159130.31 18159130.44 18159130.58 0.0503 0.0409
Jupiter 45012-06-12 13:41 G 18161517.84 18161518.07 18161518.30 0.0525 0.0089
Jupiter 45017-12-03 14:53 G 18163517.91 18163518.12 18163518.33 0.0502 0.0244

Saturn 45018-11-15 23:02 G 18163865.22 18163865.46 18163865.71 0.0282 0.0066 45023-04-15 03:07 G 18165476.45 18165476.63 18165476.82 0.1598 0.0096 Mars Jupiter 45024-06-17 08:24 G 18165905.65 18165905.85 18165906.05 0.0526 0.0270 Jupiter 45029-12-08 05:31 G 18167905.50 18167905.73 18167905.96 0.0501 0.0080 Saturn 45035-05-21 13:41 G 18169895.84 18169896.07 18169896.31 0.0282 0.0081 Neptune 45036-05-21 01:55 G 18170261.42 18170261.58 18170261.76 0.0089 0.0067 Jupiter 45036-06-22 07:55 G 18170293.72 18170293.83 18170293.94 0.0527 0.0458 Neptune 45037-05-23 13:12 G 18170628.84 18170629.05 18170629.30 0.0089 0.0041 Neptune 45038-05-26 01:12 G 18170996.30 18170996.55 18170996.81 0.0089 0.0015 Neptune 45039-05-28 12:43 G 18171363.78 18171364.03 18171364.29 0.0089 0.0011 Neptune 45040-05-30 00:14 G 18171731.28 18171731.51 18171731.75 0.0089 0.0037 Neptune 45041-06-01 11:31 G 18172098.82 18172098.98 18172099.18 0.0089 0.0063 Jupiter 45041-12-12 16:34 G 18172292.96 18172293.19 18172293.43 0.0501 0.0079 Pluto 45042-03-02 14:10 G 18172372.86 18172373.09 18172373.34 0.0078 0.0028 Neptune 45042-06-03 22:48 G 18172466.44 18172466.45 18172466.52 0.0089 0.0089 Uranus 45042-07-01 12:43 G 18172493.83 18172494.03 18172494.26 0.0133 0.0070 Uranus 45043-07-05 18:58 G 18172863.04 18172863.29 18172863.55 0.0134 0.0004 Uranus 45044-07-09 00:58 G 18173232.33 18173232.54 18173232.77 0.0134 0.0064 Uranus 45045-07-13 07:12 G 18173601.77 18173601.80 18173601.87 0.0134 0.0131 Saturn 45048-11-22 19:12 G 18174830.17 18174830.30 18174830.44 0.0279 0.0232 Jupiter 45053-12-17 05:17 G 18176680.52 18176680.72 18176680.93 0.0500 0.0239 Jupiter 45059-05-29 01:41 G 18178669.50 18178669.57 18178669.66 0.0522 0.0489 Saturn 45064-05-15 08:38 G 18180482.66 18180482.86 18180483.07 0.0280 0.0147 Jupiter 45065-12-21 18:43 G 18181068.14 18181068.28 18181068.42 0.0500 0.0397 Jupiter 45071-06-02 20:10 G 18183057.16 18183057.34 18183057.53 0.0523 0.0312 Saturn 45077-11-17 11:02 G 18185416.71 18185416.96 18185417.20 0.0281 0.0005 Jupiter 45083-06-07 12:58 G 18187444.82 18187445.04 18187445.27 0.0524 0.0136 Uranus 45084-01-02 00:43 G 18187653.31 18187653.53 18187653.76 0.0145 0.0067 Uranus 45085-01-06 03:07 G 18188023.38 18188023.63 18188023.89 0.0145 0.0019 Uranus 45086-01-11 05:17 G 18188393.56 18188393.72 18188393.90 0.0145 0.0106

Jupiter 45088-11-28 02:53 G 18189445.51 18189445.62 18189445.74 0.0503 0.0433 Saturn 45094-05-23 05:17 G 18191447.52 18191447.72 18191447.92 0.0282 0.0157 Jupiter 45095-06-12 11:02 G 18191832.73 18191832.96 18191833.19 0.0525 0.0054 Jupiter 45100-12-03 14:24 G 18193832.90 18193833.10 18193833.30 0.0502 0.0274 Saturn 45106-11-12 23:31 G 18196003.35 18196003.48 18196003.62 0.0284 0.0236 Jupiter 45107-06-18 10:05 G 18196220.71 18196220.92 18196221.12 0.0526 0.0242 Jupiter 45112-12-08 03:36 G 18198220.42 18198220.65 18198220.88 0.0502 0.0112 Neptune 45117-11-21 00:14 G 18200029.36 18200029.51 18200029.70 0.0088 0.0065 Neptune 45118-11-23 12:00 G 18200396.78 18200397.00 18200397.25 0.0088 0.0040 Jupiter 45119-06-23 05:31 G 18200608.60 18200608.73 18200608.87 0.0526 0.0424 Neptune 45119-11-26 00:00 G 18200764.25 18200764.50 18200764.76 0.0088 0.0015 Neptune 45120-11-27 11:31 G 18201131.72 18201131.98 18201132.24 0.0088 0.0010 Neptune 45121-11-29 23:02 G 18201499.23 18201499.46 18201499.71 0.0088 0.0035 Neptune 45122-12-02 10:48 G 18201866.77 18201866.95 18201867.14 0.0088 0.0060 Saturn 45123-05-19 00:43 G 18202034.29 18202034.53 18202034.76 0.0281 0.0071 Neptune 45123-12-04 22:05 G 18202234.38 18202234.42 18202234.50 0.0088 0.0085 Jupiter 45124-12-12 17:17 G 18202607.98 18202608.22 18202608.45 0.0501 0.0050 Uranus 45125-06-28 20:24 G 18202806.31 18202806.35 18202806.43 0.0133 0.0130 Uranus 45126-07-03 02:10 G 18203175.38 18203175.59 18203175.82 0.0133 0.0064 Uranus 45127-07-07 08:24 G 18203544.59 18203544.85 18203545.10 0.0133 0.0004 Uranus 45128-07-10 14:10 G 18203913.88 18203914.09 18203914.31 0.0134 0.0070 Saturn 45136-11-20 03:07 G 18206968.39 18206968.63 18206968.86 0.0280 0.0080 Jupiter 45136-12-17 07:55 G 18206995.62 18206995.83 18206996.05 0.0500 0.0214 Jupiter 45148-12-21 21:07 G 18211383.23 18211383.38 18211383.53 0.0499 0.0374 Saturn 45153-05-25 23:17 G 18212999.35 18212999.47 18212999.60 0.0283 0.0239 Jupiter 45154-06-02 15:50 G 18213371.99 18213372.16 18213372.33 0.0523 0.0351 Saturn 45165-11-14 17:46 G 18217555.04 18217555.24 18217555.45 0.0283 0.0154 Jupiter 45166-06-07 13:55 G 18217759.87 18217760.08 18217760.30 0.0524 0.0166 Uranus 45168-01-03 10:34 G 18218334.72 18218334.94 18218335.18 0.0145 0.0064 Uranus 45169-01-07 13:12 G 18218704.81 18218705.05 18218705.31 0.0145 0.0024

Uranus 45170-01-12 15:36 G 18219075.00 18219075.15 18219075.33 0.0145 0.0110 Jupiter 45171-11-28 22:34 G 18219760.37 18219760.44 18219760.53 0.0504 0.0470 Jupiter 45178-06-12 09:22 G 18222147.66 18222147.89 18222148.12 0.0524 0.0019 Saturn 45182-05-20 17:17 G 18223585.98 18223586.22 18223586.47 0.0281 0.0009 Jupiter 45183-12-03 12:43 G 18224147.85 18224148.03 18224148.23 0.0503 0.0308 Jupiter 45190-06-17 04:34 G 18226535.48 18226535.69 18226535.91 0.0525 0.0201 Saturn 45195-11-22 20:53 G 18228520.17 18228520.37 18228520.57 0.0280 0.0159 Jupiter 45195-12-08 04:48 G 18228535.48 18228535.70 18228535.93 0.0502 0.0141 Neptune 45200-05-21 06:29 G 18230161.70 18230161.77 18230161.89 0.0089 0.0083 Neptune 45201-05-23 18:29 G 18230529.08 18230529.27 18230529.48 0.0089 0.0057 Neptune 45202-05-26 06:14 G 18230896.52 18230896.76 18230897.00 0.0089 0.0031 Jupiter 45202-06-21 22:19 G 18230923.28 18230923.43 18230923.59 0.0526 0.0383 Neptune 45203-05-28 17:46 G 18231263.99 18231264.24 18231264.50 0.0089 0.0005 Pluto 45203-09-02 02:24 G 18231360.35 18231360.60 18231360.85 0.0066 0.0014 Neptune 45204-05-30 05:17 G 18231631.48 18231631.72 18231631.98 0.0089 0.0022 Neptune 45205-06-01 16:34 G 18231998.99 18231999.19 18231999.43 0.0089 0.0048 Neptune 45206-06-04 04:05 G 18232366.55 18232366.67 18232366.84 0.0089 0.0074 Jupiter 45207-12-12 19:12 G 18232923.07 18232923.30 18232923.54 0.0501 0.0025 Uranus 45209-06-29 10:05 G 18233487.84 18233487.92 18233488.02 0.0133 0.0124 Uranus 45210-07-03 15:22 G 18233856.92 18233857.14 18233857.38 0.0133 0.0058 Saturn 45211-05-15 15:50 G 18234173.01 18234173.16 18234173.31 0.0279 0.0215 Uranus 45211-07-07 21:36 G 18234226.15 18234226.40 18234226.65 0.0133 0.0009 Uranus 45212-07-11 03:22 G 18234595.44 18234595.64 18234595.86 0.0133 0.0075 Jupiter 45219-12-17 04:48 G 18237310.48 18237310.70 18237310.92 0.0500 0.0181 Saturn 45224-11-16 13:12 G 18239106.81 18239107.05 18239107.29 0.0282 0.0070 45228-04-14 11:02 G 18240351.83 18240351.96 18240352.09 0.1600 0.1154 Mars Jupiter 45231-12-21 17:17 G 18241698.05 18241698.22 18241698.39 0.0500 0.0342 Jupiter 45237-06-01 15:36 G 18243687.00 18243687.15 18243687.31 0.0522 0.0386 Saturn 45241-05-22 09:22 G 18245137.66 18245137.89 18245138.13 0.0282 0.0086 Jupiter 45249-06-06 10:19 G 18248074.71 18248074.93 18248075.14 0.0523 0.0205

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Jupiter 45320-06-01 11:17 G 18274001.85 18274001.97 18274002.11 0.0522 0.0426 Jupiter 45326-12-26 09:36 G 18276400.84 18276400.90 18276400.96 0.0499 0.0479 Saturn 45329-05-19 16:19 G 18277275.95 18277276.18 18277276.42 0.0280 0.0074 Jupiter 45332-06-06 07:55 G 18278389.63 18278389.83 18278390.03 0.0523 0.0241 Uranus 45334-12-31 02:53 G 18279327.61 18279327.62 18279327.67 0.0145 0.0144 Uranus 45336-01-05 06:14 G 18279697.53 18279697.76 18279698.00 0.0145 0.0057 Uranus 45337-01-09 09:07 G 18280067.63 18280067.88 18280068.13 0.0145 0.0030 Uranus 45338-01-14 11:17 G 18280437.84 18280437.97 18280438.14 0.0145 0.0117 Saturn 45342-11-21 22:19 G 18282210.20 18282210.43 18282210.67 0.0281 0.0088 Jupiter 45344-06-11 06:58 G 18282777.56 18282777.79 18282778.02 0.0524 0.0053 Jupiter 45349-12-02 12:29 G 18284777.87 18284778.02 18284778.18 0.0503 0.0372 Jupiter 45356-06-16 04:05 G 18287165.44 18287165.67 18287165.89 0.0525 0.0135 Saturn 45359-05-27 06:43 G 18288240.65 18288240.78 18288240.94 0.0283 0.0225 Jupiter 45361-12-07 02:53 G 18289165.40 18289165.62 18289165.83 0.0503 0.0207 Neptune 45365-05-23 23:02 G 18290429.33 18290429.46 18290429.62 0.0089 0.0073 Neptune 45366-05-26 10:48 G 18290796.74 18290796.95 18290797.17 0.0089 0.0047 Neptune 45367-05-28 22:34 G 18291164.19 18291164.44 18291164.69 0.0089 0.0021 Neptune 45368-05-30 10:19 G 18291531.67 18291531.93 18291532.18 0.0089 0.0006 Jupiter 45368-06-21 00:00 G 18291553.32 18291553.50 18291553.69 0.0525 0.0323 Neptune 45369-06-01 21:50 G 18291899.18 18291899.41 18291899.66 0.0089 0.0032 Neptune 45370-06-04 09:07 G 18292266.70 18292266.88 18292267.09 0.0089 0.0058 Neptune 45371-06-06 20:53 G 18292634.30 18292634.37 18292634.47 0.0089 0.0084 Saturn 45371-11-16 08:38 G 18292796.65 18292796.86 18292797.07 0.0283 0.0154 Jupiter 45373-12-11 19:12 G 18293553.06 18293553.30 18293553.53 0.0502 0.0038 Uranus 45377-07-01 13:12 G 18294850.93 18294851.05 18294851.20 0.0133 0.0113 Uranus 45378-07-05 18:58 G 18295220.06 18295220.29 18295220.53 0.0133 0.0047 Uranus 45379-07-10 00:58 G 18295589.30 18295589.54 18295589.80 0.0133 0.0020 Jupiter 45380-06-25 18:43 G 18295941.23 18295941.28 18295941.35 0.0526 0.0507 Uranus 45380-07-13 06:58 G 18295958.61 18295958.79 18295959.00 0.0134 0.0087 Jupiter 45385-12-16 10:05 G 18297940.69 18297940.92 18297941.15 0.0501 0.0131

Saturn 45388-05-20 22:05 G 18298827.18 18298827.42 18298827.67 0.0281 0.0014 Jupiter 45397-12-20 20:24 G 18302328.16 18302328.35 18302328.54 0.0500 0.0288 Saturn 45401-11-24 08:24 G 18303761.65 18303761.85 18303762.06 0.0280 0.0157 Jupiter 45403-06-02 17:31 G 18304317.12 18304317.23 18304317.34 0.0522 0.0453 Jupiter 45409-12-26 09:36 G 18306715.81 18306715.90 18306716.01 0.0499 0.0451 Jupiter 45415-06-07 14:38 G 18308704.92 18308705.11 18308705.31 0.0523 0.0269 Saturn 45417-05-16 11:46 G 18309413.90 18309413.99 18309414.11 0.0278 0.0248 Uranus 45419-01-01 15:50 G 18310009.10 18310009.16 18310009.26 0.0145 0.0138 Uranus 45420-01-06 19:12 G 18310379.07 18310379.30 18310379.55 0.0145 0.0051 Uranus 45421-01-10 22:05 G 18310749.18 18310749.42 18310749.67 0.0145 0.0036 Uranus 45422-01-16 00:29 G 18311119.41 18311119.52 18311119.67 0.0145 0.0123 Jupiter 45427-06-12 10:34 G 18313092.71 18313092.94 18313093.17 0.0524 0.0081 Saturn 45430-11-18 16:34 G 18314347.95 18314348.19 18314348.42 0.0283 0.0089 Jupiter 45432-12-02 17:31 G 18315093.09 18315093.23 18315093.38 0.0504 0.0397 Jupiter 45439-06-17 05:02 G 18317480.48 18317480.71 18317480.93 0.0524 0.0104 Jupiter 45444-12-07 10:05 G 18319480.72 18319480.92 18319481.14 0.0503 0.0228 Neptune 45446-11-23 23:02 G 18320197.31 18320197.46 18320197.62 0.0088 0.0069 Saturn 45447-05-23 23:46 G 18320378.24 18320378.49 18320378.73 0.0281 0.0041 Neptune 45447-11-26 10:34 G 18320564.73 18320564.94 18320565.18 0.0088 0.0044 Neptune 45448-11-27 22:19 G 18320932.19 18320932.43 18320932.70 0.0088 0.0019 Neptune 45449-11-30 10:05 G 18321299.67 18321299.92 18321300.19 0.0088 0.0007 Neptune 45450-12-02 21:36 G 18321667.17 18321667.40 18321667.65 0.0088 0.0032 Jupiter 45451-06-22 03:22 G 18321868.46 18321868.64 18321868.84 0.0525 0.0297 Pluto 45451-09-04 21:50 G 18321943.22 18321943.41 18321943.65 0.0066 0.0037 Neptune 45451-12-05 08:53 G 18322034.69 18322034.87 18322035.08 0.0088 0.0057 Pluto 45452-09-05 11:31 G 18322309.88 18322309.98 18322310.15 0.0066 0.0057 Neptune 45452-12-06 20:38 G 18322402.28 18322402.36 18322402.46 0.0088 0.0082 Jupiter 45456-12-11 22:19 G 18323868.20 18323868.43 18323868.67 0.0502 0.0067 Saturn 45460-11-25 13:12 G 18325312.90 18325313.05 18325313.21 0.0280 0.0217 Uranus 45461-07-03 03:22 G 18325532.52 18325532.64 18325532.82 0.0133 0.0107

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Neptune 45611-11-26 15:22 G 18380464.97 18380465.14 18380465.36 0.0088 0.0059 Neptune 45612-11-28 03:50 G 18380832.42 18380832.66 18380832.90 0.0088 0.0033 Neptune 45613-11-30 15:36 G 18381199.89 18381200.15 18381200.41 0.0088 0.0008 Neptune 45614-12-03 03:07 G 18381567.37 18381567.63 18381567.88 0.0088 0.0017 Neptune 45615-12-05 14:24 G 18381934.89 18381935.10 18381935.34 0.0088 0.0043 Neptune 45616-12-07 01:55 G 18382302.44 18382302.58 18382302.76 0.0088 0.0068 Jupiter 45617-06-21 23:17 G 18382499.27 18382499.47 18382499.67 0.0525 0.0257 Jupiter 45622-12-12 20:10 G 18384499.11 18384499.34 18384499.57 0.0502 0.0098 Saturn 45624-05-27 08:53 G 18385030.68 18385030.87 18385031.07 0.0281 0.0172 Jupiter 45629-06-26 22:19 G 18386887.32 18386887.43 18386887.55 0.0526 0.0453 Uranus 45629-07-05 09:22 G 18386895.73 18386895.89 18386896.09 0.0133 0.0092 Uranus 45630-07-09 15:22 G 18387264.90 18387265.14 18387265.40 0.0133 0.0026 Uranus 45631-07-13 21:22 G 18387634.16 18387634.39 18387634.64 0.0133 0.0040 Uranus 45632-07-17 03:07 G 18388003.49 18388003.63 18388003.80 0.0133 0.0107 Jupiter 45634-12-17 10:05 G 18388886.68 18388886.92 18388887.15 0.0501 0.0068 Saturn 45636-11-16 14:10 G 18389586.91 18389587.09 18389587.27 0.0285 0.0197 Jupiter 45646-12-22 01:12 G 18393274.35 18393274.55 18393274.76 0.0500 0.0238 Jupiter 45652-06-01 21:36 G 18395263.40 18395263.40 18395263.43 0.0522 0.0521 Saturn 45653-05-21 19:41 G 18395617.08 18395617.32 18395617.56 0.0278 0.0071 Jupiter 45658-12-26 15:07 G 18397661.99 18397662.13 18397662.26 0.0500 0.0403 Jupiter 45664-06-06 19:26 G 18399651.13 18399651.31 18399651.49 0.0523 0.0332 Saturn 45666-11-24 04:48 G 18400551.47 18400551.70 18400551.93 0.0283 0.0100 Uranus 45671-01-04 11:46 G 18402053.85 18402053.99 18402054.15 0.0145 0.0115 Uranus 45672-01-09 15:22 G 18402423.89 18402424.14 18402424.40 0.0145 0.0028 Uranus 45673-01-13 18:29 G 18402794.04 18402794.27 18402794.51 0.0145 0.0059 Uranus 45674-01-18 21:22 G 18403164.39 18403164.39 18403164.39 0.0145 0.0145 Jupiter 45676-06-11 14:53 G 18404038.90 18404039.12 18404039.35 0.0523 0.0146 Jupiter 45681-12-02 23:46 G 18406039.40 18406039.49 18406039.59 0.0504 0.0457 Saturn 45683-05-29 02:24 G 18406581.45 18406581.60 18406581.77 0.0281 0.0213 Jupiter 45688-06-16 12:58 G 18408426.81 18408427.04 18408427.27 0.0524 0.0049

Jupiter 45693-12-07 15:50 G 18410426.97 18410427.16 18410427.36 0.0503 0.0288 Neptune 45694-05-26 19:26 G 18410597.19 18410597.31 18410597.43 0.0089 0.0079 Neptune 45695-05-29 06:58 G 18410964.59 18410964.79 18410965.00 0.0089 0.0053 Saturn 45695-11-18 07:12 G 18411137.59 18411137.80 18411138.00 0.0285 0.0157 Neptune 45696-05-30 18:14 G 18411332.02 18411332.26 18411332.50 0.0089 0.0027 Neptune 45697-06-02 05:46 G 18411699.49 18411699.74 18411700.00 0.0089 0.0001 Neptune 45698-06-04 17:31 G 18412066.98 18412067.23 18412067.47 0.0089 0.0026 Neptune 45699-06-07 04:34 G 18412434.50 18412434.69 18412434.92 0.0089 0.0052 Neptune 45700-06-09 16:05 G 18412802.08 18412802.17 18412802.32 0.0089 0.0079 Jupiter 45700-06-22 10:48 G 18412814.75 18412814.95 18412815.16 0.0526 0.0240 Pluto 45700-09-08 11:02 G 18412892.71 18412892.96 18412893.22 0.0066 0.0012 Jupiter 45705-12-13 07:55 G 18414814.60 18414814.83 18414815.06 0.0502 0.0115 Saturn 45712-05-23 14:38 G 18417167.87 18417168.11 18417168.35 0.0278 0.0029 Jupiter 45712-06-27 11:02 G 18417202.84 18417202.96 18417203.09 0.0527 0.0439 Uranus 45713-07-07 00:29 G 18417577.34 18417577.52 18417577.73 0.0133 0.0085 Uranus 45714-07-11 06:29 G 18417946.52 18417946.77 18417947.02 0.0133 0.0019 Uranus 45715-07-15 12:00 G 18418315.77 18418316.00 18418316.24 0.0133 0.0047 Uranus 45716-07-18 17:46 G 18418685.12 18418685.24 18418685.38 0.0133 0.0113 Mars 45717-04-19 02:24 G 18418959.52 18418959.60 18418959.68 0.1605 0.1451 Jupiter 45717-12-17 22:05 G 18419202.19 18419202.42 18419202.65 0.0501 0.0055 Saturn 45725-11-25 22:34 G 18422102.23 18422102.44 18422102.65 0.0283 0.0141 Jupiter 45729-12-22 12:43 G 18423589.83 18423590.03 18423590.25 0.0500 0.0226 Saturn 45741-05-18 05:46 G 18427754.67 18427754.74 18427754.83 0.0276 0.0260 Jupiter 45741-12-27 04:05 G 18427977.54 18427977.67 18427977.82 0.0500 0.0393 Saturn 45742-05-30 23:02 G 18428132.37 18428132.46 18428132.55 0.0281 0.0258 Jupiter 45747-06-08 04:19 G 18429966.51 18429966.68 18429966.85 0.0522 0.0354 Saturn 45754-11-20 00:58 G 18432688.32 18432688.54 18432688.77 0.0285 0.0116 Uranus 45755-01-05 19:55 G 18432735.19 18432735.33 18432735.51 0.0145 0.0114 Uranus 45756-01-10 23:46 G 18433105.25 18433105.49 18433105.75 0.0145 0.0026 Uranus 45757-01-15 02:53 G 18433475.39 18433475.62 18433475.86 0.0145 0.0061

Jupiter 45759-06-13 00:00 G 18434354.28 18434354.50 18434354.72 0.0524 0.0169 Jupiter 45764-12-03 12:29 G 18436354.95 18436355.02 18436355.10 0.0504 0.0472 Saturn 45771-05-25 12:29 G 18438718.77 18438719.02 18438719.26 0.0278 0.0018 Jupiter 45771-06-17 23:17 G 18438742.24 18438742.47 18438742.70 0.0525 0.0029 Neptune 45775-11-26 19:41 G 18440365.20 18440365.32 18440365.48 0.0088 0.0074 Neptune 45776-11-28 07:41 G 18440732.63 18440732.82 18440733.06 0.0088 0.0049 Jupiter 45776-12-08 02:38 G 18440742.43 18440742.61 18440742.80 0.0503 0.0304 Neptune 45777-11-30 19:41 G 18441100.08 18441100.32 18441100.58 0.0088 0.0023 Neptune 45778-12-03 07:41 G 18441467.56 18441467.82 18441468.08 0.0088 0.0003 Neptune 45779-12-05 19:12 G 18441835.07 18441835.30 18441835.56 0.0088 0.0028 Neptune 45780-12-07 06:43 G 18442202.60 18442202.78 18442203.01 0.0088 0.0054 Neptune 45781-12-09 18:14 G 18442570.17 18442570.26 18442570.40 0.0088 0.0079 Jupiter 45783-06-22 22:19 G 18443130.23 18443130.43 18443130.64 0.0525 0.0226 Saturn 45784-11-26 17:31 G 18443653.05 18443653.23 18443653.42 0.0283 0.0184 Pluto 45788-03-12 20:10 G 18444855.18 18444855.34 18444855.56 0.0077 0.0054 Jupiter 45788-12-12 18:00 G 18445130.02 18445130.25 18445130.48 0.0502 0.0132 Jupiter 45795-06-27 18:43 G 18447518.15 18447518.28 18447518.43 0.0526 0.0417 45796-04-21 02:53 G 18447816.44 18447816.62 18447816.80 0.1604 0.0504 Mars Uranus 45797-07-07 15:07 G 18448258.94 18448259.13 18448259.34 0.0133 0.0079 Uranus 45798-07-11 20:53 G 18448628.11 18448628.37 18448628.62 0.0133 0.0014 Uranus 45799-07-16 02:24 G 18448997.37 18448997.60 18448997.84 0.0133 0.0052 Saturn 45800-05-20 04:48 G 18449305.55 18449305.70 18449305.86 0.0276 0.0212 Uranus 45800-07-20 07:55 G 18449366.73 18449366.83 18449366.96 0.0133 0.0119 Jupiter 45800-12-18 09:36 G 18449517.66 18449517.90 18449518.13 0.0501 0.0041 Jupiter 45812-12-23 00:14 G 18453905.29 18453905.51 18453905.72 0.0500 0.0208 Saturn 45813-11-21 21:36 G 18454239.17 18454239.40 18454239.64 0.0285 0.0071 Jupiter 45824-12-27 14:24 G 18458292.95 18458293.10 18458293.26 0.0499 0.0376 Saturn 45830-05-27 13:55 G 18460269.85 18460270.08 18460270.32 0.0278 0.0071 Jupiter 45830-06-08 11:46 G 18460281.84 18460281.99 18460282.15 0.0523 0.0379 Uranus 45839-01-07 06:29 G 18463416.62 18463416.77 18463416.95 0.0145 0.0110

Uranus 45840-01-12 10:05 G 18463786.67 18463786.92 18463787.17 0.0145 0.0022 Uranus 45841-01-16 12:43 G 18464156.82 18464157.03 18464157.27 0.0145 0.0065 Jupiter 45842-06-13 10:05 G 18464669.71 18464669.92 18464670.14 0.0524 0.0186 Saturn 45843-11-29 15:36 G 18465204.03 18465204.15 18465204.31 0.0283 0.0233 Jupiter 45847-12-04 19:26 G 18466670.28 18466670.31 18466670.37 0.0504 0.0494 Jupiter 45854-06-18 06:00 G 18469057.52 18469057.75 18469057.98 0.0524 0.0007 Saturn 45859-05-22 08:10 G 18470856.65 18470856.84 18470857.05 0.0276 0.0158 Neptune 45859-05-30 11:17 G 18470864.82 18470864.97 18470865.14 0.0089 0.0069 Jupiter 45859-12-09 11:31 G 18471057.81 18471057.98 18471058.17 0.0503 0.0324 Neptune 45860-05-31 22:48 G 18471232.23 18471232.45 18471232.68 0.0089 0.0043 Neptune 45861-06-03 10:19 G 18471599.68 18471599.93 18471600.19 0.0089 0.0016 Neptune 45862-06-05 21:36 G 18471967.16 18471967.40 18471967.67 0.0089 0.0011 Neptune 45863-06-08 09:07 G 18472334.66 18472334.88 18472335.13 0.0089 0.0037 Neptune 45864-06-09 20:38 G 18472702.19 18472702.36 18472702.55 0.0089 0.0063 Neptune 45865-06-12 08:10 G 18473069.84 18473069.84 18473069.89 0.0089 0.0089 Jupiter 45866-06-23 02:53 G 18473445.41 18473445.62 18473445.84 0.0525 0.0198 Jupiter 45871-12-14 03:50 G 18475445.43 18475445.66 18475445.88 0.0502 0.0151 Saturn 45872-11-22 21:50 G 18475790.17 18475790.41 18475790.66 0.0285 0.0020 Jupiter 45878-06-27 22:34 G 18477833.29 18477833.44 18477833.60 0.0527 0.0390 Uranus 45881-07-09 05:02 G 18478940.51 18478940.71 18478940.93 0.0133 0.0074 Uranus 45882-07-13 10:34 G 18479309.69 18479309.94 18479310.20 0.0133 0.0008 Uranus 45883-07-17 16:05 G 18479678.95 18479679.17 18479679.41 0.0133 0.0058 Jupiter 45883-12-18 19:12 G 18479833.06 18479833.30 18479833.53 0.0501 0.0023 Uranus 45884-07-20 22:05 G 18480048.33 18480048.42 18480048.52 0.0134 0.0124 Saturn 45889-05-28 19:41 G 18481821.11 18481821.32 18481821.54 0.0278 0.0130 Jupiter 45895-12-23 06:58 G 18484220.57 18484220.79 18484221.01 0.0500 0.0190 Saturn 45901-11-17 23:02 G 18486376.44 18486376.46 18486376.49 0.0288 0.0286 Jupiter 45907-12-28 20:10 G 18488608.18 18488608.34 18488608.51 0.0500 0.0357 Jupiter 45913-06-08 16:48 G 18490597.06 18490597.20 18490597.35 0.0522 0.0407 Saturn 45918-05-24 15:36 G 18492407.93 18492408.15 18492408.38 0.0277 0.0097

Uranus 45923-01-08 16:34 G 18494098.04 18494098.19 18494098.39 0.0145 0.0107 Uranus 45924-01-13 20:10 G 18494468.09 18494468.34 18494468.60 0.0145 0.0019 Uranus 45925-01-17 22:34 G 18494838.23 18494838.44 18494838.68 0.0145 0.0068 Jupiter 45925-06-13 12:14 G 18494984.80 18494985.01 18494985.22 0.0523 0.0219 Saturn 45931-11-26 03:36 G 18497341.40 18497341.65 18497341.89 0.0285 0.0041 Jupiter 45937-06-18 05:31 G 18499372.50 18499372.73 18499372.96 0.0525 0.0032 Neptune 45940-11-29 12:14 G 18500632.86 18500633.01 18500633.21 0.0088 0.0064 Neptune 45941-12-02 00:29 G 18501000.30 18501000.52 18501000.77 0.0088 0.0038 Neptune 45942-12-04 12:43 G 18501367.77 18501368.03 18501368.29 0.0088 0.0012 Jupiter 45942-12-09 19:26 G 18501373.14 18501373.31 18501373.48 0.0503 0.0344 Neptune 45943-12-07 00:43 G 18501735.27 18501735.53 18501735.78 0.0088 0.0013 Neptune 45944-12-08 12:14 G 18502102.79 18502103.01 18502103.25 0.0088 0.0039 Neptune 45945-12-10 23:17 G 18502470.33 18502470.47 18502470.68 0.0088 0.0065 Saturn 45948-05-31 06:00 G 18503372.58 18503372.75 18503372.92 0.0279 0.0197 Pluto 45948-09-11 07:26 G 18503475.62 18503475.81 18503476.05 0.0066 0.0037 Jupiter 45949-06-23 04:19 G 18503760.46 18503760.68 18503760.90 0.0526 0.0167 Pluto 45949-09-12 21:22 G 18503842.28 18503842.39 18503842.55 0.0066 0.0057 Jupiter 45954-12-14 07:41 G 18505760.60 18505760.82 18505761.04 0.0502 0.0175 Saturn 45960-11-19 07:26 G 18507927.66 18507927.81 18507927.97 0.0287 0.0220 Jupiter 45961-06-28 03:22 G 18508148.48 18508148.64 18508148.81 0.0526 0.0367 Uranus 45965-07-10 18:29 G 18509622.07 18509622.27 18509622.50 0.0133 0.0068 Uranus 45966-07-15 00:14 G 18509991.26 18509991.51 18509991.76 0.0133 0.0002 Jupiter 45966-12-18 21:07 G 18510148.14 18510148.38 18510148.61 0.0501 0.0010 Uranus 45967-07-19 05:46 G 18510360.53 18510360.74 18510360.97 0.0133 0.0064 Uranus 45968-07-22 11:31 G 18510729.94 18510729.98 18510730.06 0.0134 0.0130 Saturn 45977-05-26 02:38 G 18513959.37 18513959.61 18513959.86 0.0277 0.0029 Jupiter 45978-12-23 10:48 G 18514535.73 18514535.95 18514536.18 0.0501 0.0165 Saturn 45990-11-27 13:26 G 18518892.84 18518893.06 18518893.29 0.0284 0.0108 Jupiter 45990-12-28 01:41 G 18518923.40 18518923.57 18518923.75 0.0500 0.0334 Jupiter 45996-06-07 12:58 G 18520911.93 18520912.04 18520912.17 0.0522 0.0448

## **47TH MILLENNIUM CE**

## This is a list of transits of Earth in the 47th millennium CE.

FROM MAX- C START MAX END SUNRAD DEPTH S

TRANSIT

TIME

46001-04-22 09:50 G 18522691.74 18522691.91 18522692.09 0.1607 0.0622 Mars Saturn 46006-05-21 04:19 G 18524546.58 18524546.68 18524546.80 0.0275 0.0245 46007-01-09 07:55 G 18524779.65 18524779.83 18524780.03 0.0145 0.0098 Saturn 46007-06-02 19:26 G 18524924.26 18524924.31 18524924.38 0.0279 0.0270 Uranus 46008-01-14 10:48 G 18525149.70 18525149.95 18525150.21 0.0145 0.0012 Jupiter 46008-06-12 10:05 G 18525299.72 18525299.92 18525300.13 0.0523 0.0257 Uranus 46009-01-18 13:26 G 18525519.85 18525520.06 18525520.29 0.0145 0.0075 Saturn 46019-11-21 21:22 G 18529479.19 18529479.39 18529479.61 0.0287 0.0145 Jupiter 46020-06-17 08:38 G 18529687.63 18529687.86 18529688.09 0.0524 0.0060 Neptune 46023-05-30 16:34 G 18530765.12 18530765.19 18530765.28 0.0089 0.0084 Neptune 46024-06-01 03:50 G 18531132.48 18531132.66 18531132.87 0.0089 0.0059 Neptune 46025-06-03 15:07 G 18531499.91 18531500.13 18531500.39 0.0089 0.0032 Jupiter 46025-12-08 18:14 G 18531688.11 18531688.26 18531688.41 0.0503 0.0377 Neptune 46026-06-06 02:53 G 18531867.37 18531867.62 18531867.88 0.0089 0.0006 Neptune 46027-06-08 14:10 G 18532234.84 18532235.09 18532235.34 0.0089 0.0021 Neptune 46028-06-10 01:12 G 18532602.36 18532602.55 18532602.79 0.0089 0.0048 Neptune 46029-06-12 12:58 G 18532969.91 18532970.04 18532970.20 0.0089 0.0074 Jupiter 46032-06-22 04:19 G 18534075.46 18534075.68 18534075.90 0.0525 0.0132 Pluto 46036-03-15 12:00 G 18535437.77 18535438.00 18535438.26 0.0078 0.0026

Saturn 46036-05-27 17:02 G 18535510.97 18535511.21 18535511.45 0.0278 0.0045 Jupiter 46037-12-13 08:10 G 18536075.63 18536075.84 18536076.06 0.0503 0.0207 Jupiter 46044-06-26 23:46 G 18538463.32 18538463.49 18538463.68 0.0526 0.0327 Uranus 46048-07-07 02:38 G 18539934.56 18539934.61 18539934.70 0.0133 0.0128 Uranus 46049-07-11 08:10 G 18540303.64 18540303.84 18540304.08 0.0133 0.0063 Saturn 46049-11-29 03:50 G 18540444.48 18540444.66 18540444.85 0.0283 0.0183 Jupiter 46049-12-18 00:14 G 18540463.28 18540463.51 18540463.75 0.0502 0.0031 Uranus 46050-07-15 14:10 G 18540672.84 18540673.09 18540673.35 0.0133 0.0004 Uranus 46051-07-19 19:55 G 18541042.12 18541042.33 18541042.55 0.0134 0.0070 Jupiter 46056-07-01 17:46 G 18542851.20 18542851.24 18542851.29 0.0527 0.0516 Jupiter 46061-12-22 14:24 G 18544850.87 18544851.10 18544851.33 0.0500 0.0141 Saturn 46065-05-22 19:12 G 18546098.11 18546098.30 18546098.49 0.0275 0.0172 Jupiter 46073-12-27 00:14 G 18549238.33 18549238.51 18549238.70 0.0500 0.0305 Saturn 46078-11-23 14:53 G 18551030.88 18551031.12 18551031.36 0.0286 0.0063 Jupiter 46079-06-07 15:07 G 18551227.04 18551227.13 18551227.22 0.0522 0.0479 Mars 46080-04-24 10:34 G 18551548.84 18551548.94 18551549.04 0.1606 0.1346 Jupiter 46085-12-31 12:29 G 18553625.95 18553626.02 18553626.10 0.0499 0.0470 Uranus 46091-01-09 21:36 G 18555461.21 18555461.40 18555461.61 0.0145 0.0091 Jupiter 46091-06-12 10:05 G 18555614.73 18555614.92 18555615.11 0.0523 0.0293 Uranus 46092-01-15 00:43 G 18555831.27 18555831.53 18555831.78 0.0145 0.0005 Uranus 46093-01-19 02:53 G 18556201.42 18556201.62 18556201.85 0.0145 0.0082 Saturn 46095-05-30 08:10 G 18557062.63 18557062.84 18557063.07 0.0278 0.0122 Jupiter 46103-06-18 04:34 G 18560002.46 18560002.69 18560002.92 0.0524 0.0103 Neptune 46104-11-29 17:02 G 18560533.12 18560533.21 18560533.35 0.0088 0.0079 Neptune 46105-12-02 05:02 G 18560900.52 18560900.71 18560900.93 0.0088 0.0053 Neptune 46106-12-04 17:17 G 18561267.98 18561268.22 18561268.47 0.0088 0.0027 Neptune 46107-12-07 05:17 G 18561635.46 18561635.72 18561635.98 0.0088 0.0002 Saturn 46108-12-01 21:50 G 18561996.32 18561996.41 18561996.49 0.0283 0.0264 Neptune 46108-12-08 17:02 G 18562002.96 18562003.21 18562003.46 0.0088 0.0024 Jupiter 46108-12-08 18:58 G 18562003.16 18562003.29 18562003.43 0.0504 0.0410 \*

Neptune 46109-12-11 04:48 G 18562370.50 18562370.70 18562370.93 0.0088 0.0050 Neptune 46110-12-13 16:19 G 18562738.08 18562738.18 18562738.34 0.0088 0.0076 Jupiter 46115-06-22 20:38 G 18564390.14 18564390.36 18564390.59 0.0525 0.0088 Jupiter 46120-12-13 10:34 G 18566390.74 18566390.94 18566391.15 0.0503 0.0235 Saturn 46124-05-25 10:05 G 18567649.70 18567649.92 18567650.15 0.0276 0.0098 Jupiter 46127-06-27 18:43 G 18568778.09 18568778.28 18568778.47 0.0526 0.0286 Uranus 46132-07-08 16:19 G 18570616.09 18570616.18 18570616.29 0.0133 0.0122 Jupiter 46132-12-17 21:22 G 18570778.15 18570778.39 18570778.62 0.0502 0.0068 Uranus 46133-07-12 21:50 G 18570985.19 18570985.41 18570985.65 0.0133 0.0056 Uranus 46134-07-17 03:36 G 18571354.40 18571354.65 18571354.91 0.0133 0.0010 Uranus 46135-07-21 09:22 G 18571723.69 18571723.89 18571724.11 0.0134 0.0076 Saturn 46137-11-26 10:34 G 18572582.70 18572582.94 18572583.19 0.0285 0.0024 Jupiter 46139-07-02 18:14 G 18573166.18 18573166.26 18573166.35 0.0527 0.0486 Jupiter 46144-12-22 10:05 G 18575165.69 18575165.92 18575166.16 0.0501 0.0104 Saturn 46154-06-01 23:46 G 18578614.33 18578614.49 18578614.67 0.0279 0.0198 Jupiter 46156-12-26 23:17 G 18579553.27 18579553.47 18579553.66 0.0500 0.0273 Jupiter 46162-06-07 11:46 G 18581541.99 18581541.99 18581542.01 0.0521 0.0521 Saturn 46166-11-20 21:50 G 18583169.27 18583169.41 18583169.57 0.0287 0.0225 Mars 46167-10-23 21:07 G 18583506.30 18583506.38 18583506.46 0.1924 0.1764 Jupiter 46168-12-31 13:41 G 18583940.98 18583941.07 18583941.19 0.0500 0.0445 Jupiter 46174-06-12 02:53 G 18585929.45 18585929.62 18585929.80 0.0522 0.0339 Uranus 46175-01-11 11:31 G 18586142.79 18586142.98 18586143.20 0.0145 0.0084 Uranus 46176-01-16 14:38 G 18586512.85 18586513.11 18586513.36 0.0145 0.0003 Uranus 46177-01-20 17:02 G 18586883.02 18586883.21 18586883.43 0.0145 0.0089 Saturn 46183-05-27 23:46 G 18589201.25 18589201.49 18589201.73 0.0277 0.0025 Jupiter 46186-06-16 23:31 G 18590317.26 18590317.48 18590317.70 0.0523 0.0145 Neptune 46188-06-01 10:05 G 18591032.79 18591032.92 18591033.08 0.0089 0.0074 Neptune 46189-06-03 21:36 G 18591400.20 18591400.40 18591400.63 0.0089 0.0047 Neptune 46190-06-06 08:53 G 18591767.63 18591767.87 18591768.13 0.0089 0.0021 Neptune 46191-06-08 20:38 G 18592135.10 18592135.36 18592135.62 0.0089 0.0006 Jupiter 46191-12-08 15:50 G 18592318.06 18592318.16 18592318.27 0.0504 0.0450 Neptune 46192-06-10 07:41 G 18592502.60 18592502.82 18592503.07 0.0089 0.0032 Neptune 46193-06-12 18:58 G 18592870.12 18592870.29 18592870.50 0.0089 0.0059 Neptune 46194-06-15 06:43 G 18593237.71 18593237.78 18593237.86 0.0089 0.0085 Saturn 46196-11-28 06:29 G 18594134.54 18594134.77 18594135.00 0.0284 0.0111 Pluto 46197-09-14 22:05 G 18594425.18 18594425.42 18594425.68 0.0066 0.0017 Jupiter 46198-06-21 22:19 G 18594705.20 18594705.43 18594705.66 0.0525 0.0054 Jupiter 46203-12-14 06:00 G 18596705.56 18596705.75 18596705.95 0.0503 0.0276 Jupiter 46210-06-27 18:58 G 18599093.09 18599093.29 18599093.49 0.0525 0.0250 Saturn 46212-05-22 21:50 G 18599788.31 18599788.41 18599788.53 0.0275 0.0245 Saturn 46213-06-04 12:58 G 18600166.00 18600166.04 18600166.10 0.0280 0.0273 Jupiter 46215-12-18 19:41 G 18601093.09 18601093.32 18601093.56 0.0502 0.0103 Uranus 46216-07-10 05:46 G 18601297.63 18601297.74 18601297.88 0.0133 0.0116 Uranus 46217-07-14 11:17 G 18601666.75 18601666.97 18601667.22 0.0133 0.0051 Uranus 46218-07-18 17:17 G 18602035.97 18602036.22 18602036.47 0.0133 0.0016 Uranus 46219-07-22 22:48 G 18602405.26 18602405.45 18602405.66 0.0133 0.0082 Jupiter 46222-07-02 14:38 G 18603480.99 18603481.11 18603481.23 0.0526 0.0446 Saturn 46225-11-23 17:02 G 18604721.00 18604721.21 18604721.43 0.0286 0.0138 Jupiter 46227-12-23 11:31 G 18605480.75 18605480.98 18605481.22 0.0501 0.0074 Jupiter 46239-12-28 01:41 G 18609868.37 18609868.57 18609868.78 0.0501 0.0248 Saturn 46242-05-30 11:17 G 18610752.73 18610752.97 18610753.21 0.0277 0.0046 Jupiter 46252-01-01 11:46 G 18614255.85 18614255.99 18614256.12 0.0500 0.0410 Saturn 46255-12-01 23:46 G 18615686.31 18615686.49 18615686.67 0.0284 0.0193 Jupiter 46257-06-12 05:46 G 18616244.58 18616244.74 18616244.90 0.0522 0.0372 Uranus 46259-01-12 21:22 G 18616824.18 18616824.39 18616824.61 0.0145 0.0080 Uranus 46260-01-18 00:14 G 18617194.26 18617194.51 18617194.77 0.0145 0.0006 Uranus 46261-01-22 03:07 G 18617564.44 18617564.63 18617564.83 0.0145 0.0092 Jupiter 46269-06-17 02:24 G 18620632.39 18620632.60 18620632.82 0.0523 0.0179 Neptune 46269-12-02 10:19 G 18620800.79 18620800.93 18620801.12 0.0088 0.0069 Neptune 46270-12-04 22:34 G 18621168.23 18621168.44 18621168.68 0.0088 0.0042

Saturn 46271-05-25 06:43 G 18621339.61 18621339.78 18621339.98 0.0275 0.0180 Neptune 46271-12-07 10:34 G 18621535.68 18621535.94 18621536.20 0.0088 0.0016 Neptune 46272-12-08 22:19 G 18621903.18 18621903.43 18621903.70 0.0088 0.0010 Neptune 46273-12-11 09:50 G 18622270.70 18622270.91 18622271.17 0.0088 0.0036 Jupiter 46274-12-08 15:22 G 18622633.08 18622633.14 18622633.20 0.0504 0.0485 Neptune 46274-12-13 22:05 G 18622638.25 18622638.42 18622638.62 0.0088 0.0061 Neptune 46275-12-16 09:36 G 18623005.89 18623005.90 18623005.96 0.0088 0.0087 Jupiter 46281-06-21 21:36 G 18625020.17 18625020.40 18625020.64 0.0524 0.0020 Saturn 46284-11-25 08:38 G 18626272.62 18626272.86 18626273.10 0.0286 0.0057 46285-03-20 08:53 G 18626387.74 18626387.87 18626388.05 0.0077 0.0062 Pluto 46285-04-25 17:31 G 18626424.04 18626424.23 18626424.41 0.1610 0.0216 Mars Jupiter 46286-12-13 07:55 G 18627020.65 18627020.83 18627021.02 0.0504 0.0307 Jupiter 46293-06-26 15:07 G 18629407.93 18629408.13 18629408.35 0.0525 0.0211 Jupiter 46298-12-17 23:46 G 18631408.26 18631408.49 18631408.72 0.0503 0.0130 Uranus 46300-07-11 18:43 G 18631979.15 18631979.28 18631979.43 0.0133 0.0111 Saturn 46301-06-01 18:43 G 18632304.06 18632304.28 18632304.51 0.0278 0.0111 Uranus 46301-07-16 00:00 G 18632348.28 18632348.50 18632348.75 0.0133 0.0046 Uranus 46302-07-20 06:00 G 18632717.50 18632717.75 18632718.00 0.0133 0.0021 Uranus 46303-07-24 11:31 G 18633086.80 18633086.98 18633087.18 0.0133 0.0087 Jupiter 46305-07-02 13:12 G 18633795.91 18633796.05 18633796.20 0.0526 0.0411 Jupiter 46310-12-23 11:17 G 18635795.73 18635795.97 18635796.20 0.0501 0.0039 Saturn 46314-12-04 13:26 G 18637238.00 18637238.06 18637238.14 0.0283 0.0270 Jupiter 46322-12-28 01:12 G 18640183.34 18640183.55 18640183.77 0.0500 0.0213 Saturn 46330-05-27 12:29 G 18642890.81 18642891.02 18642891.25 0.0275 0.0119 Jupiter 46335-01-01 14:38 G 18644570.96 18644571.11 18644571.26 0.0500 0.0384 Jupiter 46340-06-12 09:07 G 18646559.74 18646559.88 18646560.03 0.0522 0.0404 Uranus 46343-01-14 05:46 G 18647505.54 18647505.74 18647505.97 0.0145 0.0078 Saturn 46343-11-28 19:26 G 18647824.07 18647824.31 18647824.56 0.0286 0.0016 Uranus 46344-01-19 08:53 G 18647875.61 18647875.87 18647876.12 0.0145 0.0009 Uranus 46345-01-23 11:31 G 18648245.80 18648245.98 18648246.19 0.0145 0.0095

Neptune 46352-06-02 17:02 G 18650933.19 18650933.21 18650933.24 0.0089 0.0089 Jupiter 46352-06-17 02:24 G 18650947.39 18650947.60 18650947.81 0.0523 0.0215 Neptune 46353-06-05 04:05 G 18651300.50 18651300.67 18651300.87 0.0089 0.0063 Neptune 46354-06-07 15:36 G 18651667.93 18651668.15 18651668.40 0.0089 0.0036 Neptune 46355-06-10 03:22 G 18652035.39 18652035.64 18652035.89 0.0089 0.0009 Neptune 46356-06-11 14:38 G 18652402.86 18652403.11 18652403.37 0.0089 0.0017 Neptune 46357-06-14 01:55 G 18652770.37 18652770.58 18652770.81 0.0089 0.0044 Neptune 46358-06-16 12:58 G 18653137.91 18653138.04 18653138.22 0.0089 0.0071 Saturn 46360-06-02 22:05 G 18653855.24 18653855.42 18653855.63 0.0278 0.0169 Jupiter 46364-06-21 23:31 G 18655335.24 18655335.48 18655335.71 0.0524 0.0018 Jupiter 46369-12-13 10:48 G 18657335.78 18657335.95 18657336.12 0.0503 0.0341 Saturn 46372-11-22 00:58 G 18658410.41 18658410.54 18658410.68 0.0288 0.0241 Jupiter 46376-06-26 22:34 G 18659723.22 18659723.44 18659723.65 0.0525 0.0185 Jupiter 46381-12-18 02:10 G 18661723.37 18661723.59 18661723.81 0.0502 0.0162 Uranus 46384-07-12 07:12 G 18662660.66 18662660.80 18662660.96 0.0133 0.0106 Uranus 46385-07-16 12:43 G 18663029.79 18663030.03 18663030.27 0.0133 0.0040 Uranus 46386-07-20 18:29 G 18663399.03 18663399.27 18663399.52 0.0133 0.0026 Uranus 46387-07-25 00:00 G 18663768.34 18663768.50 18663768.70 0.0133 0.0092 Jupiter 46388-07-01 21:07 G 18664111.23 18664111.38 18664111.54 0.0526 0.0387 Saturn 46389-05-28 13:55 G 18664441.85 18664442.08 18664442.32 0.0275 0.0066 Jupiter 46393-12-22 16:34 G 18666110.95 18666111.19 18666111.42 0.0502 0.0014 Saturn 46402-11-30 01:12 G 18669375.31 18669375.55 18669375.79 0.0285 0.0079 Jupiter 46405-12-27 08:10 G 18670498.62 18670498.84 18670499.06 0.0501 0.0192 Jupiter 46417-12-31 23:31 G 18674886.32 18674886.48 18674886.64 0.0500 0.0367 Saturn 46419-06-04 22:05 G 18675406.28 18675406.42 18675406.57 0.0278 0.0221 Jupiter 46423-06-12 13:41 G 18676874.95 18676875.07 18676875.20 0.0521 0.0434 Uranus 46427-01-14 13:26 G 18678186.85 18678187.06 18678187.28 0.0145 0.0076 Uranus 46428-01-19 16:19 G 18678556.93 18678557.18 18678557.44 0.0145 0.0010 Uranus 46429-01-23 19:12 G 18678927.11 18678927.30 18678927.50 0.0145 0.0096 Saturn 46431-11-24 04:34 G 18679961.50 18679961.69 18679961.89 0.0288 0.0181

Neptune 46433-12-02 16:19 G 18680701.13 18680701.18 18680701.30 0.0088 0.0084 Neptune 46434-12-05 04:19 G 18681068.51 18681068.68 18681068.90 0.0088 0.0057 Jupiter 46435-06-17 11:02 G 18681262.75 18681262.96 18681263.16 0.0523 0.0242 Neptune 46435-12-07 16:34 G 18681435.96 18681436.19 18681436.45 0.0088 0.0031 Neptune 46436-12-09 04:34 G 18681803.44 18681803.69 18681803.96 0.0088 0.0005 Neptune 46437-12-11 16:34 G 18682170.94 18682171.19 18682171.45 0.0088 0.0021 Neptune 46438-12-14 04:19 G 18682538.47 18682538.68 18682538.90 0.0088 0.0047 Neptune 46439-12-16 15:50 G 18682906.03 18682906.16 18682906.32 0.0088 0.0073 Pluto 46445-09-17 21:36 G 18685008.18 18685008.40 18685008.66 0.0066 0.0024 Jupiter 46447-06-22 09:36 G 18685650.67 18685650.90 18685651.13 0.0524 0.0039 Saturn 46448-05-29 12:29 G 18685992.78 18685993.02 18685993.26 0.0275 0.0017 46451-10-24 19:12 G 18687236.10 18687236.30 18687236.50 0.1919 0.0465 Mars Jupiter 46452-12-12 18:00 G 18687651.10 18687651.25 18687651.42 0.0504 0.0364 Jupiter 46459-06-27 07:12 G 18690038.58 18690038.80 18690039.02 0.0525 0.0163 Saturn 46461-12-01 01:12 G 18690926.34 18690926.55 18690926.78 0.0286 0.0133 Jupiter 46464-12-17 10:34 G 18692038.72 18692038.94 18692039.16 0.0503 0.0183 Uranus 46468-07-12 18:00 G 18693342.10 18693342.25 18693342.43 0.0133 0.0103 Uranus 46469-07-17 00:00 G 18693711.26 18693711.50 18693711.75 0.0133 0.0037 Uranus 46470-07-21 05:46 G 18694080.51 18694080.74 18694081.00 0.0133 0.0030 Jupiter 46471-07-02 02:38 G 18694426.45 18694426.61 18694426.78 0.0525 0.0360 Uranus 46471-07-25 11:31 G 18694449.83 18694449.98 18694450.18 0.0134 0.0096 Jupiter 46476-12-22 02:53 G 18696426.39 18696426.62 18696426.86 0.0502 0.0006 Saturn 46477-05-24 06:43 G 18696579.67 18696579.78 18696579.89 0.0273 0.0243 Saturn 46478-06-05 18:14 G 18696957.20 18696957.26 18696957.33 0.0278 0.0267 Jupiter 46488-12-26 16:05 G 18700813.95 18700814.17 18700814.40 0.0501 0.0168 46490-04-25 23:46 G 18701299.34 18701299.49 18701299.64 0.1614 0.0949 Mars Saturn 46490-11-25 02:53 G 18701512.40 18701512.62 18701512.84 0.0288 0.0131 Jupiter 46501-01-01 07:12 G 18705201.63 18705201.80 18705201.97 0.0500 0.0344 Jupiter 46506-06-13 01:12 G 18707190.44 18707190.55 18707190.66 0.0522 0.0457 Saturn 46507-06-01 08:10 G 18707543.60 18707543.84 18707544.09 0.0275 0.0028

Uranus 46511-01-16 00:29 G 18708868.30 18708868.52 18708868.74 0.0145 0.0072 Uranus 46512-01-21 03:07 G 18709238.38 18709238.63 18709238.89 0.0145 0.0015 Uranus 46513-01-25 05:46 G 18709608.57 18709608.74 18709608.94 0.0145 0.0100 Neptune 46517-06-05 11:46 G 18711200.89 18711200.99 18711201.15 0.0089 0.0078 Neptune 46518-06-07 23:46 G 18711568.28 18711568.49 18711568.70 0.0089 0.0050 Jupiter 46518-06-17 22:19 G 18711578.23 18711578.43 18711578.63 0.0523 0.0260 Neptune 46519-06-10 11:02 G 18711935.73 18711935.96 18711936.22 0.0089 0.0024 Neptune 46520-06-11 22:48 G 18712303.19 18712303.45 18712303.71 0.0089 0.0003 Saturn 46520-12-02 21:36 G 18712477.22 18712477.40 18712477.60 0.0286 0.0181 Neptune 46521-06-14 09:50 G 18712670.68 18712670.91 18712671.16 0.0089 0.0030 Neptune 46522-06-16 21:07 G 18713038.20 18713038.38 18713038.60 0.0089 0.0056 Neptune 46523-06-19 08:38 G 18713405.78 18713405.86 18713405.97 0.0089 0.0083 Jupiter 46530-06-22 17:46 G 18715966.01 18715966.24 18715966.47 0.0523 0.0063 Pluto 46533-03-23 04:48 G 18716970.44 18716970.70 18716970.96 0.0078 0.0004 Jupiter 46535-12-14 05:46 G 18717966.59 18717966.74 18717966.90 0.0504 0.0381 Saturn 46536-05-26 01:26 G 18718130.41 18718130.56 18718130.74 0.0273 0.0201 Jupiter 46542-06-27 15:36 G 18720353.93 18720354.15 18720354.37 0.0525 0.0140 Jupiter 46547-12-18 21:07 G 18722354.17 18722354.38 18722354.60 0.0502 0.0205 Saturn 46549-11-26 21:07 G 18723063.15 18723063.38 18723063.62 0.0288 0.0088 Uranus 46552-07-14 05:46 G 18724023.58 18724023.74 18724023.92 0.0134 0.0098 Uranus 46553-07-18 11:31 G 18724392.75 18724392.98 18724393.24 0.0134 0.0033 Jupiter 46554-07-02 13:55 G 18724741.91 18724742.08 18724742.26 0.0526 0.0342 Uranus 46554-07-22 18:00 G 18724762.00 18724762.25 18724762.49 0.0134 0.0034 Uranus 46555-07-26 23:46 G 18725131.34 18725131.49 18725131.67 0.0134 0.0100 Jupiter 46559-12-23 13:41 G 18726741.83 18726742.07 18726742.30 0.0501 0.0023 Saturn 46566-06-02 02:53 G 18729094.38 18729094.62 18729094.85 0.0275 0.0068 46569-04-29 00:14 G 18730156.37 18730156.51 18730156.66 0.1612 0.1053 Mars Jupiter 46571-12-28 03:50 G 18731129.43 18731129.66 18731129.88 0.0501 0.0154 Saturn 46579-12-04 14:53 G 18734027.98 18734028.12 18734028.29 0.0286 0.0222 Jupiter 46584-01-01 18:43 G 18735517.11 18735517.28 18735517.46 0.0500 0.0333

Jupiter 46589-06-12 11:02 G 18737505.88 18737505.96 18737506.06 0.0521 0.0479 Uranus 46595-01-16 12:58 G 18739549.82 18739550.04 18739550.28 0.0145 0.0066 Saturn 46595-05-27 19:41 G 18739681.13 18739681.32 18739681.52 0.0273 0.0161 Uranus 46596-01-21 15:50 G 18739919.91 18739920.16 18739920.42 0.0145 0.0020 Uranus 46597-01-25 18:14 G 18740290.10 18740290.26 18740290.45 0.0145 0.0106 Neptune 46598-12-05 11:17 G 18740968.83 18740968.97 18740969.13 0.0088 0.0071 Neptune 46599-12-07 23:02 G 18741336.25 18741336.46 18741336.70 0.0088 0.0046 Neptune 46600-12-10 11:02 G 18741703.72 18741703.96 18741704.23 0.0088 0.0020 Jupiter 46601-06-18 07:41 G 18741893.63 18741893.82 18741894.02 0.0523 0.0282 Neptune 46601-12-12 23:02 G 18742071.21 18742071.46 18742071.73 0.0088 0.0008 Neptune 46602-12-15 10:48 G 18742438.72 18742438.95 18742439.20 0.0088 0.0033 Neptune 46603-12-17 22:34 G 18742806.26 18742806.44 18742806.64 0.0088 0.0059 Neptune 46604-12-19 10:19 G 18743173.88 18743173.93 18743174.01 0.0088 0.0085 Saturn 46608-11-28 14:24 G 18744613.86 18744614.10 18744614.34 0.0288 0.0047 Jupiter 46613-06-23 03:50 G 18746281.44 18746281.66 18746281.89 0.0524 0.0086 Jupiter 46618-12-14 18:29 G 18748282.13 18748282.27 18748282.42 0.0503 0.0397 Saturn 46625-06-03 21:22 G 18750645.18 18750645.39 18750645.62 0.0275 0.0110 Jupiter 46625-06-28 03:36 G 18750669.43 18750669.65 18750669.88 0.0525 0.0123 Jupiter 46630-12-19 09:22 G 18752669.68 18752669.89 18752670.10 0.0503 0.0219 Uranus 46636-07-15 16:34 G 18754705.03 18754705.19 18754705.39 0.0134 0.0094 Jupiter 46637-07-03 02:53 G 18755057.44 18755057.62 18755057.80 0.0526 0.0328 Uranus 46637-07-19 23:02 G 18755074.22 18755074.46 18755074.71 0.0134 0.0028 Uranus 46638-07-24 05:02 G 18755443.48 18755443.71 18755443.97 0.0134 0.0039 Saturn 46638-12-06 07:41 G 18755578.73 18755578.82 18755578.92 0.0286 0.0261 Uranus 46639-07-28 11:31 G 18755812.82 18755812.98 18755813.14 0.0134 0.0104 Jupiter 46642-12-24 00:43 G 18757057.30 18757057.53 18757057.77 0.0502 0.0039 Saturn 46654-05-29 15:07 G 18761231.91 18761232.13 18761232.35 0.0273 0.0120 Jupiter 46654-12-28 16:34 G 18761444.97 18761445.19 18761445.42 0.0501 0.0141 Jupiter 46667-01-02 06:58 G 18765832.62 18765832.79 18765832.98 0.0500 0.0317 Saturn 46667-11-30 06:58 G 18766164.54 18766164.79 18766165.04 0.0288 0.0008

Jupiter 46672-06-12 19:12 G 18767821.25 18767821.30 18767821.36 0.0522 0.0505 Uranus 46678-01-12 23:31 G 18769861.48 18769861.48 18769861.51 0.0145 0.0144 Jupiter 46679-01-06 21:50 G 18770220.38 18770220.41 18770220.45 0.0499 0.0491 Uranus 46679-01-18 02:38 G 18770231.38 18770231.61 18770231.85 0.0145 0.0059 Uranus 46680-01-23 05:31 G 18770601.48 18770601.73 18770601.98 0.0145 0.0027 Uranus 46681-01-27 08:10 G 18770971.68 18770971.84 18770972.00 0.0145 0.0112 Neptune 46682-06-08 07:41 G 18771468.67 18771468.82 18771469.02 0.0089 0.0065 Neptune 46683-06-10 19:26 G 18771836.10 18771836.31 18771836.56 0.0089 0.0039 Saturn 46684-06-04 17:46 G 18772196.04 18772196.24 18772196.44 0.0275 0.0153 Neptune 46684-06-12 07:12 G 18772203.55 18772203.80 18772204.05 0.0089 0.0012 Jupiter 46684-06-17 18:00 G 18772209.06 18772209.25 18772209.44 0.0523 0.0304 Neptune 46685-06-14 18:43 G 18772571.03 18772571.28 18772571.54 0.0089 0.0015 Neptune 46686-06-17 05:46 G 18772938.54 18772938.74 18772938.99 0.0089 0.0043 Neptune 46687-06-19 17:02 G 18773306.08 18773306.21 18773306.40 0.0089 0.0070 Pluto 46693-09-21 01:41 G 18775591.43 18775591.57 18775591.74 0.0066 0.0052 Pluto 46694-09-22 15:07 G 18775957.96 18775958.13 18775958.36 0.0066 0.0042 Jupiter 46696-06-22 16:34 G 18776596.97 18776597.19 18776597.42 0.0524 0.0100 Jupiter 46701-12-15 04:34 G 18778597.56 18778597.69 18778597.83 0.0504 0.0415 Jupiter 46708-06-28 12:58 G 18780984.81 18780985.04 18780985.27 0.0525 0.0101 Saturn 46713-05-31 12:14 G 18782782.78 18782783.01 18782783.25 0.0273 0.0075 Jupiter 46713-12-19 20:53 G 18782985.16 18782985.37 18782985.58 0.0503 0.0236 Jupiter 46720-07-03 10:34 G 18785372.75 18785372.94 18785373.13 0.0526 0.0305 Uranus 46720-07-17 04:34 G 18785386.52 18785386.69 18785386.89 0.0134 0.0089 Uranus 46721-07-21 10:48 G 18785755.71 18785755.95 18785756.20 0.0134 0.0023 Uranus 46722-07-25 16:48 G 18786124.97 18786125.20 18786125.45 0.0134 0.0044 Uranus 46723-07-29 22:48 G 18786494.32 18786494.45 18786494.61 0.0134 0.0109 Jupiter 46725-12-24 12:58 G 18787372.81 18787373.04 18787373.28 0.0502 0.0056 Saturn 46726-12-02 01:41 G 18787715.33 18787715.57 18787715.82 0.0288 0.0035 Jupiter 46732-07-08 07:12 G 18789760.74 18789760.80 18789760.86 0.0527 0.0507 Jupiter 46737-12-29 04:48 G 18791760.47 18791760.70 18791760.93 0.0500 0.0126

Saturn 46743-06-07 17:17 G 18793747.06 18793747.22 18793747.39 0.0275 0.0202 Jupiter 46750-01-02 17:17 G 18796148.04 18796148.22 18796148.41 0.0500 0.0303 Jupiter 46755-06-14 06:58 G 18798136.79 18798136.79 18798136.80 0.0522 0.0521 Saturn 46755-11-25 19:12 G 18798301.19 18798301.30 18798301.43 0.0291 0.0252 Jupiter 46762-01-07 07:12 G 18800535.74 18800535.80 18800535.87 0.0499 0.0477 Uranus 46762-01-14 11:31 G 18800542.92 18800542.98 18800543.05 0.0145 0.0139 Neptune 46762-12-06 18:43 G 18800869.24 18800869.28 18800869.36 0.0088 0.0086 Uranus 46763-01-19 14:10 G 18800912.86 18800913.09 18800913.34 0.0145 0.0054 Neptune 46763-12-09 06:43 G 18801236.61 18801236.78 18801236.99 0.0088 0.0060 Uranus 46764-01-24 17:17 G 18801282.97 18801283.22 18801283.47 0.0145 0.0032 Neptune 46764-12-10 18:58 G 18801604.06 18801604.29 18801604.54 0.0088 0.0033 Uranus 46765-01-28 19:26 G 18801653.18 18801653.31 18801653.47 0.0145 0.0118 Neptune 46765-12-13 06:58 G 18801971.53 18801971.79 18801972.05 0.0088 0.0007 Neptune 46766-12-15 18:58 G 18802339.04 18802339.29 18802339.54 0.0088 0.0019 Jupiter 46767-06-19 02:24 G 18802524.43 18802524.60 18802524.78 0.0522 0.0327 Neptune 46767-12-18 06:14 G 18802706.56 18802706.76 18802707.00 0.0088 0.0046 Neptune 46768-12-19 18:00 G 18803074.13 18803074.25 18803074.42 0.0088 0.0072 Saturn 46772-06-01 12:43 G 18804333.78 18804334.03 18804334.27 0.0274 0.0025 Mars 46774-04-30 06:00 G 18805031.56 18805031.75 18805031.94 0.1617 0.0145 Jupiter 46779-06-23 22:48 G 18806912.22 18806912.45 18806912.67 0.0524 0.0127 Pluto 46781-03-26 04:48 G 18807553.51 18807553.70 18807553.89 0.0078 0.0053 Jupiter 46784-12-14 15:36 G 18808913.04 18808913.15 18808913.27 0.0504 0.0434 Saturn 46785-12-03 00:29 G 18809266.28 18809266.52 18809266.76 0.0288 0.0084 Jupiter 46791-06-28 16:34 G 18811299.97 18811300.19 18811300.42 0.0525 0.0072 Jupiter 46796-12-19 08:24 G 18813300.65 18813300.85 18813301.05 0.0503 0.0251 Saturn 46801-05-27 13:12 G 18814920.95 18814921.05 18814921.16 0.0271 0.0242 Saturn 46802-06-08 20:24 G 18815298.27 18815298.35 18815298.44 0.0275 0.0257 Jupiter 46803-07-03 16:19 G 18815687.99 18815688.18 18815688.38 0.0526 0.0280 Uranus 46804-07-17 15:22 G 18816067.96 18816068.14 18816068.35 0.0133 0.0085 Uranus 46805-07-21 21:50 G 18816437.16 18816437.41 18816437.66 0.0133 0.0019

Uranus 46806-07-26 03:50 G 18816806.43 18816806.66 18816806.90 0.0134 0.0047 Uranus 46807-07-30 09:36 G 18817175.78 18817175.90 18817176.04 0.0134 0.0113 Jupiter 46808-12-23 21:07 G 18817688.15 18817688.38 18817688.62 0.0502 0.0075 Saturn 46814-11-26 21:07 G 18819852.20 18819852.38 18819852.56 0.0290 0.0197 Jupiter 46815-07-08 15:50 G 18820076.08 18820076.16 18820076.25 0.0527 0.0488 Jupiter 46820-12-28 11:02 G 18822075.73 18822075.96 18822076.19 0.0501 0.0106 Saturn 46831-06-03 17:31 G 18825884.99 18825885.23 18825885.47 0.0274 0.0032 Jupiter 46833-01-02 01:12 G 18826463.36 18826463.55 18826463.75 0.0500 0.0283 Saturn 46844-12-04 03:50 G 18830817.45 18830817.66 18830817.88 0.0287 0.0141 Jupiter 46845-01-06 16:05 G 18830851.09 18830851.17 18830851.27 0.0499 0.0459 Uranus 46846-01-14 20:10 G 18831224.27 18831224.34 18831224.44 0.0145 0.0136 Neptune 46846-06-08 17:17 G 18831369.13 18831369.22 18831369.37 0.0089 0.0079 Uranus 46847-01-19 23:17 G 18831594.24 18831594.47 18831594.71 0.0145 0.0051 Neptune 46847-06-11 04:48 G 18831736.51 18831736.70 18831736.92 0.0089 0.0052 Uranus 46848-01-25 02:10 G 18831964.34 18831964.59 18831964.84 0.0145 0.0035 Neptune 46848-06-12 16:34 G 18832103.95 18832104.19 18832104.44 0.0089 0.0025 Uranus 46849-01-29 04:19 G 18832334.55 18832334.68 18832334.83 0.0145 0.0120 Neptune 46849-06-15 03:50 G 18832471.41 18832471.66 18832471.92 0.0089 0.0002 Neptune 46850-06-17 15:07 G 18832838.90 18832839.13 18832839.39 0.0089 0.0029 Jupiter 46850-06-18 02:38 G 18832839.45 18832839.61 18832839.78 0.0523 0.0364 Neptune 46851-06-20 02:24 G 18833206.42 18833206.60 18833206.82 0.0089 0.0056 Neptune 46852-06-21 14:24 G 18833574.00 18833574.10 18833574.20 0.0089 0.0082 Saturn 46860-05-28 19:41 G 18836472.14 18836472.32 18836472.50 0.0272 0.0184 Jupiter 46862-06-23 00:29 G 18837227.31 18837227.52 18837227.75 0.0524 0.0160 Jupiter 46867-12-14 20:53 G 18839228.28 18839228.37 18839228.47 0.0504 0.0459 Saturn 46873-11-28 03:50 G 18841403.45 18841403.66 18841403.89 0.0290 0.0132 Jupiter 46874-06-27 23:31 G 18841615.25 18841615.48 18841615.71 0.0525 0.0048 Jupiter 46879-12-19 11:17 G 18843615.78 18843615.97 18843616.17 0.0503 0.0280 Jupiter 46886-07-02 19:41 G 18846003.12 18846003.32 18846003.53 0.0525 0.0249 Uranus 46888-07-18 02:53 G 18846749.43 18846749.62 18846749.83 0.0133 0.0081

Uranus 46889-07-22 08:53 G 18847118.62 18847118.87 18847119.12 0.0133 0.0015 Saturn 46890-06-05 02:10 G 18847436.36 18847436.59 18847436.82 0.0274 0.0096 Uranus 46890-07-26 14:38 G 18847487.89 18847488.11 18847488.35 0.0134 0.0051 Uranus 46891-07-30 20:10 G 18847857.24 18847857.34 18847857.49 0.0134 0.0117 Jupiter 46891-12-24 01:41 G 18848003.34 18848003.57 18848003.80 0.0502 0.0101 Jupiter 46898-07-07 15:50 G 18850391.06 18850391.16 18850391.29 0.0526 0.0454 Saturn 46903-12-07 12:43 G 18852368.88 18852369.03 18852369.21 0.0287 0.0209 Jupiter 46903-12-29 17:46 G 18852391.01 18852391.24 18852391.48 0.0501 0.0084 Jupiter 46916-01-03 08:10 G 18856778.64 18856778.84 18856779.04 0.0500 0.0263 Saturn 46919-06-01 06:00 G 18858023.53 18858023.75 18858023.97 0.0272 0.0118 Neptune 46927-12-09 14:38 G 18861136.98 18861137.11 18861137.27 0.0088 0.0073 Jupiter 46928-01-07 18:43 G 18861166.17 18861166.28 18861166.40 0.0499 0.0434 Neptune 46928-12-11 02:24 G 18861504.40 18861504.60 18861504.84 0.0088 0.0048 Neptune 46929-12-13 15:07 G 18861871.88 18861872.13 18861872.38 0.0088 0.0021 Uranus 46930-01-16 03:07 G 18861905.56 18861905.63 18861905.74 0.0145 0.0135 Neptune 46930-12-16 02:53 G 18862239.37 18862239.62 18862239.89 0.0088 0.0006 Uranus 46931-01-21 06:00 G 18862275.52 18862275.75 18862276.00 0.0145 0.0050 Neptune 46931-12-18 14:53 G 18862606.88 18862607.12 18862607.37 0.0088 0.0032 Uranus 46932-01-26 08:53 G 18862645.62 18862645.87 18862646.12 0.0145 0.0036 Saturn 46932-11-30 16:34 G 18862954.95 18862955.19 18862955.43 0.0289 0.0057 Neptune 46932-12-20 02:38 G 18862974.42 18862974.61 18862974.81 0.0088 0.0058 Uranus 46933-01-30 10:48 G 18863015.83 18863015.95 18863016.10 0.0145 0.0122 Jupiter 46933-06-18 07:26 G 18863154.66 18863154.81 18863154.96 0.0522 0.0391 Neptune 46933-12-22 13:55 G 18863342.04 18863342.08 18863342.18 0.0088 0.0085 Pluto 46942-09-25 19:41 G 18866541.08 18866541.32 18866541.58 0.0066 0.0014 Jupiter 46945-06-23 02:53 G 18867542.41 18867542.62 18867542.84 0.0523 0.0193 Saturn 46949-06-07 14:10 G 18868987.90 18868988.09 18868988.29 0.0275 0.0166 Jupiter 46950-12-14 22:05 G 18869543.37 18869543.42 18869543.47 0.0505 0.0493 Jupiter 46957-06-27 21:50 G 18871930.18 18871930.41 18871930.64 0.0524 0.0010 Saturn 46962-12-09 02:24 G 18873920.58 18873920.60 18873920.64 0.0286 0.0284

Jupiter 46962-12-19 14:53 G 18873930.94 18873931.12 18873931.31 0.0503 0.0309

Jupiter 46969-07-02 14:10 G 18876317.88 18876318.09 18876318.31 0.0525 0.0206

Uranus 46972-07-19 12:29 G 18877430.82 18877431.02 18877431.23 0.0134 0.0078

Uranus 46973-07-23 18:14 G 18877800.01 18877800.26 18877800.52 0.0134 0.0013

Uranus 46974-07-28 00:00 G 18878169.29 18878169.50 18878169.75 0.0134 0.0054

Jupiter 46974-12-24 06:29 G 18878318.54 18878318.77 18878319.00 0.0502 0.0125

Uranus 46975-08-01 06:14 G 18878538.65 18878538.76 18878538.88 0.0134 0.0119

Saturn 46978-06-02 18:43 G 18879575.04 18879575.28 18879575.52 0.0273 0.0048

Mars 46979-04-30 10:19 G 18879906.84 18879906.93 18879907.02 0.1622 0.1416

Jupiter 46981-07-07 12:29 G 18880705.88 18880706.02 18880706.16 0.0526 0.0415

Jupiter 46986-12-28 17:31 G 18882706.00 18882706.23 18882706.47 0.0501 0.0051

Saturn 46991-12-03 09:36 G 18884506.66 18884506.90 18884507.15 0.0289 0.0027

Jupiter 46999-01-02 06:14 G 18887093.55 18887093.76 18887093.97 0.0500 0.0229

## **48TH MILLENNIUM CE**

## This is a list of transits of Earth in the 48th millennium CE.

FROM MAX- C START MAX END SUNRAD DEPTH S
TRANSIT

Saturn 47007-05-29 21:50 G 18890162.35 18890162.41 18890162.48 0.0271 0.0259

Saturn 47008-06-10 04:48 G 18890539.58 18890539.70 18890539.81 0.0276 0.0241

Jupiter 47011-01-07 18:58 G 18891481.16 18891481.29 18891481.43 0.0500 0.0404

Neptune 47011-06-12 15:07 G 18891636.98 18891637.13 18891637.32 0.0089 0.0066

Neptune 47012-06-14 02:24 G 18892004.39 18892004.60 18892004.85 0.0089 0.0039

Neptune 47013-06-16 14:10 G 18892371.84 18892372.09 18892372.35 0.0089 0.0012

Uranus 47014-01-17 10:48 G 18892586.86 18892586.95 18892587.05 0.0145 0.0133 Neptune 47014-06-19 01:26 G 18892739.31 18892739.56 18892739.82 0.0089 0.0015 Uranus 47015-01-22 13:12 G 18892956.82 18892957.05 18892957.30 0.0145 0.0048 Neptune 47015-06-21 12:58 G 18893106.81 18893107.04 18893107.27 0.0089 0.0042 Uranus 47016-01-27 15:36 G 18893326.91 18893327.15 18893327.41 0.0145 0.0038 Jupiter 47016-06-18 04:48 G 18893469.58 18893469.70 18893469.84 0.0521 0.0434 Neptune 47016-06-23 00:29 G 18893474.36 18893474.52 18893474.68 0.0089 0.0069 Uranus 47017-01-31 17:46 G 18893697.11 18893697.24 18893697.38 0.0145 0.0122 Saturn 47020-11-27 17:31 G 18895093.09 18895093.23 18895093.37 0.0290 0.0235 Jupiter 47028-06-22 19:55 G 18897857.13 18897857.33 18897857.53 0.0523 0.0241 Pluto 47030-03-31 07:55 G 18898503.68 18898503.83 18898504.03 0.0077 0.0058 Saturn 47037-06-05 09:07 G 18901126.64 18901126.88 18901127.13 0.0274 0.0027 Jupiter 47040-06-27 16:34 G 18902244.96 18902245.19 18902245.42 0.0524 0.0037 Jupiter 47045-12-19 12:43 G 18904245.87 18904246.03 18904246.21 0.0504 0.0347 Saturn 47050-12-06 05:02 G 18906058.49 18906058.71 18906058.95 0.0288 0.0116 Jupiter 47052-07-02 15:22 G 18906632.93 18906633.14 18906633.36 0.0525 0.0172 Uranus 47056-07-20 22:05 G 18908112.21 18908112.42 18908112.63 0.0134 0.0075 Uranus 47057-07-25 04:05 G 18908481.42 18908481.67 18908481.92 0.0134 0.0010 Jupiter 47057-12-24 02:24 G 18908633.38 18908633.60 18908633.83 0.0503 0.0166 47058-05-03 11:31 G 18908763.81 18908763.98 18908764.16 0.1620 0.0648 Mars Uranus 47058-07-29 09:36 G 18908850.69 18908850.90 18908851.15 0.0134 0.0057 Uranus 47059-08-02 15:36 G 18909220.07 18909220.15 18909220.27 0.0134 0.0122 Jupiter 47064-07-07 11:46 G 18911020.84 18911020.99 18911021.16 0.0526 0.0377 Saturn 47066-05-31 11:17 G 18911713.81 18911713.97 18911714.16 0.0272 0.0188 Jupiter 47069-12-28 15:50 G 18913020.93 18913021.16 18913021.40 0.0502 0.0014 Saturn 47079-11-30 14:10 G 18916644.87 18916645.09 18916645.30 0.0290 0.0144 Jupiter 47082-01-02 07:12 G 18917408.59 18917408.80 18917409.02 0.0501 0.0199 Neptune 47091-12-09 23:02 G 18921037.45 18921037.46 18921037.53 0.0088 0.0087 Neptune 47092-12-11 11:46 G 18921404.81 18921404.99 18921405.19 0.0088 0.0060 Neptune 47093-12-13 23:31 G 18921772.26 18921772.48 18921772.74 0.0088 0.0035 Jupiter 47094-01-06 21:07 G 18921796.24 18921796.38 18921796.54 0.0500 0.0378 Neptune 47094-12-16 12:14 G 18922139.75 18922140.01 18922140.27 0.0088 0.0007 Neptune 47095-12-18 23:46 G 18922507.25 18922507.49 18922507.76 0.0088 0.0019 Saturn 47096-06-06 23:17 G 18922678.24 18922678.47 18922678.69 0.0274 0.0101 Neptune 47096-12-20 11:46 G 18922874.77 18922874.99 18922875.22 0.0088 0.0045 Neptune 47097-12-22 23:02 G 18923242.34 18923242.46 18923242.64 0.0088 0.0072 Uranus 47098-01-17 20:24 G 18923268.26 18923268.35 18923268.49 0.0144 0.0130 47098-10-31 08:53 G 18923554.71 18923554.87 18923555.02 0.1911 0.1205 Mars Uranus 47099-01-22 23:02 G 18923638.23 18923638.46 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18953374.75 18953374.93 18953375.15 0.0089 0.0056 Neptune 47181-06-25 21:50 G 18953742.33 18953742.41 18953742.52 0.0089 0.0082 Uranus 47182-01-19 08:10 G 18953949.72 18953949.84 18953949.97 0.0144 0.0124 Jupiter 47182-06-18 01:55 G 18954099.56 18954099.58 18954099.61 0.0521 0.0517 Uranus 47183-01-24 10:05 G 18954319.69 18954319.92 18954320.18 0.0144 0.0040 Uranus 47184-01-29 12:29 G 18954689.78 18954690.02 18954690.27 0.0144 0.0046 Saturn 47184-06-04 09:50 G 18954816.67 18954816.91 18954817.15 0.0273 0.0050 Uranus 47185-02-02 14:24 G 18955060.00 18955060.10 18955060.21 0.0144 0.0130 Pluto 47190-09-29 04:05 G 18957124.41 18957124.67 18957124.93 0.0066 0.0003 Jupiter 47194-06-22 20:24 G 18958487.17 18958487.35 18958487.54 0.0522 0.0318 Saturn 47197-12-05 03:07 G 18959748.39 18959748.63 18959748.88 0.0289 0.0032 Jupiter 47206-06-27 12:58 G 18962874.82 18962875.04 18962875.27 0.0523 0.0121 Jupiter 47211-12-19 12:29 G 18964875.90 18964876.02 18964876.16 0.0505 0.0421 Saturn 47213-05-30 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Jupiter 47248-01-02 06:14 G 18978038.53 18978038.76 18978038.98 0.0501 0.0128 Saturn 47256-12-06 15:50 G 18981299.93 18981300.16 18981300.39 0.0288 0.0109 Neptune 47256-12-11 20:53 G 18981305.24 18981305.37 18981305.52 0.0088 0.0074 Neptune 47257-12-14 08:53 G 18981672.67 18981672.87 18981673.10 0.0088 0.0048 Neptune 47258-12-16 21:22 G 18982040.14 18982040.39 18982040.64 0.0088 0.0021 Neptune 47259-12-19 09:07 G 18982407.63 18982407.88 18982408.15 0.0088 0.0006 Jupiter 47260-01-06 21:07 G 18982426.20 18982426.38 18982426.57 0.0501 0.0312 Neptune 47260-12-20 21:22 G 18982775.15 18982775.39 18982775.63 0.0088 0.0033 Neptune 47261-12-23 08:53 G 18983142.70 18983142.87 18983143.09 0.0088 0.0059 Neptune 47262-12-25 21:07 G 18983510.33 18983510.38 18983510.45 0.0088 0.0085 47263-05-03 14:24 G 18983638.93 18983639.10 18983639.28 0.1626 0.0664 Mars Uranus 47266-01-19 19:26 G 18984631.18 18984631.31 18984631.47 0.0144 0.0119 Uranus 47267-01-24 21:50 G 18985001.17 18985001.41 18985001.67 0.0144 0.0034 Uranus 47268-01-30 00:00 G 18985371.27 18985371.50 18985371.75 0.0144 0.0051 Uranus 47269-02-03 01:55 G 18985741.51 18985741.58 18985741.68 0.0144 0.0136 Jupiter 47272-01-11 11:46 G 18986813.96 18986813.99 18986814.04 0.0500 0.0492 Saturn 47272-05-31 17:31 G 18986955.08 18986955.23 18986955.41 0.0271 0.0203 Jupiter 47277-06-21 20:53 G 18988802.20 18988802.37 18988802.53 0.0522 0.0357 Pluto 47278-04-02 14:53 G 18989086.89 18989087.12 18989087.37 0.0078 0.0031 Saturn 47285-11-30 20:10 G 18991886.13 18991886.34 18991886.55 0.0291 0.0156 Jupiter 47289-06-26 18:00 G 18993190.03 18993190.25 18993190.48 0.0523 0.0154 Jupiter 47294-12-18 14:38 G 18995191.02 18995191.11 18995191.21 0.0504 0.0456 Jupiter 47301-07-02 16:05 G 18997577.94 18997578.17 18997578.40 0.0524 0.0057 Saturn 47302-06-08 19:26 G 18997919.08 18997919.31 18997919.55 0.0273 0.0069 Jupiter 47306-12-24 05:17 G 18999578.53 18999578.72 18999578.92 0.0504 0.0272 Uranus 47307-07-20 18:29 G 18999787.25 18999787.27 18999787.34 0.0134 0.0132 Uranus 47308-07-24 01:12 G 19000156.33 19000156.55 19000156.77 0.0134 0.0066 Uranus 47309-07-28 06:58 G 19000525.54 19000525.79 19000526.05 0.0134 0.0002 Uranus 47310-08-01 13:12 G 19000894.83 19000895.05 19000895.27 0.0134 0.0065 Uranus 47311-08-05 19:12 G 19001264.27 19001264.30 19001264.37 0.0134 0.0131

Jupiter 47313-07-07 12:58 G 19001965.85 19001966.04 19001966.25 0.0525 0.0268 Saturn 47315-12-09 23:46 G 19002851.30 19002851.49 19002851.69 0.0288 0.0178 Jupiter 47318-12-28 21:22 G 19003966.16 19003966.39 19003966.62 0.0503 0.0083 Jupiter 47325-07-12 07:55 G 19006353.73 19006353.83 19006353.93 0.0526 0.0472 Jupiter 47331-01-02 13:12 G 19008353.82 19008354.05 19008354.28 0.0502 0.0104 Saturn 47331-06-03 18:43 G 19008506.08 19008506.28 19008506.49 0.0271 0.0150 Neptune 47340-06-15 00:43 G 19011805.37 19011805.53 19011805.71 0.0089 0.0066 Neptune 47341-06-17 12:00 G 19012172.77 19012173.00 19012173.23 0.0089 0.0039 47342-05-06 16:19 G 19012496.10 19012496.18 19012496.27 0.1623 0.1429 Mars Neptune 47342-06-19 23:17 G 19012540.22 19012540.47 19012540.73 0.0089 0.0012 Jupiter 47343-01-07 01:41 G 19012741.38 19012741.57 19012741.77 0.0500 0.0281 Neptune 47343-06-22 10:34 G 19012907.69 19012907.94 19012908.20 0.0089 0.0015 Neptune 47344-06-23 21:50 G 19013275.19 19013275.41 19013275.64 0.0089 0.0042 Saturn 47344-12-03 01:26 G 19013437.33 19013437.56 19013437.80 0.0291 0.0091 Neptune 47345-06-26 08:53 G 19013642.73 19013642.87 19013643.04 0.0089 0.0070 Uranus 47350-01-21 05:02 G 19015312.57 19015312.71 19015312.88 0.0144 0.0115 Uranus 47351-01-26 07:26 G 19015682.56 19015682.81 19015683.06 0.0144 0.0030 Uranus 47352-01-31 09:36 G 19016052.67 19016052.90 19016053.15 0.0144 0.0055 Uranus 47353-02-04 11:31 G 19016422.93 19016422.98 19016423.06 0.0144 0.0139 Jupiter 47355-01-11 16:05 G 19017129.09 19017129.17 19017129.26 0.0499 0.0463 Jupiter 47360-06-22 05:17 G 19019117.57 19019117.72 19019117.88 0.0522 0.0385 Saturn 47361-06-09 18:43 G 19019470.07 19019470.28 19019470.51 0.0273 0.0119 Jupiter 47372-06-27 02:10 G 19023505.38 19023505.59 19023505.81 0.0523 0.0178 Saturn 47374-12-11 02:38 G 19024402.48 19024402.61 19024402.75 0.0288 0.0237 Jupiter 47377-12-18 21:22 G 19025506.32 19025506.39 19025506.45 0.0505 0.0482 47382-11-01 10:34 G 19027284.75 19027284.94 19027285.12 0.1904 0.0725 Mars Jupiter 47384-07-01 21:07 G 19027893.15 19027893.38 19027893.61 0.0524 0.0027 Jupiter 47389-12-23 14:10 G 19029893.90 19029894.09 19029894.28 0.0504 0.0295 Saturn 47390-06-04 16:19 G 19030056.97 19030057.18 19030057.42 0.0271 0.0104 Uranus 47391-07-21 04:48 G 19030468.63 19030468.70 19030468.77 0.0134 0.0128

Uranus 47392-07-24 10:34 G 19030837.72 19030837.94 19030838.17 0.0134 0.0063 Uranus 47393-07-28 16:34 G 19031206.94 19031207.19 19031207.45 0.0134 0.0003 Uranus 47394-08-01 22:19 G 19031576.23 19031576.43 19031576.67 0.0134 0.0069 Uranus 47395-08-06 04:48 G 19031945.70 19031945.70 19031945.72 0.0134 0.0134 Jupiter 47396-07-06 18:29 G 19032281.07 19032281.27 19032281.48 0.0525 0.0239 Jupiter 47401-12-29 05:02 G 19034281.48 19034281.71 19034281.94 0.0502 0.0110 Saturn 47403-12-06 02:24 G 19034988.35 19034988.60 19034988.84 0.0291 0.0035 Jupiter 47408-07-12 17:02 G 19036669.10 19036669.21 19036669.33 0.0526 0.0450 Jupiter 47414-01-02 21:07 G 19038669.15 19038669.38 19038669.62 0.0501 0.0079 Saturn 47420-06-11 16:05 G 19041020.98 19041021.17 19041021.36 0.0273 0.0165 Neptune 47420-12-13 06:14 G 19041205.75 19041205.76 19041205.83 0.0088 0.0088 Neptune 47421-12-15 18:43 G 19041573.10 19041573.28 19041573.48 0.0088 0.0061 Neptune 47422-12-18 06:29 G 19041940.55 19041940.77 19041941.03 0.0088 0.0034 Neptune 47423-12-20 18:58 G 19042308.03 19042308.29 19042308.55 0.0088 0.0007 Neptune 47424-12-22 06:58 G 19042675.54 19042675.79 19042676.05 0.0088 0.0020 Neptune 47425-12-24 18:43 G 19043043.08 19043043.28 19043043.52 0.0088 0.0046 Jupiter 47426-01-07 10:48 G 19043056.76 19043056.95 19043057.16 0.0501 0.0264 Neptune 47426-12-27 06:14 G 19043410.65 19043410.76 19043410.94 0.0088 0.0073 Saturn 47433-12-13 00:58 G 19045953.54 19045953.54 19045953.54 0.0288 0.0288 Uranus 47434-01-22 12:14 G 19045993.86 19045994.01 19045994.18 0.0144 0.0113 Uranus 47435-01-27 14:38 G 19046363.86 19046364.11 19046364.37 0.0144 0.0028 Uranus 47436-02-01 17:17 G 19046733.98 19046734.22 19046734.45 0.0144 0.0057 Uranus 47437-02-05 18:58 G 19047104.26 19047104.29 19047104.36 0.0144 0.0142 Jupiter 47438-01-12 01:55 G 19047444.49 19047444.58 19047444.69 0.0500 0.0448 Pluto 47438-10-02 13:12 G 19047707.80 19047708.05 19047708.30 0.0066 0.0017 Jupiter 47443-06-23 13:26 G 19049432.92 19049433.06 19049433.20 0.0521 0.0411 Saturn 47449-06-06 12:14 G 19051607.78 19051608.01 19051608.25 0.0271 0.0060 Jupiter 47455-06-28 09:50 G 19053820.70 19053820.91 19053821.13 0.0523 0.0205 Saturn 47462-12-06 22:48 G 19056539.21 19056539.45 19056539.70 0.0291 0.0013 Jupiter 47467-07-03 06:14 G 19058208.53 19058208.76 19058208.99 0.0524 0.0003

Jupiter 47472-12-24 01:12 G 19060209.37 19060209.55 19060209.74 0.0503 0.0315 Uranus 47475-07-22 12:58 G 19061149.98 19061150.04 19061150.14 0.0134 0.0126 Uranus 47476-07-25 18:58 G 19061519.08 19061519.29 19061519.53 0.0134 0.0061 Uranus 47477-07-30 01:12 G 19061888.30 19061888.55 19061888.81 0.0134 0.0005 Uranus 47478-08-03 07:12 G 19062257.60 19062257.80 19062258.03 0.0134 0.0071 Saturn 47479-06-13 11:02 G 19062571.82 19062571.96 19062572.13 0.0273 0.0208 Jupiter 47479-07-08 06:14 G 19062596.55 19062596.76 19062596.97 0.0525 0.0220 Jupiter 47484-12-28 16:05 G 19064596.94 19064597.17 19064597.40 0.0502 0.0126 Jupiter 47491-07-13 05:02 G 19066984.59 19066984.71 19066984.84 0.0526 0.0435 Saturn 47491-11-30 11:02 G 19067124.93 19067124.96 19067125.00 0.0293 0.0290 Jupiter 47497-01-02 07:26 G 19068984.58 19068984.81 19068985.05 0.0502 0.0063 Neptune 47504-06-16 11:17 G 19071705.88 19071705.97 19071706.12 0.0089 0.0079 Neptune 47505-06-18 22:48 G 19072073.27 19072073.45 19072073.68 0.0089 0.0052 Neptune 47506-06-21 10:19 G 19072440.70 19072440.93 19072441.19 0.0089 0.0025 Neptune 47507-06-23 21:50 G 19072808.16 19072808.41 19072808.67 0.0089 0.0003 Saturn 47508-06-08 07:26 G 19073158.57 19073158.81 19073159.06 0.0271 0.0018 Neptune 47508-06-25 09:07 G 19073175.64 19073175.88 19073176.12 0.0089 0.0030 Jupiter 47509-01-07 23:17 G 19073372.27 19073372.47 19073372.68 0.0501 0.0249 Neptune 47509-06-27 20:38 G 19073543.16 19073543.36 19073543.55 0.0089 0.0057 Neptune 47510-06-30 07:41 G 19073910.74 19073910.82 19073910.91 0.0089 0.0084 Uranus 47518-01-23 17:31 G 19076675.09 19076675.23 19076675.41 0.0144 0.0113 Uranus 47519-01-28 20:10 G 19077045.09 19077045.34 19077045.59 0.0144 0.0028 Uranus 47520-02-02 22:19 G 19077415.21 19077415.43 19077415.68 0.0144 0.0058 Jupiter 47521-01-12 13:26 G 19077759.95 19077760.06 19077760.18 0.0499 0.0429 Uranus 47521-02-07 00:29 G 19077785.49 19077785.52 19077785.59 0.0144 0.0142 Saturn 47521-12-08 16:48 G 19078089.96 19078090.20 19078090.45 0.0291 0.0056 Pluto 47526-04-06 23:31 G 19079670.23 19079670.48 19079670.74 0.0078 0.0013 Jupiter 47526-06-23 21:50 G 19079748.29 19079748.41 19079748.54 0.0522 0.0438 Saturn 47537-06-03 05:17 G 19083745.62 19083745.72 19083745.84 0.0268 0.0239 Saturn 47538-06-15 06:29 G 19084122.69 19084122.77 19084122.88 0.0273 0.0250

Jupiter 47538-06-28 20:53 G 19084136.16 19084136.37 19084136.58 0.0523 0.0227 47547-05-07 19:12 G 19087371.11 19087371.30 19087371.49 0.1629 0.0114 Mars Jupiter 47550-07-03 19:41 G 19088524.09 19088524.32 19088524.55 0.0524 0.0014 Saturn 47550-12-02 03:50 G 19088675.54 19088675.66 19088675.80 0.0293 0.0249 Jupiter 47555-12-25 11:46 G 19090524.82 19090524.99 19090525.17 0.0504 0.0332 Uranus 47559-07-23 21:36 G 19091831.33 19091831.40 19091831.51 0.0134 0.0124 Uranus 47560-07-27 03:36 G 19092200.44 19092200.65 19092200.89 0.0134 0.0059 Uranus 47561-07-31 10:05 G 19092569.67 19092569.92 19092570.18 0.0134 0.0008 Jupiter 47562-07-08 16:05 G 19092911.96 19092912.17 19092912.38 0.0525 0.0198 Uranus 47562-08-04 16:05 G 19092938.98 19092939.17 19092939.40 0.0134 0.0073 Saturn 47567-06-10 02:38 G 19094709.37 19094709.61 19094709.86 0.0271 0.0024 Jupiter 47567-12-30 04:05 G 19094912.44 19094912.67 19094912.90 0.0503 0.0143 Jupiter 47574-07-13 13:55 G 19097299.94 19097300.08 19097300.22 0.0526 0.0412 Jupiter 47580-01-03 20:24 G 19099300.11 19099300.35 19099300.58 0.0501 0.0046 Saturn 47580-12-09 10:05 G 19099640.69 19099640.92 19099641.15 0.0291 0.0096 Neptune 47585-12-16 04:48 G 19101473.58 19101473.70 19101473.87 0.0088 0.0074 Neptune 47586-12-18 17:17 G 19101841.00 19101841.22 19101841.44 0.0088 0.0047 Neptune 47587-12-21 05:02 G 19102208.47 19102208.71 19102208.97 0.0088 0.0020 Neptune 47588-12-22 17:17 G 19102575.96 19102576.22 19102576.48 0.0088 0.0007 Neptune 47589-12-25 04:48 G 19102943.48 19102943.70 19102943.96 0.0088 0.0034 Neptune 47590-12-27 16:48 G 19103311.03 19103311.20 19103311.41 0.0088 0.0061 Neptune 47591-12-30 04:34 G 19103678.68 19103678.69 19103678.76 0.0088 0.0087 Jupiter 47592-01-08 12:14 G 19103687.80 19103688.01 19103688.22 0.0500 0.0235 Saturn 47596-06-04 01:41 G 19105296.42 19105296.57 19105296.75 0.0269 0.0197 Uranus 47602-01-24 00:43 G 19107356.37 19107356.53 19107356.69 0.0144 0.0111 Uranus 47603-01-29 02:53 G 19107726.38 19107726.62 19107726.88 0.0144 0.0027 Jupiter 47604-01-13 01:26 G 19108075.44 19108075.56 19108075.69 0.0500 0.0418 Uranus 47604-02-03 05:17 G 19108096.50 19108096.72 19108096.97 0.0144 0.0058 Uranus 47605-02-07 07:12 G 19108466.78 19108466.80 19108466.86 0.0144 0.0143 Jupiter 47609-06-23 11:31 G 19110063.86 19110063.98 19110064.09 0.0522 0.0452

Saturn 47609-12-02 21:50 G 19110226.25 19110226.41 19110226.60 0.0293 0.0208 Jupiter 47621-06-28 07:26 G 19114451.60 19114451.81 19114452.01 0.0522 0.0248 Saturn 47626-06-10 23:46 G 19116260.25 19116260.49 19116260.72 0.0271 0.0067 Jupiter 47633-07-03 03:50 G 19118839.43 19118839.66 19118839.89 0.0524 0.0037 Jupiter 47638-12-25 00:29 G 19120840.35 19120840.52 19120840.69 0.0504 0.0349 Saturn 47639-12-11 03:50 G 19121191.45 19121191.66 19121191.88 0.0291 0.0138 Uranus 47643-07-24 05:31 G 19122512.63 19122512.73 19122512.83 0.0134 0.0122 Uranus 47644-07-27 11:31 G 19122881.76 19122881.98 19122882.22 0.0134 0.0057 Jupiter 47645-07-07 22:34 G 19123227.23 19123227.44 19123227.66 0.0525 0.0173 Uranus 47645-07-31 18:00 G 19123251.00 19123251.25 19123251.51 0.0134 0.0009 Uranus 47646-08-05 00:29 G 19123620.31 19123620.52 19123620.73 0.0134 0.0074 Jupiter 47650-12-29 17:46 G 19125228.02 19125228.24 19125228.46 0.0502 0.0156 Saturn 47655-06-06 00:14 G 19126847.31 19126847.51 19126847.72 0.0269 0.0151 Jupiter 47657-07-12 22:48 G 19127615.30 19127615.45 19127615.61 0.0526 0.0392 Jupiter 47663-01-03 07:12 G 19129615.57 19129615.80 19129616.04 0.0501 0.0032 Saturn 47668-12-03 17:46 G 19131777.04 19131777.24 19131777.45 0.0293 0.0162 Neptune 47669-06-18 10:05 G 19131973.77 19131973.92 19131974.12 0.0089 0.0066 Neptune 47670-06-20 21:50 G 19132341.19 19132341.41 19132341.65 0.0089 0.0038 Neptune 47671-06-23 09:07 G 19132708.64 19132708.88 19132709.15 0.0089 0.0012 Neptune 47672-06-24 20:38 G 19133076.11 19133076.36 19133076.61 0.0089 0.0017 Neptune 47673-06-27 07:26 G 19133443.61 19133443.81 19133444.06 0.0089 0.0045 Neptune 47674-06-29 18:43 G 19133811.16 19133811.28 19133811.46 0.0089 0.0072 Jupiter 47675-01-07 21:36 G 19134003.19 19134003.40 19134003.61 0.0501 0.0218 Saturn 47685-06-11 23:02 G 19137811.24 19137811.46 19137811.68 0.0271 0.0115 Uranus 47686-01-24 09:50 G 19138037.75 19138037.91 19138038.09 0.0144 0.0108 Pluto 47686-10-05 00:58 G 19138291.31 19138291.54 19138291.80 0.0066 0.0020 Jupiter 47687-01-12 12:00 G 19138390.87 19138391.00 19138391.15 0.0500 0.0403 Uranus 47687-01-29 12:14 G 19138407.76 19138408.01 19138408.27 0.0144 0.0023 Uranus 47688-02-03 14:38 G 19138777.89 19138778.11 19138778.35 0.0144 0.0061 Jupiter 47692-06-22 18:43 G 19140379.19 19140379.28 19140379.37 0.0521 0.0479

Saturn 47698-12-12 01:26 G 19142742.37 19142742.56 19142742.75 0.0290 0.0185 Jupiter 47704-06-28 11:02 G 19144766.76 19144766.96 19144767.15 0.0523 0.0280 Saturn 47714-06-08 01:26 G 19148398.34 19148398.56 19148398.79 0.0269 0.0102 Jupiter 47716-07-03 09:36 G 19149154.67 19149154.90 19149155.13 0.0524 0.0064 Jupiter 47721-12-25 09:50 G 19151155.75 19151155.91 19151156.07 0.0504 0.0368 Uranus 47727-07-25 13:26 G 19153193.98 19153194.06 19153194.20 0.0134 0.0120 Saturn 47727-12-06 17:17 G 19153328.00 19153328.22 19153328.46 0.0293 0.0110 Jupiter 47728-07-08 08:53 G 19153542.65 19153542.87 19153543.09 0.0525 0.0155 Uranus 47728-07-28 20:24 G 19153563.12 19153563.35 19153563.58 0.0134 0.0054 Uranus 47729-08-02 02:53 G 19153932.37 19153932.62 19153932.87 0.0134 0.0011 Uranus 47730-08-06 08:53 G 19154301.68 19154301.87 19154302.09 0.0134 0.0077 Jupiter 47733-12-30 00:29 G 19155543.30 19155543.52 19155543.74 0.0503 0.0178 Jupiter 47740-07-13 05:46 G 19157930.57 19157930.74 19157930.90 0.0526 0.0366 Saturn 47744-06-14 01:55 G 19159362.39 19159362.58 19159362.77 0.0272 0.0169 Jupiter 47746-01-03 15:22 G 19159930.90 19159931.14 19159931.37 0.0502 0.0011 Neptune 47749-12-16 15:07 G 19161374.10 19161374.13 19161374.20 0.0088 0.0087 Neptune 47750-12-19 03:07 G 19161741.45 19161741.63 19161741.83 0.0088 0.0060 Neptune 47751-12-21 15:07 G 19162108.90 19162109.13 19162109.39 0.0088 0.0033 Mars 47752-05-06 21:22 G 19162246.27 19162246.39 19162246.51 0.1636 0.1268 Neptune 47752-12-23 03:22 G 19162476.38 19162476.64 19162476.90 0.0088 0.0006 Neptune 47753-12-25 14:53 G 19162843.88 19162844.12 19162844.39 0.0088 0.0022 Neptune 47754-12-28 02:38 G 19163211.42 19163211.61 19163211.85 0.0088 0.0048 Neptune 47755-12-30 14:53 G 19163579.00 19163579.12 19163579.28 0.0088 0.0075 Saturn 47757-12-14 02:38 G 19164293.48 19164293.61 19164293.76 0.0290 0.0239 Jupiter 47758-01-08 07:26 G 19164318.60 19164318.81 19164319.03 0.0501 0.0201 Jupiter 47770-01-12 22:19 G 19168706.28 19168706.43 19168706.58 0.0500 0.0388 Uranus 47770-01-25 20:38 G 19168719.20 19168719.36 19168719.56 0.0144 0.0103 Uranus 47771-01-30 23:31 G 19169089.23 19169089.48 19169089.74 0.0144 0.0018 Uranus 47772-02-05 01:41 G 19169459.36 19169459.57 19169459.81 0.0144 0.0067 Saturn 47773-06-09 05:46 G 19169949.50 19169949.74 19169949.98 0.0269 0.0047

Pluto 47774-04-09 12:00 G 19170253.75 19170254.00 19170254.26 0.0078 0.0008 Jupiter 47775-06-23 20:53 G 19170694.34 19170694.37 19170694.42 0.0521 0.0513 Saturn 47786-12-07 22:34 G 19174879.20 19174879.44 19174879.69 0.0293 0.0047 Jupiter 47787-06-28 19:12 G 19175082.11 19175082.30 19175082.49 0.0523 0.0303 Jupiter 47799-07-03 15:22 G 19179469.91 19179470.14 19179470.37 0.0523 0.0093 Saturn 47802-06-05 08:38 G 19180536.81 19180536.86 19180536.94 0.0268 0.0258 Saturn 47803-06-17 08:24 G 19180913.72 19180913.85 19180913.98 0.0272 0.0228 Jupiter 47804-12-25 14:24 G 19181470.96 19181471.10 19181471.25 0.0504 0.0397 Jupiter 47811-07-09 10:48 G 19183857.72 19183857.95 19183858.17 0.0524 0.0119 Uranus 47811-07-26 22:05 G 19183875.31 19183875.42 19183875.55 0.0134 0.0117 Uranus 47812-07-30 04:34 G 19184244.47 19184244.69 19184244.93 0.0134 0.0052 Uranus 47813-08-03 11:17 G 19184613.72 19184613.97 19184614.22 0.0134 0.0014 Uranus 47814-08-07 17:17 G 19184983.03 19184983.22 19184983.43 0.0134 0.0079 Jupiter 47816-12-30 07:55 G 19185858.61 19185858.83 19185859.04 0.0503 0.0202 Jupiter 47823-07-14 03:50 G 19188245.48 19188245.66 19188245.84 0.0526 0.0327 Jupiter 47829-01-03 23:46 G 19190246.25 19190246.49 19190246.72 0.0502 0.0014 Mars 47831-05-10 23:46 G 19191103.33 19191103.49 19191103.64 0.1633 0.0895 Saturn 47832-06-11 13:41 G 19191500.83 19191501.07 19191501.31 0.0270 0.0015 Neptune 47833-06-19 21:36 G 19191874.30 19191874.40 19191874.54 0.0089 0.0078 Neptune 47834-06-22 08:53 G 19192241.68 19192241.87 19192242.10 0.0089 0.0051 Neptune 47835-06-24 20:24 G 19192609.12 19192609.35 19192609.61 0.0089 0.0025 Neptune 47836-06-26 08:10 G 19192976.59 19192976.84 19192977.10 0.0089 0.0004 Neptune 47837-06-28 19:26 G 19193344.08 19193344.31 19193344.56 0.0089 0.0031 Neptune 47838-07-01 06:43 G 19193711.60 19193711.78 19193711.99 0.0089 0.0059 Neptune 47839-07-03 18:00 G 19194079.20 19194079.25 19194079.34 0.0089 0.0086 Jupiter 47841-01-08 11:31 G 19194633.76 19194633.98 19194634.20 0.0501 0.0174 Saturn 47845-12-10 08:53 G 19196430.63 19196430.87 19196431.12 0.0292 0.0025 Jupiter 47853-01-13 00:14 G 19199021.35 19199021.51 19199021.68 0.0500 0.0359 Uranus 47854-01-27 07:55 G 19199400.65 19199400.83 19199401.03 0.0144 0.0098 Uranus 47855-02-01 10:34 G 19199770.69 19199770.94 19199771.20 0.0144 0.0013

Uranus 47856-02-06 12:43 G 19200140.82 19200141.03 19200141.27 0.0144 0.0071 Saturn 47861-06-06 17:31 G 19202088.06 19202088.23 19202088.39 0.0269 0.0196 Jupiter 47870-06-28 19:26 G 19205397.14 19205397.31 19205397.49 0.0522 0.0342 Saturn 47874-12-04 11:31 G 19207016.86 19207016.98 19207017.11 0.0293 0.0252 Jupiter 47882-07-03 10:34 G 19209784.72 19209784.94 19209785.16 0.0523 0.0139 Jupiter 47887-12-25 20:24 G 19211786.22 19211786.35 19211786.47 0.0505 0.0423 Saturn 47891-06-14 00:29 G 19213052.29 19213052.52 19213052.75 0.0271 0.0083 Jupiter 47894-07-08 07:41 G 19214172.60 19214172.82 19214173.05 0.0525 0.0078 Uranus 47895-07-27 07:26 G 19214556.70 19214556.81 19214556.96 0.0134 0.0114 Uranus 47896-07-30 13:55 G 19214925.86 19214926.08 19214926.33 0.0134 0.0049 Uranus 47897-08-03 20:24 G 19215295.10 19215295.35 19215295.60 0.0134 0.0017 Uranus 47898-08-08 02:24 G 19215664.41 19215664.60 19215664.81 0.0134 0.0082 Jupiter 47899-12-30 08:53 G 19216173.67 19216173.87 19216174.08 0.0503 0.0237 Saturn 47904-12-13 00:58 G 19217982.32 19217982.54 19217982.77 0.0291 0.0109 Jupiter 47906-07-14 06:58 G 19218560.60 19218560.79 19218560.98 0.0526 0.0296 Jupiter 47912-01-04 22:34 G 19220561.20 19220561.44 19220561.67 0.0502 0.0047 Neptune 47914-12-20 13:41 G 19221641.94 19221642.07 19221642.24 0.0088 0.0073 Neptune 47915-12-23 01:55 G 19222009.37 19222009.58 19222009.81 0.0088 0.0046 Neptune 47916-12-24 13:55 G 19222376.83 19222377.08 19222377.34 0.0088 0.0019 Neptune 47917-12-27 01:41 G 19222744.32 19222744.57 19222744.84 0.0088 0.0009 Jupiter 47918-07-19 03:36 G 19222948.60 19222948.65 19222948.71 0.0526 0.0509 Neptune 47918-12-29 13:26 G 19223111.84 19223112.06 19223112.32 0.0088 0.0036 Neptune 47920-01-01 01:12 G 19223479.39 19223479.55 19223479.76 0.0088 0.0062 Saturn 47920-06-09 04:34 G 19223639.48 19223639.69 19223639.91 0.0269 0.0128 Jupiter 47924-01-09 11:46 G 19224948.77 19224948.99 19224949.22 0.0501 0.0140 Saturn 47933-12-07 05:31 G 19228568.53 19228568.73 19228568.93 0.0293 0.0165 Pluto 47934-10-09 14:53 G 19228874.88 19228875.12 19228875.38 0.0066 0.0020 Jupiter 47936-01-14 03:07 G 19229336.46 19229336.63 19229336.81 0.0500 0.0331 Uranus 47938-01-28 16:48 G 19230082.02 19230082.20 19230082.41 0.0144 0.0094 Uranus 47939-02-02 19:41 G 19230452.07 19230452.32 19230452.58 0.0144 0.0010

Uranus 47940-02-07 21:50 G 19230822.20 19230822.41 19230822.64 0.0144 0.0075 Saturn 47950-06-16 12:58 G 19234603.84 19234604.04 19234604.24 0.0271 0.0155 Jupiter 47953-06-28 14:38 G 19235711.96 19235712.11 19235712.26 0.0521 0.0389 Saturn 47963-12-15 20:38 G 19239534.20 19239534.36 19239534.55 0.0291 0.0200 Jupiter 47965-07-03 12:29 G 19240099.80 19240100.02 19240100.24 0.0523 0.0176 Jupiter 47970-12-25 17:02 G 19242101.12 19242101.21 19242101.30 0.0505 0.0466 Jupiter 47977-07-08 08:24 G 19244487.62 19244487.85 19244488.08 0.0524 0.0038 Saturn 47979-06-11 17:02 G 19245190.97 19245191.21 19245191.45 0.0270 0.0058 Uranus 47979-07-28 16:48 G 19245238.07 19245238.20 19245238.35 0.0134 0.0111 Uranus 47980-07-31 23:02 G 19245607.23 19245607.46 19245607.70 0.0134 0.0046 Uranus 47981-08-05 05:17 G 19245976.47 19245976.72 19245976.97 0.0134 0.0019 Uranus 47982-08-09 11:02 G 19246345.77 19246345.96 19246346.16 0.0134 0.0084 Jupiter 47982-12-30 06:58 G 19246488.59 19246488.79 19246488.98 0.0504 0.0277 Jupiter 47989-07-13 03:36 G 19248875.45 19248875.65 19248875.85 0.0525 0.0251 Saturn 47992-12-09 02:38 G 19250120.37 19250120.61 19250120.85 0.0292 0.0071 Jupiter 47995-01-03 23:02 G 19250876.23 19250876.46 19250876.69 0.0503 0.0082 Neptune 47998-06-22 20:10 G 19252142.18 19252142.34 19252142.53 0.0089 0.0064 Neptune 47999-06-25 07:26 G 19252509.59 19252509.81 19252510.06 0.0089 0.0037 Neptune 48000-06-26 19:12 G 19252877.05 19252877.30 19252877.56 0.0089 0.0010

# **49TH MILLENNIUM CE**

### This is a list of transits of Earth in the 49th millennium CE.

FROM MAX- C START MAX END SUNRAD DEPTH S

TRANSIT

TIME

Neptune 48001-06-29 06:29 G 19253244.53 19253244.77 19253245.03 0.0089 0.0018 Jupiter 48001-07-17 19:41 G 19253263.22 19253263.32 19253263.44 0.0526 0.0459 Neptune 48002-07-01 17:46 G 19253612.04 19253612.24 19253612.48 0.0089 0.0046 Neptune 48003-07-04 05:31 G 19253979.59 19253979.73 19253979.88 0.0089 0.0073 Jupiter 48007-01-08 13:55 G 19255263.86 19255264.08 19255264.32 0.0502 0.0110 Saturn 48008-06-06 02:24 G 19255778.55 19255778.60 19255778.68 0.0268 0.0258 Saturn 48009-06-18 02:24 G 19256155.48 19256155.60 19256155.74 0.0272 0.0229 Jupiter 48019-01-13 00:43 G 19259651.34 19259651.53 19259651.73 0.0500 0.0292 Uranus 48022-01-29 00:00 G 19260763.32 19260763.50 19260763.71 0.0144 0.0093 Pluto 48022-04-13 03:07 G 19260837.39 19260837.63 19260837.89 0.0078 0.0015 Uranus 48023-02-03 02:53 G 19261133.36 19261133.62 19261133.87 0.0144 0.0008 Uranus 48024-02-08 05:02 G 19261503.50 19261503.71 19261503.93 0.0144 0.0076 Mars 48029-11-08 07:41 G 19263603.69 19263603.82 19263603.95 0.1893 0.1409 Jupiter 48031-01-17 13:26 G 19264039.00 19264039.06 19264039.13 0.0500 0.0477 48036-05-10 00:58 G 19265978.36 19265978.54 19265978.72 0.1640 0.0520 Mars Jupiter 48036-06-27 15:50 G 19266027.03 19266027.16 19266027.29 0.0521 0.0429 Saturn 48038-06-13 05:31 G 19266742.49 19266742.73 19266742.97 0.0270 0.0014 Jupiter 48048-07-02 10:05 G 19270414.71 19270414.92 19270415.13 0.0522 0.0221 Saturn 48051-12-12 00:00 G 19271672.25 19271672.50 19271672.75 0.0292 0.0024 Jupiter 48060-07-07 01:41 G 19274802.34 19274802.57 19274802.80 0.0523 0.0014 Uranus 48063-07-29 02:10 G 19275919.46 19275919.59 19275919.76 0.0134 0.0109 Uranus 48064-08-01 08:24 G 19276288.62 19276288.85 19276289.10 0.0134 0.0044 Uranus 48065-08-05 14:24 G 19276657.86 19276658.10 19276658.35 0.0134 0.0022 Jupiter 48065-12-29 07:55 G 19276803.65 19276803.83 19276804.02 0.0505 0.0313 Uranus 48066-08-09 20:10 G 19277027.16 19277027.34 19277027.54 0.0134 0.0087 Saturn 48067-06-08 13:41 G 19277329.91 19277330.07 19277330.25 0.0269 0.0189 Jupiter 48072-07-11 22:05 G 19279190.21 19279190.42 19279190.63 0.0525 0.0202 Jupiter 48078-01-02 20:38 G 19281191.13 19281191.36 19281191.58 0.0503 0.0126 Neptune 48078-12-19 23:46 G 19281542.44 19281542.49 19281542.55 0.0088 0.0086 Neptune 48079-12-22 11:17 G 19281909.81 19281909.97 19281910.19 0.0088 0.0060

Saturn 48080-12-05 04:34 G 19282258.56 19282258.69 19282258.83 0.0294 0.0247 Neptune 48080-12-24 00:00 G 19282277.26 19282277.50 19282277.74 0.0088 0.0032 Neptune 48081-12-26 12:00 G 19282644.74 19282645.00 19282645.26 0.0088 0.0005 Neptune 48082-12-29 00:00 G 19283012.25 19283012.50 19283012.75 0.0088 0.0022 Neptune 48083-12-31 11:31 G 19283379.78 19283379.98 19283380.21 0.0088 0.0050 Jupiter 48084-07-16 20:53 G 19283578.24 19283578.37 19283578.51 0.0526 0.0422 Neptune 48085-01-01 23:17 G 19283747.36 19283747.47 19283747.62 0.0088 0.0076 Jupiter 48090-01-07 10:48 G 19285578.71 19285578.95 19285579.18 0.0502 0.0066 Saturn 48097-06-14 16:34 G 19288293.96 19288294.19 19288294.43 0.0271 0.0084 Jupiter 48102-01-12 23:31 G 19289966.28 19289966.48 19289966.69 0.0501 0.0255 Uranus 48106-01-30 05:46 G 19291444.56 19291444.74 19291444.96 0.0144 0.0093 Uranus 48107-02-04 08:38 G 19291814.60 19291814.86 19291815.11 0.0144 0.0008 Uranus 48108-02-09 10:34 G 19292184.74 19292184.94 19292185.17 0.0144 0.0076 Saturn 48110-12-14 19:41 G 19293224.09 19293224.32 19293224.55 0.0291 0.0116 Jupiter 48114-01-17 14:24 G 19294354.00 19294354.10 19294354.21 0.0500 0.0446 Jupiter 48119-06-28 11:31 G 19296341.89 19296341.98 19296342.07 0.0520 0.0478 Saturn 48126-06-10 23:17 G 19298881.25 19298881.47 19298881.69 0.0269 0.0123 Jupiter 48131-07-03 06:29 G 19300729.58 19300729.77 19300729.97 0.0522 0.0268 Saturn 48139-12-08 23:02 G 19303810.27 19303810.46 19303810.68 0.0294 0.0157 Jupiter 48143-07-08 03:50 G 19305117.43 19305117.66 19305117.89 0.0524 0.0053 Uranus 48147-07-30 10:34 G 19306600.81 19306600.94 19306601.11 0.0134 0.0107 Uranus 48148-08-02 16:34 G 19306969.96 19306970.19 19306970.44 0.0134 0.0042 Jupiter 48148-12-29 06:29 G 19307118.61 19307118.77 19307118.94 0.0504 0.0356 Uranus 48149-08-06 22:34 G 19307339.20 19307339.44 19307339.70 0.0134 0.0024 Uranus 48150-08-11 04:05 G 19307708.50 19307708.67 19307708.88 0.0134 0.0089 Jupiter 48155-07-13 01:12 G 19309505.34 19309505.55 19309505.77 0.0524 0.0167 Saturn 48156-06-17 00:43 G 19309845.33 19309845.53 19309845.73 0.0271 0.0149 Jupiter 48161-01-02 20:38 G 19311506.13 19311506.36 19311506.58 0.0503 0.0164 Neptune 48162-06-23 07:12 G 19312042.71 19312042.80 19312042.95 0.0089 0.0078 Neptune 48163-06-25 18:43 G 19312410.09 19312410.28 19312410.51 0.0089 0.0051

Neptune 48164-06-27 06:14 G 19312777.52 19312777.76 19312778.02 0.0089 0.0023 Neptune 48165-06-29 17:46 G 19313144.99 19313145.24 19313145.50 0.0089 0.0005 Neptune 48166-07-02 05:02 G 19313512.48 19313512.71 19313512.96 0.0089 0.0032 Neptune 48167-07-04 16:05 G 19313880.01 19313880.17 19313880.38 0.0089 0.0060 Jupiter 48167-07-17 21:36 G 19313893.25 19313893.40 19313893.56 0.0525 0.0383 Neptune 48168-07-06 03:36 G 19314247.63 19314247.65 19314247.73 0.0089 0.0088 Saturn 48169-12-16 11:02 G 19314775.78 19314775.96 19314776.14 0.0291 0.0200 Jupiter 48173-01-07 12:00 G 19315893.77 19315894.00 19315894.24 0.0502 0.0034 Pluto 48182-10-12 07:55 G 19319458.59 19319458.83 19319459.10 0.0066 0.0009 Jupiter 48185-01-12 03:22 G 19320281.43 19320281.64 19320281.85 0.0502 0.0226 Saturn 48185-06-12 05:31 G 19320432.49 19320432.73 19320432.97 0.0269 0.0061 Uranus 48190-01-30 13:41 G 19322125.88 19322126.07 19322126.28 0.0144 0.0090 Uranus 48191-02-04 16:19 G 19322495.92 19322496.18 19322496.43 0.0144 0.0007 Uranus 48192-02-09 18:00 G 19322866.05 19322866.25 19322866.48 0.0144 0.0078 Jupiter 48197-01-16 15:07 G 19324669.00 19324669.13 19324669.27 0.0500 0.0410 Saturn 48198-12-10 13:41 G 19325361.83 19325362.07 19325362.31 0.0293 0.0073 Jupiter 48202-06-28 14:38 G 19326657.09 19326657.11 19326657.14 0.0521 0.0517 Jupiter 48214-07-03 11:46 G 19331044.80 19331044.99 19331045.18 0.0522 0.0302 Saturn 48215-06-20 05:17 G 19331396.58 19331396.72 19331396.89 0.0271 0.0209 Jupiter 48226-07-08 07:55 G 19335432.60 19335432.83 19335433.06 0.0523 0.0086 Saturn 48228-12-18 20:38 G 19336327.29 19336327.36 19336327.45 0.0291 0.0274 Uranus 48231-07-31 19:26 G 19337282.17 19337282.31 19337282.48 0.0134 0.0104 Jupiter 48231-12-30 09:22 G 19337433.74 19337433.89 19337434.04 0.0505 0.0389 Uranus 48232-08-04 01:41 G 19337651.33 19337651.57 19337651.81 0.0134 0.0039 Uranus 48233-08-08 07:26 G 19338020.57 19338020.81 19338021.07 0.0134 0.0026 Uranus 48234-08-12 13:12 G 19338389.88 19338390.05 19338390.25 0.0134 0.0091 Jupiter 48238-07-13 01:55 G 19339820.36 19339820.58 19339820.81 0.0524 0.0126 Neptune 48243-12-23 21:07 G 19341810.26 19341810.38 19341810.55 0.0088 0.0072 Jupiter 48244-01-04 01:41 G 19341821.36 19341821.57 19341821.79 0.0504 0.0194 Saturn 48244-06-14 08:10 G 19341983.60 19341983.84 19341984.09 0.0269 0.0007

Neptune 48244-12-25 09:22 G 19342177.68 19342177.89 19342178.13 0.0088 0.0045 Neptune 48245-12-27 21:36 G 19342545.16 19342545.40 19342545.67 0.0088 0.0018 Neptune 48246-12-30 09:50 G 19342912.65 19342912.91 19342913.17 0.0088 0.0009 Neptune 48248-01-01 21:36 G 19343280.17 19343280.40 19343280.64 0.0088 0.0036 Neptune 48249-01-03 09:07 G 19343647.72 19343647.88 19343648.08 0.0088 0.0064 Jupiter 48250-07-17 23:02 G 19344208.28 19344208.46 19344208.63 0.0525 0.0345 Jupiter 48256-01-08 15:50 G 19346208.93 19346209.16 19346209.40 0.0502 0.0007 Saturn 48257-12-12 21:36 G 19346913.15 19346913.40 19346913.65 0.0293 0.0003 Jupiter 48268-01-13 07:26 G 19350596.59 19350596.81 19350597.03 0.0501 0.0194 Pluto 48270-04-16 22:05 G 19351421.19 19351421.42 19351421.66 0.0078 0.0032 Saturn 48273-06-09 08:38 G 19352570.74 19352570.86 19352571.01 0.0267 0.0222 Uranus 48274-01-31 23:31 G 19352807.29 19352807.48 19352807.70 0.0144 0.0086 Saturn 48274-06-21 06:29 G 19352947.72 19352947.77 19352947.84 0.0271 0.0261 Uranus 48275-02-06 01:55 G 19353177.33 19353177.58 19353177.84 0.0144 0.0003 Uranus 48276-02-11 03:50 G 19353547.46 19353547.66 19353547.89 0.0144 0.0082 Jupiter 48280-01-17 20:53 G 19354984.22 19354984.37 19354984.52 0.0500 0.0385 Jupiter 48297-07-02 16:19 G 19361360.01 19361360.18 19361360.36 0.0521 0.0336 Saturn 48303-06-17 07:41 G 19363534.58 19363534.82 19363535.06 0.0269 0.0044 Jupiter 48309-07-08 12:29 G 19365747.79 19365748.02 19365748.24 0.0523 0.0120 48313-11-10 15:36 G 19367333.95 19367334.15 19367334.35 0.1886 0.0092 Mars Jupiter 48314-12-30 16:19 G 19367749.06 19367749.18 19367749.31 0.0505 0.0420 Uranus 48315-08-02 03:50 G 19367963.52 19367963.66 19367963.85 0.0134 0.0102 Uranus 48316-08-05 10:05 G 19368332.68 19368332.92 19368333.17 0.0134 0.0037 Saturn 48316-12-14 23:46 G 19368464.25 19368464.49 19368464.73 0.0293 0.0056 Uranus 48317-08-09 16:19 G 19368701.93 19368702.18 19368702.42 0.0134 0.0028 Uranus 48318-08-13 22:05 G 19369071.25 19369071.42 19369071.61 0.0134 0.0093 48320-05-14 04:19 G 19369710.49 19369710.68 19369710.87 0.1644 0.0225 Mars Jupiter 48321-07-13 08:53 G 19370135.64 19370135.87 19370136.10 0.0524 0.0096 Jupiter 48327-01-04 09:50 G 19372136.70 19372136.91 19372137.12 0.0503 0.0220 Neptune 48327-06-27 05:17 G 19372310.57 19372310.72 19372310.92 0.0089 0.0065

Neptune 48328-06-28 17:02 G 19372677.98 19372678.21 19372678.45 0.0089 0.0036 Neptune 48329-07-01 04:19 G 19373045.43 19373045.68 19373045.94 0.0089 0.0009 Neptune 48330-07-03 15:22 G 19373412.90 19373413.14 19373413.40 0.0089 0.0019 Neptune 48331-07-06 02:53 G 19373780.42 19373780.62 19373780.85 0.0089 0.0047 Saturn 48332-06-11 07:26 G 19374121.63 19374121.81 19374122.00 0.0267 0.0175 Neptune 48332-07-07 13:55 G 19374147.97 19374148.08 19374148.25 0.0089 0.0075 Jupiter 48333-07-18 08:24 G 19374523.68 19374523.85 19374524.04 0.0526 0.0323 Jupiter 48339-01-09 00:14 G 19376524.27 19376524.51 19376524.74 0.0502 0.0025 Saturn 48345-12-08 11:17 G 19379049.85 19379049.97 19379050.09 0.0295 0.0254 Jupiter 48351-01-13 15:36 G 19380911.93 19380912.15 19380912.37 0.0502 0.0173 Uranus 48358-02-02 11:17 G 19383488.77 19383488.97 19383489.19 0.0144 0.0081 Uranus 48359-02-07 13:55 G 19383858.82 19383859.08 19383859.33 0.0144 0.0003 Uranus 48360-02-12 16:05 G 19384228.97 19384229.17 19384229.38 0.0144 0.0087 Saturn 48362-06-18 04:05 G 19385085.44 19385085.67 19385085.90 0.0269 0.0087 Jupiter 48363-01-18 06:58 G 19385299.64 19385299.79 19385299.96 0.0501 0.0367 Saturn 48375-12-16 21:36 G 19390015.18 19390015.40 19390015.63 0.0293 0.0107 Jupiter 48380-07-02 23:46 G 19391675.33 19391675.49 19391675.65 0.0522 0.0366 Saturn 48391-06-13 03:36 G 19395672.45 19395672.65 19395672.87 0.0267 0.0133 Jupiter 48392-07-07 22:34 G 19396063.22 19396063.44 19396063.66 0.0523 0.0144 Jupiter 48397-12-30 02:38 G 19398064.51 19398064.61 19398064.73 0.0505 0.0439 Uranus 48399-08-02 13:41 G 19398644.92 19398645.07 19398645.26 0.0134 0.0098 Uranus 48400-08-05 19:55 G 19399014.09 19399014.33 19399014.58 0.0134 0.0033 Uranus 48401-08-10 01:55 G 19399383.34 19399383.58 19399383.83 0.0134 0.0032 Uranus 48402-08-14 07:41 G 19399752.67 19399752.82 19399753.01 0.0134 0.0097 Jupiter 48404-07-12 20:53 G 19400451.14 19400451.37 19400451.60 0.0524 0.0079 Saturn 48404-12-09 06:43 G 19400600.62 19400600.78 19400600.97 0.0295 0.0208 Neptune 48407-12-24 06:29 G 19401710.73 19401710.77 19401710.85 0.0088 0.0086 Neptune 48408-12-25 18:43 G 19402078.10 19402078.28 19402078.49 0.0088 0.0059 Neptune 48409-12-28 06:58 G 19402445.56 19402445.79 19402446.04 0.0088 0.0031 Jupiter 48410-01-03 18:58 G 19402452.09 19402452.29 19402452.50 0.0504 0.0241

Neptune 48410-12-30 19:12 G 19402813.04 19402813.30 19402813.56 0.0088 0.0004 Neptune 48412-01-02 06:58 G 19403180.55 19403180.79 19403181.05 0.0088 0.0024 Neptune 48413-01-03 18:58 G 19403548.09 19403548.29 19403548.52 0.0088 0.0051 Neptune 48414-01-06 06:58 G 19403915.68 19403915.79 19403915.92 0.0088 0.0077 Jupiter 48416-07-17 17:02 G 19404839.03 19404839.21 19404839.41 0.0525 0.0298 Saturn 48421-06-18 23:02 G 19406636.26 19406636.46 19406636.69 0.0269 0.0130 Jupiter 48422-01-08 11:17 G 19406839.74 19406839.97 19406840.21 0.0503 0.0044 Jupiter 48428-07-22 14:53 G 19409227.10 19409227.12 19409227.16 0.0526 0.0521 48430-10-16 03:07 G 19410042.39 19410042.63 19410042.90 0.0066 0.0011 Pluto Jupiter 48434-01-13 03:22 G 19411227.41 19411227.64 19411227.86 0.0501 0.0154 Saturn 48434-12-17 15:50 G 19411565.95 19411566.16 19411566.37 0.0293 0.0150 Uranus 48442-02-02 22:19 G 19414170.22 19414170.43 19414170.66 0.0144 0.0076 Uranus 48443-02-08 00:58 G 19414540.28 19414540.54 19414540.80 0.0144 0.0008 Uranus 48444-02-13 02:53 G 19414910.45 19414910.62 19414910.84 0.0144 0.0093 Jupiter 48446-01-17 19:12 G 19415615.13 19415615.30 19415615.47 0.0500 0.0351 Saturn 48450-06-13 23:02 G 19417223.23 19417223.46 19417223.69 0.0267 0.0092 Jupiter 48463-07-03 13:12 G 19421990.90 19421991.05 19421991.21 0.0522 0.0381 Saturn 48463-12-11 00:29 G 19422151.33 19422151.52 19422151.74 0.0295 0.0165 Jupiter 48475-07-08 09:22 G 19426378.67 19426378.89 19426379.11 0.0522 0.0166 Saturn 48480-06-19 18:00 G 19428187.07 19428187.25 19428187.45 0.0269 0.0169 Jupiter 48480-12-29 13:55 G 19428380.00 19428380.08 19428380.19 0.0505 0.0460 Uranus 48483-08-02 23:31 G 19429326.32 19429326.48 19429326.68 0.0134 0.0095 Uranus 48484-08-06 05:31 G 19429695.49 19429695.73 19429695.98 0.0134 0.0030 Uranus 48485-08-10 11:46 G 19430064.74 19430064.99 19430065.23 0.0134 0.0035 Uranus 48486-08-14 17:31 G 19430434.07 19430434.23 19430434.40 0.0134 0.0100 Jupiter 48487-07-13 05:46 G 19430766.51 19430766.74 19430766.97 0.0524 0.0055 Neptune 48491-06-26 15:50 G 19432211.07 19432211.16 19432211.31 0.0089 0.0078 Neptune 48492-06-28 03:22 G 19432578.45 19432578.64 19432578.87 0.0089 0.0051 Jupiter 48493-01-03 07:55 G 19432767.63 19432767.83 19432768.04 0.0504 0.0258 Neptune 48493-06-30 14:38 G 19432945.88 19432946.11 19432946.37 0.0089 0.0023

Saturn 48493-12-18 08:53 G 19433116.70 19433116.87 19433117.07 0.0293 0.0192 Neptune 48494-07-03 02:10 G 19433313.34 19433313.59 19433313.85 0.0089 0.0005 Neptune 48495-07-05 13:26 G 19433680.83 19433681.06 19433681.30 0.0089 0.0033 Neptune 48496-07-07 00:29 G 19434048.35 19434048.52 19434048.72 0.0089 0.0061 Neptune 48497-07-09 11:31 G 19434415.97 19434415.98 19434416.05 0.0089 0.0088 Jupiter 48499-07-18 01:12 G 19435154.36 19435154.55 19435154.75 0.0526 0.0273 Jupiter 48505-01-09 01:26 G 19437155.33 19437155.56 19437155.80 0.0502 0.0056 Saturn 48509-06-15 18:58 G 19438774.05 19438774.29 19438774.53 0.0267 0.0051 Jupiter 48511-07-24 01:26 G 19439542.51 19439542.56 19439542.64 0.0527 0.0504 Jupiter 48517-01-13 15:36 G 19441542.92 19441543.15 19441543.37 0.0501 0.0141 Pluto 48518-04-20 20:53 G 19442005.28 19442005.37 19442005.53 0.0077 0.0068 Saturn 48522-12-12 17:31 G 19443702.01 19443702.23 19443702.46 0.0295 0.0124 Mars 48525-05-14 02:38 G 19444585.50 19444585.61 19444585.72 0.1652 0.1328 Uranus 48526-02-04 07:41 G 19444851.61 19444851.82 19444852.06 0.0145 0.0073 Uranus 48527-02-09 10:48 G 19445221.70 19445221.95 19445222.21 0.0145 0.0012 Uranus 48528-02-14 13:26 G 19445591.87 19445592.06 19445592.25 0.0144 0.0096 Jupiter 48529-01-18 06:00 G 19445930.59 19445930.75 19445930.93 0.0501 0.0337 Saturn 48538-06-10 19:26 G 19449361.31 19449361.31 19449361.33 0.0266 0.0266 Saturn 48539-06-22 13:41 G 19449737.93 19449738.07 19449738.23 0.0269 0.0211 Jupiter 48546-07-03 22:34 G 19452306.29 19452306.44 19452306.58 0.0521 0.0405 Saturn 48552-12-20 02:53 G 19454667.48 19454667.62 19454667.77 0.0293 0.0233 Jupiter 48558-07-08 15:22 G 19456693.92 19456694.14 19456694.35 0.0523 0.0195 Jupiter 48563-12-31 04:48 G 19458695.62 19458695.70 19458695.79 0.0505 0.0471 Uranus 48567-08-04 10:48 G 19460007.77 19460007.95 19460008.14 0.0134 0.0090 Saturn 48568-06-16 15:50 G 19460324.92 19460325.16 19460325.41 0.0267 0.0008 Uranus 48568-08-07 16:34 G 19460376.95 19460377.19 19460377.44 0.0134 0.0026 Uranus 48569-08-11 22:34 G 19460746.20 19460746.44 19460746.68 0.0134 0.0039 Jupiter 48570-07-13 14:24 G 19461081.87 19461082.10 19461082.33 0.0524 0.0031 Uranus 48570-08-16 04:05 G 19461115.53 19461115.67 19461115.85 0.0134 0.0104 Neptune 48572-12-26 03:22 G 19461978.51 19461978.64 19461978.80 0.0088 0.0073

Neptune 48573-12-28 15:22 G 19462345.93 19462346.14 19462346.38 0.0088 0.0046 Neptune 48574-12-31 03:22 G 19462713.40 19462713.64 19462713.91 0.0088 0.0019 Neptune 48576-01-02 15:50 G 19463080.90 19463081.16 19463081.42 0.0088 0.0009 Jupiter 48576-01-04 19:41 G 19463083.13 19463083.32 19463083.52 0.0504 0.0274 Neptune 48577-01-04 03:36 G 19463448.43 19463448.65 19463448.90 0.0088 0.0037 Neptune 48578-01-06 15:22 G 19463815.99 19463816.14 19463816.35 0.0088 0.0064 Saturn 48581-12-13 12:58 G 19465252.81 19465253.04 19465253.28 0.0295 0.0078 Jupiter 48582-07-18 13:55 G 19465469.89 19465470.08 19465470.29 0.0525 0.0260 Jupiter 48588-01-09 10:48 G 19467470.72 19467470.95 19467471.19 0.0503 0.0075 Jupiter 48594-07-23 11:17 G 19469857.88 19469857.97 19469858.06 0.0526 0.0481 Saturn 48597-06-11 17:31 G 19470912.11 19470912.23 19470912.37 0.0266 0.0222 48597-11-11 01:41 G 19471064.44 19471064.57 19471064.70 0.1877 0.1418 Mars Saturn 48598-06-23 12:00 G 19471288.93 19471289.00 19471289.08 0.0269 0.0256 Jupiter 48600-01-14 02:10 G 19471858.36 19471858.59 19471858.82 0.0502 0.0123 48604-05-17 06:14 G 19473442.61 19473442.76 19473442.92 0.1649 0.0951 Mars Uranus 48610-02-05 15:07 G 19475532.92 19475533.13 19475533.37 0.0145 0.0070 Uranus 48611-02-10 18:14 G 19475903.01 19475903.26 19475903.52 0.0145 0.0014 Saturn 48611-12-22 23:02 G 19476218.39 19476218.46 19476218.53 0.0293 0.0279 Jupiter 48612-01-19 18:29 G 19476246.09 19476246.27 19476246.45 0.0500 0.0322 Uranus 48612-02-15 21:07 G 19476273.20 19476273.38 19476273.57 0.0145 0.0098 Saturn 48627-06-19 15:22 G 19481875.90 19481876.14 19481876.39 0.0267 0.0040 Jupiter 48629-07-04 04:05 G 19482621.55 19482621.67 19482621.80 0.0521 0.0435 Saturn 48640-12-15 11:31 G 19486803.74 19486803.98 19486804.23 0.0295 0.0027 Jupiter 48641-07-09 02:53 G 19487009.41 19487009.62 19487009.83 0.0523 0.0213 Jupiter 48646-12-31 12:14 G 19489010.98 19489011.01 19489011.06 0.0505 0.0496 Uranus 48651-08-05 21:07 G 19490689.19 19490689.38 19490689.57 0.0134 0.0087 Uranus 48652-08-09 02:38 G 19491058.37 19491058.61 19491058.87 0.0134 0.0023 Jupiter 48653-07-13 23:17 G 19491397.24 19491397.47 19491397.70 0.0524 0.0009 Uranus 48653-08-13 08:38 G 19491427.63 19491427.86 19491428.11 0.0134 0.0042 Uranus 48654-08-17 14:24 G 19491796.97 19491797.10 19491797.27 0.0134 0.0107

Saturn 48656-06-13 18:00 G 19492463.07 19492463.25 19492463.44 0.0266 0.0174 Neptune 48656-06-29 13:12 G 19492478.89 19492479.05 19492479.24 0.0089 0.0065 Neptune 48657-07-02 00:29 G 19492846.30 19492846.52 19492846.77 0.0089 0.0037 Neptune 48658-07-04 12:00 G 19493213.75 19493214.00 19493214.26 0.0089 0.0009 Jupiter 48659-01-05 03:50 G 19493398.47 19493398.66 19493398.85 0.0504 0.0297 Neptune 48659-07-06 23:02 G 19493581.23 19493581.46 19493581.73 0.0089 0.0019 Neptune 48660-07-08 10:34 G 19493948.73 19493948.94 19493949.16 0.0089 0.0046 Neptune 48661-07-10 21:22 G 19494316.28 19494316.39 19494316.56 0.0089 0.0075 Jupiter 48665-07-18 19:26 G 19495785.11 19495785.31 19495785.52 0.0525 0.0230 Jupiter 48671-01-09 21:36 G 19497786.17 19497786.40 19497786.63 0.0503 0.0093 Jupiter 48677-07-23 12:58 G 19500172.93 19500173.04 19500173.17 0.0526 0.0449 Pluto 48677-10-18 12:29 G 19500259.90 19500260.02 19500260.19 0.0066 0.0054 Pluto 48678-10-20 02:10 G 19500626.42 19500626.59 19500626.82 0.0066 0.0042 Jupiter 48683-01-14 13:55 G 19502173.85 19502174.08 19502174.31 0.0502 0.0109 Saturn 48686-06-20 18:14 G 19503427.04 19503427.26 19503427.49 0.0268 0.0093 Uranus 48694-02-05 22:34 G 19506214.22 19506214.44 19506214.67 0.0145 0.0069 Jupiter 48695-01-19 02:24 G 19506561.42 19506561.60 19506561.79 0.0501 0.0302 Uranus 48695-02-11 01:41 G 19506584.32 19506584.57 19506584.83 0.0145 0.0015 Uranus 48696-02-16 04:34 G 19506954.51 19506954.69 19506954.88 0.0145 0.0099 Saturn 48699-12-17 15:07 G 19508354.89 19508355.13 19508355.38 0.0295 0.0034 Jupiter 48707-01-24 15:36 G 19510949.13 19510949.15 19510949.19 0.0500 0.0494 Jupiter 48712-07-04 12:14 G 19512936.90 19512937.01 19512937.11 0.0521 0.0462 Saturn 48715-06-16 21:50 G 19514014.20 19514014.41 19514014.64 0.0266 0.0120 Jupiter 48724-07-09 06:29 G 19517324.58 19517324.77 19517324.98 0.0522 0.0247 Saturn 48728-12-11 11:02 G 19518940.86 19518940.96 19518941.08 0.0296 0.0262 Uranus 48735-08-07 07:12 G 19521370.62 19521370.80 19521371.02 0.0134 0.0084 Jupiter 48736-07-13 22:05 G 19521712.19 19521712.42 19521712.65 0.0523 0.0035 Uranus 48736-08-10 13:26 G 19521739.82 19521740.06 19521740.32 0.0134 0.0020 Neptune 48736-12-27 12:00 G 19521878.97 19521879.00 19521879.07 0.0088 0.0087 Uranus 48737-08-14 19:26 G 19522109.08 19522109.31 19522109.55 0.0134 0.0046

Neptune 48737-12-30 00:00 G 19522246.32 19522246.50 19522246.71 0.0088 0.0059 Uranus 48738-08-19 01:12 G 19522478.42 19522478.55 19522478.71 0.0134 0.0110 Neptune 48739-01-01 12:00 G 19522613.77 19522614.00 19522614.26 0.0088 0.0032 Neptune 48740-01-04 00:29 G 19522981.26 19522981.52 19522981.78 0.0088 0.0005 Neptune 48741-01-05 12:14 G 19523348.77 19523349.01 19523349.27 0.0088 0.0023 Jupiter 48742-01-05 13:26 G 19523713.88 19523714.06 19523714.25 0.0504 0.0317 Neptune 48742-01-08 00:00 G 19523716.30 19523716.50 19523716.73 0.0088 0.0050 Neptune 48743-01-10 12:00 G 19524083.89 19524084.00 19524084.14 0.0088 0.0077 Saturn 48745-06-23 00:14 G 19524978.32 19524978.51 19524978.72 0.0268 0.0152 Jupiter 48748-07-18 20:10 G 19526100.12 19526100.34 19526100.55 0.0525 0.0193 Jupiter 48754-01-10 02:53 G 19528101.39 19528101.62 19528101.85 0.0503 0.0121 Saturn 48758-12-19 23:46 G 19529906.26 19529906.49 19529906.72 0.0294 0.0105 Jupiter 48760-07-23 19:26 G 19530488.18 19530488.31 19530488.46 0.0526 0.0423 Pluto 48765-04-22 22:34 G 19532222.23 19532222.44 19532222.67 0.0078 0.0039 Jupiter 48766-01-14 16:48 G 19532488.97 19532489.20 19532489.43 0.0502 0.0078 Saturn 48774-06-18 05:02 G 19535565.47 19535565.71 19535565.95 0.0267 0.0059 Jupiter 48778-01-19 06:14 G 19536876.57 19536876.76 19536876.96 0.0501 0.0273 Uranus 48778-02-07 07:41 G 19536895.61 19536895.82 19536896.06 0.0145 0.0066 Uranus 48779-02-12 11:02 G 19537265.71 19537265.96 19537266.22 0.0145 0.0018 Uranus 48780-02-17 13:12 G 19537635.89 19537636.05 19537636.25 0.0145 0.0103 Saturn 48787-12-13 23:17 G 19540492.28 19540492.47 19540492.67 0.0296 0.0185 Jupiter 48790-01-23 21:50 G 19541264.34 19541264.41 19541264.49 0.0500 0.0471 Jupiter 48795-07-04 08:38 G 19543251.82 19543251.86 19543251.91 0.0520 0.0508 Saturn 48803-06-13 15:50 G 19546153.10 19546153.16 19546153.21 0.0266 0.0258 Saturn 48804-06-24 09:22 G 19546529.76 19546529.89 19546530.04 0.0269 0.0218 Jupiter 48807-07-09 04:19 G 19547639.49 19547639.68 19547639.87 0.0522 0.0291 48809-05-17 03:50 G 19548317.48 19548317.66 19548317.83 0.1657 0.0651 Mars Saturn 48817-12-21 13:41 G 19551457.88 19551458.07 19551458.26 0.0294 0.0186 Jupiter 48819-07-14 02:38 G 19552027.38 19552027.61 19552027.84 0.0523 0.0067 Uranus 48819-08-07 17:46 G 19552052.04 19552052.24 19552052.45 0.0134 0.0080

Neptune 48820-06-29 22:05 G 19552379.32 19552379.42 19552379.55 0.0089 0.0079 Uranus 48820-08-10 23:46 G 19552421.24 19552421.49 19552421.75 0.0134 0.0016 Neptune 48821-07-02 09:36 G 19552746.70 19552746.90 19552747.12 0.0089 0.0051 Uranus 48821-08-15 05:46 G 19552790.51 19552790.74 19552790.98 0.0134 0.0049 Neptune 48822-07-04 20:53 G 19553114.13 19553114.37 19553114.63 0.0089 0.0024 Uranus 48822-08-19 11:46 G 19553159.86 19553159.99 19553160.12 0.0134 0.0113 Neptune 48823-07-07 08:24 G 19553481.59 19553481.85 19553482.10 0.0089 0.0004 Neptune 48824-07-08 19:12 G 19553849.08 19553849.30 19553849.56 0.0089 0.0032 Jupiter 48825-01-04 13:12 G 19554028.90 19554029.05 19554029.23 0.0505 0.0357 Neptune 48825-07-11 06:29 G 19554216.61 19554216.77 19554216.98 0.0089 0.0060 Neptune 48826-07-13 17:46 G 19554584.21 19554584.24 19554584.31 0.0089 0.0088 Jupiter 48831-07-18 22:48 G 19556415.23 19556415.45 19556415.67 0.0524 0.0157 Saturn 48833-06-19 14:53 G 19557116.88 19557117.12 19557117.36 0.0267 0.0007 Jupiter 48837-01-09 03:22 G 19558416.42 19558416.64 19558416.87 0.0504 0.0158 Jupiter 48843-07-23 18:14 G 19560803.11 19560803.26 19560803.42 0.0525 0.0380 Saturn 48846-12-15 15:22 G 19562043.91 19562044.14 19562044.38 0.0295 0.0099 Jupiter 48849-01-13 19:55 G 19562804.09 19562804.33 19562804.56 0.0503 0.0048 Jupiter 48861-01-18 11:02 G 19567191.75 19567191.96 19567192.16 0.0501 0.0247 Uranus 48861-02-02 16:19 G 19567207.17 19567207.18 19567207.23 0.0145 0.0144 Uranus 48862-02-07 19:41 G 19567577.09 19567577.32 19567577.55 0.0145 0.0060 Saturn 48862-06-15 01:41 G 19567704.41 19567704.57 19567704.75 0.0266 0.0192 Uranus 48863-02-12 22:48 G 19567947.20 19567947.45 19567947.70 0.0145 0.0024 Uranus 48864-02-18 00:58 G 19568317.39 19568317.54 19568317.74 0.0145 0.0108 Jupiter 48873-01-22 22:05 G 19571579.30 19571579.42 19571579.53 0.0500 0.0435 Saturn 48876-12-23 08:38 G 19573009.79 19573009.86 19573009.95 0.0293 0.0276 Jupiter 48890-07-08 06:29 G 19577954.60 19577954.77 19577954.95 0.0521 0.0331 Saturn 48892-06-21 02:10 G 19578668.36 19578668.59 19578668.83 0.0268 0.0076 Neptune 48901-12-30 07:41 G 19582146.69 19582146.82 19582146.98 0.0088 0.0074 Jupiter 48902-07-14 00:43 G 19582342.30 19582342.53 19582342.76 0.0522 0.0112 Neptune 48903-01-01 19:41 G 19582514.11 19582514.32 19582514.56 0.0088 0.0047

Uranus 48903-08-09 05:17 G 19582733.51 19582733.72 19582733.93 0.0134 0.0075 Neptune 48904-01-04 07:41 G 19582881.58 19582881.82 19582882.09 0.0088 0.0019 Uranus 48904-08-12 11:17 G 19583102.72 19583102.97 19583103.22 0.0134 0.0011 Neptune 48905-01-05 19:55 G 19583249.07 19583249.33 19583249.59 0.0088 0.0009 Uranus 48905-08-16 17:02 G 19583471.99 19583472.21 19583472.45 0.0134 0.0054 Saturn 48905-12-18 11:17 G 19583595.72 19583595.97 19583596.22 0.0295 0.0006 Neptune 48906-01-08 07:26 G 19583616.59 19583616.81 19583617.06 0.0088 0.0036 Uranus 48906-08-20 22:34 G 19583841.34 19583841.44 19583841.58 0.0134 0.0118 Neptune 48907-01-10 19:41 G 19583984.15 19583984.32 19583984.51 0.0088 0.0063 Jupiter 48908-01-05 13:26 G 19584343.92 19584344.06 19584344.21 0.0506 0.0396 Jupiter 48914-07-18 15:50 G 19586729.94 19586730.16 19586730.39 0.0524 0.0103 Jupiter 48920-01-10 05:46 G 19588731.53 19588731.74 19588731.96 0.0504 0.0192 Saturn 48921-06-17 13:12 G 19589255.84 19589256.05 19589256.27 0.0267 0.0123 Pluto 48925-10-22 15:07 G 19590843.89 19590844.13 19590844.39 0.0066 0.0014 Jupiter 48926-07-23 12:14 G 19591117.84 19591118.01 19591118.20 0.0525 0.0330 Jupiter 48932-01-14 18:14 G 19593119.02 19593119.26 19593119.49 0.0503 0.0008 Saturn 48934-12-12 12:29 G 19594181.98 19594182.02 19594182.08 0.0296 0.0289 Jupiter 48944-01-19 07:55 G 19597506.62 19597506.83 19597507.05 0.0501 0.0203 Uranus 48945-02-04 05:17 G 19597888.66 19597888.72 19597888.82 0.0145 0.0137 Uranus 48946-02-09 08:24 G 19598258.63 19598258.85 19598259.10 0.0145 0.0054 Uranus 48947-02-14 11:31 G 19598628.74 19598628.98 19598629.24 0.0145 0.0031 Uranus 48948-02-19 14:10 G 19598998.95 19598999.09 19598999.26 0.0145 0.0114 Saturn 48951-06-24 13:41 G 19600219.87 19600220.07 19600220.28 0.0268 0.0147 Jupiter 48956-01-23 20:10 G 19601894.21 19601894.34 19601894.49 0.0501 0.0398 Saturn 48964-12-20 08:53 G 19605147.64 19605147.87 19605148.10 0.0294 0.0092 Jupiter 48973-07-08 00:29 G 19608269.36 19608269.52 19608269.67 0.0520 0.0385 Saturn 48980-06-19 00:14 G 19610807.28 19610807.51 19610807.75 0.0267 0.0054 Neptune 48985-07-02 17:46 G 19612647.08 19612647.24 19612647.42 0.0089 0.0066 Jupiter 48985-07-12 19:12 G 19612657.09 19612657.30 19612657.52 0.0522 0.0166 Neptune 48986-07-05 05:02 G 19613014.50 19613014.71 19613014.95 0.0089 0.0039 Neptune 48987-07-07 16:34 G 19613381.94 19613382.19 19613382.45 0.0089 0.0011
Uranus 48987-08-09 16:34 G 19613414.99 19613415.19 19613415.42 0.0134 0.0071
Neptune 48988-07-09 04:05 G 19613749.42 19613749.67 19613749.93 0.0089 0.0017
Uranus 48988-08-12 22:48 G 19613784.20 19613784.45 19613784.70 0.0134 0.0006
Neptune 48989-07-11 14:53 G 19614116.92 19614117.12 19614117.36 0.0089 0.0046
Uranus 48989-08-17 04:19 G 19614153.46 19614153.68 19614153.91 0.0134 0.0058
Neptune 48990-07-14 02:10 G 19614484.47 19614484.59 19614484.76 0.0089 0.0073
Uranus 48990-08-21 09:50 G 19614522.82 19614522.91 19614523.03 0.0134 0.0122
Jupiter 48991-01-04 11:17 G 19614658.86 19614658.97 19614659.09 0.0506 0.0443
Saturn 48993-12-14 11:31 G 19615733.79 19615733.98 19615734.17 0.0296 0.0188
Jupiter 48997-07-17 16:34 G 19617044.96 19617045.19 19617045.42 0.0524 0.0061

### **50TH MILLENNIUM CE**

### This is a list of transits of Earth in the 50th millennium CE.

FROM MAX- C START MAX END SUNRAD DEPTH S

TRANSIT

TIME

Jupiter 49003-01-10 02:38 G 19619046.40 19619046.61 19619046.82 0.0504 0.0239

Saturn 49009-06-15 06:43 G 19621394.74 19621394.78 19621394.84 0.0265 0.0260

Jupiter 49009-07-23 13:41 G 19621432.88 19621433.07 19621433.27 0.0525 0.0289

Saturn 49010-06-27 00:43 G 19621771.40 19621771.53 19621771.68 0.0269 0.0217

Pluto 49013-04-27 08:24 G 19622806.64 19622806.85 19622807.10 0.0078 0.0034

Jupiter 49015-01-14 16:05 G 19623433.94 19623434.17 19623434.41 0.0503 0.0038

Jupiter 49021-07-28 09:22 G 19625820.85 19625820.89 19625820.94 0.0526 0.0514

Saturn 49023-12-24 05:02 G 19626699.53 19626699.71 19626699.91 0.0294 0.0187

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Pluto 49755-05-07 18:43 G 19893827.13 19893827.28 19893827.48 0.0078 0.0058 Jupiter 49756-07-23 12:58 G 19894269.81 19894270.04 19894270.27 0.0522 0.0002 Saturn 49759-12-25 02:10 G 19895519.34 19895519.59 19895519.83 0.0297 0.0032 Jupiter 49762-01-15 09:22 G 19896271.69 19896271.89 19896272.09 0.0506 0.0276 Jupiter 49768-07-28 03:50 G 19898657.46 19898657.66 19898657.88 0.0524 0.0224 Jupiter 49774-01-20 01:55 G 19900659.35 19900659.58 19900659.82 0.0504 0.0064 Saturn 49775-06-26 16:34 G 19901181.95 19901182.19 19901182.43 0.0265 0.0051 Jupiter 49780-08-02 00:58 G 19903045.43 19903045.54 19903045.65 0.0525 0.0460 Uranus 49785-02-14 21:07 G 19904703.18 19904703.38 19904703.59 0.0145 0.0088 Jupiter 49786-01-24 14:38 G 19905046.89 19905047.11 19905047.34 0.0503 0.0142 Uranus 49786-02-20 00:43 G 19905073.28 19905073.53 19905073.79 0.0145 0.0005 Uranus 49787-02-25 04:05 G 19905443.47 19905443.67 19905443.90 0.0145 0.0079 Jupiter 49798-01-29 04:19 G 19909434.51 19909434.68 19909434.85 0.0501 0.0348 Saturn 49804-06-22 00:29 G 19911769.47 19911769.52 19911769.58 0.0264 0.0255 Saturn 49805-07-03 14:38 G 19912145.97 19912146.11 19912146.26 0.0266 0.0215 Neptune 49808-07-12 08:10 G 19913250.69 19913250.84 19913251.04 0.0089 0.0065 Neptune 49809-07-14 19:26 G 19913618.10 19913618.31 19913618.57 0.0089 0.0037 Neptune 49810-07-17 07:26 G 19913985.55 19913985.81 19913986.06 0.0089 0.0009 Neptune 49811-07-19 18:14 G 19914353.02 19914353.26 19914353.52 0.0089 0.0020 Neptune 49812-07-21 05:17 G 19914720.53 19914720.72 19914720.96 0.0089 0.0049 49812-11-22 15:07 G 19914844.95 19914845.13 19914845.31 0.1848 0.0704 Mars Neptune 49813-07-23 16:48 G 19915088.09 19915088.20 19915088.35 0.0089 0.0076 Jupiter 49815-07-14 22:34 G 19915809.39 19915809.44 19915809.51 0.0519 0.0500 Saturn 49818-12-27 20:38 G 19917071.13 19917071.36 19917071.61 0.0296 0.0062 Uranus 49826-08-18 01:26 G 19919861.36 19919861.56 19919861.77 0.0133 0.0077 Jupiter 49827-07-19 12:43 G 19920196.84 19920197.03 19920197.23 0.0520 0.0284 Uranus 49827-08-22 06:58 G 19920230.54 19920230.79 19920231.04 0.0133 0.0013 Uranus 49828-08-25 12:14 G 19920599.79 19920600.01 19920600.26 0.0133 0.0050 Uranus 49829-08-29 17:46 G 19920969.12 19920969.24 19920969.38 0.0133 0.0113 Saturn 49834-06-29 03:22 G 19922733.39 19922733.64 19922733.88 0.0265 0.0018

Jupiter 49839-07-24 07:41 G 19924584.59 19924584.82 19924585.05 0.0522 0.0055 Jupiter 49845-01-15 08:24 G 19926586.68 19926586.85 19926587.04 0.0506 0.0323 Saturn 49847-12-21 20:53 G 19927657.22 19927657.37 19927657.53 0.0298 0.0229 Jupiter 49851-07-29 05:17 G 19928972.50 19928972.72 19928972.94 0.0524 0.0182 Jupiter 49857-01-19 23:46 G 19930974.26 19930974.49 19930974.72 0.0504 0.0110 Saturn 49863-06-24 11:17 G 19933320.80 19933320.97 19933321.14 0.0264 0.0187 Jupiter 49863-08-03 02:24 G 19933360.47 19933360.60 19933360.74 0.0525 0.0419 49866-05-26 17:17 G 19934388.05 19934388.22 19934388.40 0.1683 0.0675 Mars Jupiter 49869-01-24 12:43 G 19935361.80 19935362.03 19935362.27 0.0503 0.0099 Uranus 49869-02-16 06:14 G 19935384.57 19935384.76 19935384.98 0.0145 0.0085 Uranus 49870-02-21 10:05 G 19935754.67 19935754.92 19935755.18 0.0145 0.0003 Uranus 49871-02-26 13:12 G 19936124.86 19936125.05 19936125.28 0.0145 0.0082 Saturn 49877-12-29 18:29 G 19938623.07 19938623.27 19938623.48 0.0296 0.0160 Jupiter 49881-01-29 04:19 G 19939749.49 19939749.68 19939749.86 0.0502 0.0310 Neptune 49889-01-08 06:43 G 19942650.74 19942650.78 19942650.89 0.0088 0.0085 Neptune 49890-01-10 18:58 G 19943018.11 19943018.29 19943018.51 0.0088 0.0057 Neptune 49891-01-13 07:26 G 19943385.57 19943385.81 19943386.06 0.0088 0.0028 Neptune 49892-01-15 19:41 G 19943753.06 19943753.32 19943753.58 0.0088 0.0000 Neptune 49893-01-17 07:12 G 19944120.56 19944120.80 19944121.06 0.0088 0.0028 Saturn 49893-06-30 14:24 G 19944284.87 19944285.10 19944285.33 0.0266 0.0088 Neptune 49894-01-19 19:12 G 19944488.11 19944488.30 19944488.52 0.0088 0.0055 Neptune 49895-01-22 06:43 G 19944855.73 19944855.78 19944855.90 0.0088 0.0083 Saturn 49906-12-24 19:41 G 19949209.10 19949209.32 19949209.54 0.0297 0.0127 Jupiter 49910-07-19 12:58 G 19950511.87 19950512.04 19950512.23 0.0520 0.0330 Uranus 49910-08-19 15:07 G 19950542.93 19950543.13 19950543.35 0.0134 0.0071 Uranus 49911-08-23 21:07 G 19950912.13 19950912.38 19950912.63 0.0133 0.0008 Uranus 49912-08-27 02:38 G 19951281.38 19951281.61 19951281.84 0.0133 0.0056 Uranus 49913-08-31 07:41 G 19951650.72 19951650.82 19951650.95 0.0133 0.0119 Pluto 49914-11-06 04:48 G 19952082.44 19952082.70 19952082.96 0.0066 0.0004 Saturn 49922-06-26 21:50 G 19954872.20 19954872.41 19954872.63 0.0264 0.0119

Jupiter 49922-07-24 09:22 G 19954899.66 19954899.89 19954900.11 0.0522 0.0097 Jupiter 49928-01-16 06:00 G 19956901.59 19956901.75 19956901.91 0.0506 0.0369 Jupiter 49934-07-29 04:05 G 19959287.45 19959287.67 19959287.90 0.0523 0.0136 Saturn 49937-01-01 15:22 G 19960175.04 19960175.14 19960175.27 0.0296 0.0258 Jupiter 49940-01-20 22:05 G 19961289.20 19961289.42 19961289.65 0.0505 0.0154 Jupiter 49946-08-02 20:10 G 19963675.18 19963675.34 19963675.52 0.0524 0.0363 Jupiter 49952-01-25 13:41 G 19965676.84 19965677.07 19965677.31 0.0504 0.0060 Saturn 49952-07-03 00:14 G 19965836.32 19965836.51 19965836.72 0.0266 0.0156 Uranus 49953-02-17 20:24 G 19966066.14 19966066.35 19966066.57 0.0145 0.0078 Uranus 49954-02-23 00:00 G 19966436.25 19966436.50 19966436.76 0.0145 0.0005 Uranus 49955-02-28 03:07 G 19966806.44 19966806.63 19966806.84 0.0145 0.0088 Jupiter 49964-01-30 02:53 G 19970064.42 19970064.62 19970064.82 0.0502 0.0265 Saturn 49965-12-26 17:31 G 19970760.99 19970761.23 19970761.48 0.0297 0.0028 Neptune 49972-07-12 12:43 G 19973150.96 19973151.03 19973151.16 0.0089 0.0082 Neptune 49973-07-15 00:14 G 19973518.33 19973518.51 19973518.73 0.0089 0.0054 Neptune 49974-07-17 11:46 G 19973885.75 19973885.99 19973886.24 0.0089 0.0025 Neptune 49975-07-19 23:02 G 19974253.20 19974253.46 19974253.72 0.0089 0.0003 Jupiter 49976-02-03 16:48 G 19974452.13 19974452.20 19974452.28 0.0501 0.0472 Neptune 49976-07-21 10:05 G 19974620.69 19974620.92 19974621.17 0.0089 0.0031 Neptune 49977-07-23 21:07 G 19974988.21 19974988.38 19974988.59 0.0089 0.0060 Neptune 49978-07-26 08:38 G 19975355.83 19975355.86 19975355.92 0.0089 0.0088 Saturn 49981-06-28 07:26 G 19976423.57 19976423.81 19976424.05 0.0264 0.0053 Jupiter 49993-07-18 14:10 G 19980826.93 19980827.09 19980827.25 0.0520 0.0372 Uranus 49993-08-15 23:02 G 19980855.41 19980855.46 19980855.55 0.0134 0.0128 Uranus 49994-08-20 05:02 G 19981224.51 19981224.71 19981224.95 0.0134 0.0065 Uranus 49995-08-24 11:02 G 19981593.71 19981593.96 19981594.22 0.0133 0.0002 Uranus 49996-08-27 16:19 G 19981962.98 19981963.18 19981963.42 0.0133 0.0063 Uranus 49997-08-31 21:50 G 19982332.34 19982332.41 19982332.51 0.0133 0.0125

# 51ST MILLENNIUM CE

#### This is a list of transits of Earth in the 51st millennium CE.

FROM MAX- C START MAX END SUNRAD DEPTH S

TRANSIT

TIME

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Neptune 50553-01-28 02:10 G 20185191.46 20185191.59 20185191.73 0.0088 0.0076 Saturn 50554-12-29 15:36 G 20185891.93 20185892.15 20185892.38 0.0299 0.0122 Jupiter 50557-02-04 03:50 G 20186659.48 20186659.66 20186659.85 0.0503 0.0315 Saturn 50570-07-03 22:34 G 20191557.19 20191557.44 20191557.68 0.0263 0.0027 Uranus 50581-08-23 21:22 G 20195626.21 20195626.39 20195626.59 0.0134 0.0088 Uranus 50582-08-28 03:22 G 20195995.40 20195995.64 20195995.89 0.0134 0.0025 Uranus 50583-09-01 09:07 G 20196364.65 20196364.88 20196365.13 0.0134 0.0038 Uranus 50584-09-04 14:38 G 20196733.96 20196734.11 20196734.29 0.0134 0.0101 Saturn 50585-01-06 04:34 G 20196857.57 20196857.69 20196857.81 0.0297 0.0258 Jupiter 50586-07-24 06:58 G 20197421.63 20197421.79 20197421.96 0.0520 0.0365 Jupiter 50598-07-29 02:53 G 20201809.40 20201809.62 20201809.85 0.0521 0.0126 Saturn 50599-06-29 04:34 G 20202144.59 20202144.69 20202144.80 0.0262 0.0235 Saturn 50600-07-10 15:22 G 20202521.03 20202521.14 20202521.27 0.0264 0.0231 Jupiter 50604-01-22 08:10 G 20203811.69 20203811.84 20203812.00 0.0507 0.0380 Jupiter 50610-08-03 21:50 G 20206197.19 20206197.41 20206197.64 0.0522 0.0114 Saturn 50613-12-31 23:17 G 20207443.22 20207443.47 20207443.71 0.0298 0.0051 Jupiter 50616-01-27 02:24 G 20208199.38 20208199.60 20208199.82 0.0506 0.0153 Jupiter 50622-08-08 12:58 G 20210584.87 20210585.04 20210585.21 0.0524 0.0347 Uranus 50624-02-22 19:12 G 20211148.16 20211148.30 20211148.47 0.0144 0.0114 Uranus 50625-02-26 21:36 G 20211518.16 20211518.40 20211518.66 0.0144 0.0033 Uranus 50626-03-04 00:14 G 20211888.28 20211888.51 20211888.76 0.0145 0.0049 Uranus 50627-03-09 02:53 G 20212258.54 20212258.62 20212258.75 0.0145 0.0131 Jupiter 50628-01-31 19:41 G 20212587.08 20212587.32 20212587.55 0.0504 0.0071 Saturn 50629-07-06 03:07 G 20213108.39 20213108.63 20213108.87 0.0264 0.0031 Neptune 50631-07-21 22:19 G 20213854.28 20213854.43 20213854.64 0.0089 0.0063 Neptune 50632-07-23 10:05 G 20214221.70 20214221.92 20214222.17 0.0089 0.0034 Neptune 50633-07-25 21:36 G 20214589.15 20214589.40 20214589.66 0.0089 0.0006 Neptune 50634-07-28 08:38 G 20214956.63 20214956.86 20214957.12 0.0089 0.0023 Neptune 50635-07-30 20:24 G 20215324.14 20215324.35 20215324.56 0.0089 0.0051 Neptune 50636-08-01 06:58 G 20215691.70 20215691.79 20215691.92 0.0089 0.0080 Jupiter 50640-02-05 09:07 G 20216974.69 20216974.88 20216975.08 0.0503 0.0283 Jupiter 50652-02-09 22:48 G 20221362.43 20221362.45 20221362.48 0.0501 0.0497 50654-11-15 05:46 G 20222371.57 20222371.74 20222371.98 0.0066 0.0041 Pluto 50655-11-16 19:26 G 20222738.22 20222738.31 20222738.48 0.0067 0.0058 Pluto Saturn 50658-07-01 10:05 G 20223695.74 20223695.92 20223696.10 0.0263 0.0176 Uranus 50665-08-25 09:22 G 20226307.71 20226307.89 20226308.11 0.0134 0.0083 Uranus 50666-08-29 15:36 G 20226676.90 20226677.15 20226677.40 0.0134 0.0020 Uranus 50667-09-02 21:22 G 20227046.16 20227046.39 20227046.64 0.0134 0.0044 Uranus 50668-09-06 03:07 G 20227415.49 20227415.63 20227415.79 0.0134 0.0106 Jupiter 50669-07-24 09:22 G 20227736.75 20227736.89 20227737.04 0.0519 0.0405 Saturn 50673-01-02 12:14 G 20228994.77 20228995.01 20228995.26 0.0298 0.0033 Jupiter 50681-07-28 23:31 G 20232124.26 20232124.48 20232124.69 0.0520 0.0179 Jupiter 50687-01-21 13:41 G 20234126.94 20234127.07 20234127.21 0.0508 0.0414 Saturn 50688-07-07 10:19 G 20234659.71 20234659.93 20234660.17 0.0264 0.0094 Jupiter 50693-08-02 18:43 G 20236512.05 20236512.28 20236512.51 0.0522 0.0063 Jupiter 50699-01-26 04:34 G 20238514.48 20238514.69 20238514.91 0.0506 0.0194 Saturn 50701-12-28 06:58 G 20239580.70 20239580.79 20239580.90 0.0299 0.0272 Jupiter 50705-08-08 16:48 G 20240900.02 20240900.20 20240900.39 0.0524 0.0309 Uranus 50708-02-24 08:10 G 20241829.67 20241829.84 20241830.01 0.0144 0.0108 Uranus 50709-02-28 10:34 G 20242199.69 20242199.94 20242200.20 0.0144 0.0027 Uranus 50710-03-05 12:58 G 20242569.82 20242570.04 20242570.29 0.0144 0.0056 Jupiter 50711-01-31 19:55 G 20242902.10 20242902.33 20242902.57 0.0504 0.0028 Uranus 50711-03-10 15:50 G 20242940.10 20242940.16 20242940.26 0.0145 0.0137 Neptune 50712-01-18 19:26 G 20243254.24 20243254.31 20243254.44 0.0088 0.0082 Neptune 50713-01-20 07:55 G 20243621.63 20243621.83 20243622.05 0.0088 0.0053 Neptune 50714-01-22 20:10 G 20243989.10 20243989.34 20243989.60 0.0088 0.0025 Neptune 50715-01-25 08:24 G 20244356.59 20244356.85 20244357.11 0.0088 0.0004 Neptune 50716-01-27 20:10 G 20244724.11 20244724.34 20244724.59 0.0088 0.0032 Neptune 50717-01-29 08:10 G 20245091.66 20245091.84 20245092.04 0.0088 0.0061 Saturn 50717-07-03 17:46 G 20245247.02 20245247.24 20245247.46 0.0263 0.0113

50718-06-05 05:46 G 20245583.59 20245583.74 20245583.90 0.1702 0.0940 Mars Jupiter 50723-02-05 09:07 G 20247289.68 20247289.88 20247290.09 0.0503 0.0244 Saturn 50732-01-06 05:46 G 20250546.53 20250546.74 20250546.98 0.0298 0.0126 Jupiter 50735-02-10 00:58 G 20251677.45 20251677.54 20251677.63 0.0502 0.0464 Pluto 50742-05-21 02:10 G 20254334.34 20254334.59 20254334.86 0.0078 0.0007 Mars 50743-12-03 05:46 G 20254895.70 20254895.74 20254895.78 0.1827 0.1784 Saturn 50747-07-10 19:26 G 20256211.12 20256211.31 20256211.51 0.0265 0.0161 Uranus 50749-08-26 21:07 G 20256989.19 20256989.38 20256989.60 0.0134 0.0078 Uranus 50750-08-31 03:22 G 20257358.39 20257358.64 20257358.89 0.0134 0.0015 Uranus 50751-09-04 09:22 G 20257727.66 20257727.89 20257728.13 0.0134 0.0048 Jupiter 50752-07-24 05:31 G 20258051.63 20258051.73 20258051.84 0.0518 0.0460 Uranus 50752-09-07 14:53 G 20258097.00 20258097.12 20258097.28 0.0134 0.0111 Saturn 50760-12-30 04:19 G 20261132.48 20261132.68 20261132.88 0.0298 0.0172 Jupiter 50764-07-29 00:58 G 20262439.34 20262439.54 20262439.75 0.0520 0.0223 Jupiter 50770-01-21 12:14 G 20264441.92 20264442.01 20264442.11 0.0508 0.0462 Saturn 50776-07-05 03:36 G 20266798.41 20266798.65 20266798.89 0.0263 0.0046 Jupiter 50776-08-02 21:07 G 20266827.15 20266827.38 20266827.61 0.0522 0.0021 Jupiter 50782-01-26 02:38 G 20268829.41 20268829.61 20268829.82 0.0506 0.0240 Jupiter 50788-08-07 15:50 G 20271214.96 20271215.16 20271215.36 0.0523 0.0262 Saturn 50791-01-08 02:10 G 20272098.44 20272098.59 20272098.76 0.0297 0.0223 Uranus 50792-02-24 19:41 G 20272511.15 20272511.32 20272511.50 0.0144 0.0103 Uranus 50793-02-28 22:05 G 20272881.17 20272881.42 20272881.68 0.0144 0.0022 Jupiter 50794-01-30 18:58 G 20273217.06 20273217.29 20273217.53 0.0505 0.0017 Uranus 50794-03-06 00:58 G 20273251.31 20273251.54 20273251.78 0.0144 0.0060 Uranus 50795-03-11 03:36 G 20273621.62 20273621.65 20273621.72 0.0145 0.0142 Neptune 50795-07-22 06:43 G 20273754.68 20273754.78 20273754.92 0.0089 0.0078 Neptune 50796-07-23 18:14 G 20274122.05 20274122.26 20274122.47 0.0089 0.0049 Neptune 50797-07-26 05:17 G 20274489.48 20274489.72 20274489.97 0.0089 0.0021 Neptune 50798-07-28 16:34 G 20274856.94 20274857.19 20274857.45 0.0089 0.0008 Neptune 50799-07-31 03:36 G 20275224.43 20275224.65 20275224.89 0.0089 0.0036

Neptune 50800-08-01 14:38 G 20275591.96 20275592.11 20275592.31 0.0089 0.0065 Jupiter 50800-08-12 07:12 G 20275602.73 20275602.80 20275602.88 0.0524 0.0495 Saturn 50805-06-30 17:31 G 20277386.14 20277386.23 20277386.35 0.0263 0.0238 Jupiter 50806-02-04 11:02 G 20277604.74 20277604.96 20277605.17 0.0504 0.0205 Saturn 50806-07-12 05:17 G 20277762.62 20277762.72 20277762.85 0.0265 0.0230 Jupiter 50818-02-08 23:46 G 20281992.37 20281992.49 20281992.62 0.0502 0.0418 Saturn 50820-01-02 03:22 G 20282684.40 20282684.64 20282684.88 0.0298 0.0069 Uranus 50833-08-27 09:50 G 20287670.71 20287670.91 20287671.13 0.0134 0.0073 Uranus 50834-08-31 15:50 G 20288039.91 20288040.16 20288040.41 0.0134 0.0010 Saturn 50835-07-07 13:41 G 20288349.83 20288350.07 20288350.32 0.0263 0.0023 Jupiter 50835-07-24 06:58 G 20288366.75 20288366.79 20288366.85 0.0518 0.0505 Uranus 50835-09-04 21:50 G 20288409.19 20288409.41 20288409.65 0.0134 0.0053 Uranus 50836-09-08 03:22 G 20288778.54 20288778.64 20288778.79 0.0134 0.0116 Jupiter 50847-07-29 00:58 G 20292754.34 20292754.54 20292754.74 0.0519 0.0269 Jupiter 50859-08-02 16:05 G 20297141.94 20297142.17 20297142.40 0.0521 0.0039 Saturn 50864-07-02 03:22 G 20298937.47 20298937.64 20298937.84 0.0263 0.0172 Jupiter 50865-01-25 02:24 G 20299144.41 20299144.60 20299144.79 0.0507 0.0287 Jupiter 50871-08-07 10:19 G 20301529.73 20301529.93 20301530.15 0.0522 0.0205 Uranus 50876-02-25 04:34 G 20303192.52 20303192.69 20303192.89 0.0144 0.0100 Neptune 50877-01-19 13:41 G 20303521.93 20303522.07 20303522.26 0.0088 0.0069 Jupiter 50877-01-29 17:31 G 20303532.00 20303532.23 20303532.47 0.0506 0.0067 Uranus 50877-03-01 07:26 G 20303562.56 20303562.81 20303563.07 0.0144 0.0019 Neptune 50878-01-22 01:55 G 20303889.37 20303889.58 20303889.83 0.0088 0.0041 Uranus 50878-03-06 10:05 G 20303932.70 20303932.92 20303933.16 0.0144 0.0063 Saturn 50879-01-04 01:41 G 20304236.33 20304236.57 20304236.82 0.0298 0.0034 Neptune 50879-01-24 14:38 G 20304256.85 20304257.11 20304257.37 0.0088 0.0011 Uranus 50879-03-11 12:58 G 20304303.04 20304303.04 20304303.07 0.0144 0.0144 Neptune 50880-01-27 02:38 G 20304624.37 20304624.61 20304624.88 0.0088 0.0017 Neptune 50881-01-28 14:24 G 20304991.89 20304992.10 20304992.34 0.0088 0.0046 Neptune 50882-01-31 02:38 G 20305359.48 20305359.61 20305359.77 0.0088 0.0074 Jupiter 50883-08-12 07:12 G 20305917.69 20305917.80 20305917.93 0.0524 0.0449 Jupiter 50889-02-03 09:07 G 20307919.66 20307919.88 20307920.11 0.0504 0.0158 Saturn 50894-07-08 23:31 G 20309901.25 20309901.48 20309901.71 0.0264 0.0090 Jupiter 50901-02-08 22:19 G 20312307.28 20312307.43 20312307.59 0.0503 0.0376 Pluto 50901-11-19 01:41 G 20312590.31 20312590.57 20312590.83 0.0066 0.0001 Saturn 50907-12-29 18:58 G 20314822.22 20314822.29 20314822.39 0.0299 0.0279 Uranus 50916-08-24 14:10 G 20317983.07 20317983.09 20317983.14 0.0134 0.0133 Uranus 50917-08-28 20:53 G 20318352.16 20318352.37 20318352.59 0.0134 0.0069 Uranus 50918-09-02 03:07 G 20318721.38 20318721.63 20318721.88 0.0134 0.0006 Uranus 50919-09-06 08:53 G 20319090.66 20319090.87 20319091.11 0.0134 0.0057 Uranus 50920-09-09 15:07 G 20319460.02 20319460.13 20319460.24 0.0134 0.0119 50923-06-04 12:14 G 20320457.93 20320458.01 20320458.09 0.1714 0.1541 Mars Saturn 50923-07-05 12:14 G 20320488.79 20320489.01 20320489.24 0.0263 0.0106 Jupiter 50930-07-28 21:50 G 20323069.23 20323069.41 20323069.59 0.0519 0.0325 Saturn 50938-01-06 21:22 G 20325788.18 20325788.39 20325788.62 0.0298 0.0130 Jupiter 50942-08-02 16:05 G 20327456.94 20327457.17 20327457.40 0.0521 0.0087 Jupiter 50948-01-26 02:53 G 20329459.44 20329459.62 20329459.80 0.0507 0.0332 Saturn 50953-07-11 07:55 G 20331452.63 20331452.83 20331453.03 0.0264 0.0154 Jupiter 50954-08-07 12:58 G 20331844.82 20331845.04 20331845.26 0.0522 0.0162 Jupiter 50960-01-30 17:31 G 20333847.00 20333847.23 20333847.46 0.0506 0.0109 Uranus 50960-02-26 12:58 G 20333873.87 20333874.04 20333874.25 0.0144 0.0097 Neptune 50960-07-24 03:22 G 20334022.47 20334022.64 20334022.82 0.0089 0.0064 Uranus 50961-03-02 15:50 G 20334243.91 20334244.16 20334244.42 0.0144 0.0016 Neptune 50961-07-26 14:24 G 20334389.88 20334390.10 20334390.35 0.0089 0.0036 Uranus 50962-03-07 18:14 G 20334614.05 20334614.26 20334614.50 0.0144 0.0065 Neptune 50962-07-29 01:41 G 20334757.31 20334757.57 20334757.82 0.0089 0.0007 Neptune 50963-07-31 12:58 G 20335124.79 20335125.04 20335125.29 0.0089 0.0021 Neptune 50964-08-01 23:46 G 20335492.29 20335492.49 20335492.72 0.0089 0.0050 Neptune 50965-08-04 11:31 G 20335859.86 20335859.98 20335860.09 0.0089 0.0079 Jupiter 50966-08-12 09:07 G 20336232.74 20336232.88 20336233.03 0.0524 0.0408

Saturn 50966-12-31 12:29 G 20336373.84 20336374.02 20336374.22 0.0299 0.0187

Jupiter 50972-02-04 08:53 G 20338234.65 20338234.87 20338235.11 0.0505 0.0117

Saturn 50982-07-06 19:12 G 20342040.06 20342040.30 20342040.55 0.0263 0.0045

Jupiter 50984-02-09 00:29 G 20342622.34 20342622.52 20342622.69 0.0504 0.0337

Pluto 50989-05-24 03:22 G 20344553.58 20344553.64 20344553.73 0.0078 0.0074

Saturn 50997-01-08 12:14 G 20347339.85 20347340.01 20347340.18 0.0298 0.0216

Uranus 51000-08-26 00:58 G 20348664.48 20348664.54 20348664.62 0.0134 0.0129

# **52ND MILLENNIUM CE**

#### This is a list of transits of Earth in the 52nd millennium CE.

FROM	MAX-	С	START	MAX	END	SUNRAD	DEPTH	S
	TRANSIT							
	TIME							

Uranus 51001-08-30 07:41 G 20349033.61 20349033.82 20349034.05 0.0134 0.0065

Mars 51002-06-07 22:34 G 20349315.32 20349315.44 20349315.55 0.1709 0.1350

Uranus 51002-09-03 13:55 G 20349402.83 20349403.08 20349403.34 0.0134 0.0004

Uranus 51003-09-07 20:10 G 20349772.13 20349772.34 20349772.57 0.0134 0.0061

Uranus 51004-09-11 01:55 G 20350141.50 20350141.58 20350141.70 0.0134 0.0123

Saturn 51011-07-03 03:22 G 20352627.58 20352627.64 20352627.72 0.0262 0.0250

Saturn 51012-07-13 13:41 G 20353003.94 20353004.07 20353004.22 0.0264 0.0214

Jupiter 51013-07-29 00:58 G 20353384.38 20353384.54 20353384.71 0.0519 0.0366

Jupiter 51025-08-02 20:53 G 20357772.15 20357772.37 20357772.60 0.0520 0.0122

Saturn 51027-12-05 04:05 G 20358626.53 20358626.67 20358626.81 0.1818 0.1246

Jupiter 51031-01-26 04:05 G 20359774.51 20359774.67 20359774.83 0.0508 0.0373

Jupiter 51037-08-07 14:38 G 20362159.89 20362160.11 20362160.34 0.0521 0.0117 Neptune 51041-01-20 20:53 G 20363422.31 20363422.37 20363422.47 0.0088 0.0084 Saturn 51041-07-08 23:17 G 20363591.23 20363591.47 20363591.72 0.0263 0.0012 Neptune 51042-01-23 09:07 G 20363789.70 20363789.88 20363790.10 0.0088 0.0056 Neptune 51043-01-25 21:50 G 20364157.17 20364157.41 20364157.66 0.0088 0.0027 Jupiter 51043-01-30 20:24 G 20364162.13 20364162.35 20364162.58 0.0507 0.0148 Neptune 51044-01-28 09:50 G 20364524.65 20364524.91 20364525.17 0.0088 0.0002 Uranus 51044-02-27 22:34 G 20364555.26 20364555.44 20364555.66 0.0144 0.0093 Neptune 51045-01-29 21:50 G 20364892.18 20364892.41 20364892.67 0.0088 0.0031 Uranus 51045-03-04 01:26 G 20364925.30 20364925.56 20364925.81 0.0144 0.0012 Neptune 51046-02-01 10:05 G 20365259.73 20365259.92 20365260.12 0.0088 0.0059 Uranus 51046-03-09 03:36 G 20365295.43 20365295.65 20365295.89 0.0144 0.0069 Neptune 51047-02-03 21:36 G 20365627.39 20365627.40 20365627.47 0.0088 0.0088 Jupiter 51049-08-12 09:50 G 20366547.75 20366547.91 20366548.08 0.0523 0.0363 Jupiter 51055-02-04 12:58 G 20368549.81 20368550.04 20368550.27 0.0505 0.0079 Saturn 51056-01-11 22:19 G 20368891.39 20368891.43 20368891.49 0.0297 0.0291 Jupiter 51067-02-09 06:00 G 20372937.56 20372937.75 20372937.94 0.0503 0.0306 Saturn 51070-07-04 06:58 G 20374178.64 20374178.79 20374178.96 0.0262 0.0196 Uranus 51084-08-26 09:50 G 20379345.84 20379345.91 20379346.02 0.0134 0.0126 Saturn 51085-01-04 06:58 G 20379476.55 20379476.79 20379477.03 0.0299 0.0037 Uranus 51085-08-30 16:48 G 20379714.98 20379715.20 20379715.43 0.0134 0.0062 Uranus 51086-09-03 23:31 G 20380084.22 20380084.48 20380084.73 0.0134 0.0002 Uranus 51087-09-08 05:31 G 20380453.52 20380453.73 20380453.96 0.0134 0.0064 Uranus 51088-09-11 11:31 G 20380822.91 20380822.98 20380823.07 0.0134 0.0126 Jupiter 51096-07-28 06:43 G 20383699.64 20383699.78 20383699.93 0.0518 0.0401 Saturn 51100-07-11 00:29 G 20385142.29 20385142.52 20385142.77 0.0263 0.0063 Jupiter 51108-08-03 00:43 G 20388087.31 20388087.53 20388087.75 0.0520 0.0162 Jupiter 51114-01-26 10:19 G 20390089.80 20390089.93 20390090.07 0.0508 0.0406 Jupiter 51120-08-07 18:00 G 20392475.02 20392475.25 20392475.48 0.0522 0.0079 Neptune 51124-07-25 12:43 G 20393922.93 20393923.03 20393923.16 0.0089 0.0079

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Neptune 51453-07-28 20:38 G 20514091.26 20514091.36 20514091.50 0.0089 0.0079 Neptune 51454-07-31 08:10 G 20514458.64 20514458.84 20514459.06 0.0089 0.0050 Neptune 51455-08-02 19:26 G 20514826.07 20514826.31 20514826.57 0.0089 0.0022 Neptune 51456-08-04 06:43 G 20515193.52 20515193.78 20515194.03 0.0089 0.0007 Neptune 51457-08-06 17:46 G 20515561.01 20515561.24 20515561.48 0.0089 0.0036 Jupiter 51458-01-31 20:38 G 20515739.16 20515739.36 20515739.56 0.0508 0.0267 Neptune 51458-08-09 04:34 G 20515928.54 20515928.69 20515928.88 0.0089 0.0065 Uranus 51464-03-04 02:53 G 20517962.41 20517962.62 20517962.85 0.0144 0.0070 Jupiter 51464-08-13 02:24 G 20518124.39 20518124.60 20518124.81 0.0522 0.0225 Uranus 51465-03-09 05:02 G 20518332.46 20518332.71 20518332.97 0.0144 0.0010 Uranus 51466-03-14 06:43 G 20518702.59 20518702.78 20518702.99 0.0144 0.0090 Saturn 51468-01-08 07:26 G 20519367.57 20519367.81 20519368.05 0.0299 0.0049 Jupiter 51470-02-05 15:22 G 20520126.90 20520127.14 20520127.37 0.0506 0.0029 Jupiter 51476-08-17 17:31 G 20522512.14 20522512.23 20522512.34 0.0524 0.0468 Pluto 51481-05-29 15:36 G 20524258.00 20524258.15 20524258.35 0.0078 0.0058 Jupiter 51482-02-10 09:22 G 20524514.67 20524514.89 20524515.10 0.0505 0.0205 Saturn 51483-07-15 19:55 G 20525035.13 20525035.33 20525035.56 0.0263 0.0125 51491-06-09 18:00 G 20527921.08 20527921.25 20527921.41 0.1729 0.0924 Mars Jupiter 51494-02-14 23:46 G 20528902.37 20528902.49 20528902.61 0.0503 0.0428 Uranus 51504-09-01 11:46 G 20532752.86 20532752.99 20532753.15 0.0134 0.0108 Uranus 51505-09-05 18:29 G 20533122.04 20533122.27 20533122.52 0.0134 0.0045 Uranus 51506-09-10 00:58 G 20533491.29 20533491.54 20533491.79 0.0134 0.0018 Uranus 51507-09-14 06:58 G 20533860.59 20533860.79 20533860.99 0.0134 0.0080 Saturn 51512-07-11 01:26 G 20535622.33 20535622.56 20535622.79 0.0262 0.0087 Jupiter 51523-08-04 16:48 G 20539664.02 20539664.20 20539664.39 0.0518 0.0308 Saturn 51527-01-10 13:26 G 20540918.81 20540919.06 20540919.30 0.0299 0.0021 Neptune 51535-01-27 23:31 G 20543858.34 20543858.48 20543858.65 0.0088 0.0070 Jupiter 51535-08-09 06:43 G 20544051.55 20544051.78 20544052.01 0.0520 0.0073 Neptune 51536-01-30 11:31 G 20544225.77 20544225.98 20544226.23 0.0088 0.0042 Neptune 51537-02-01 00:00 G 20544593.25 20544593.50 20544593.76 0.0088 0.0013

Neptune 51538-02-03 11:46 G 20544960.75 20544960.99 20544961.26 0.0088 0.0017 Neptune 51539-02-06 00:14 G 20545328.29 20545328.51 20545328.74 0.0088 0.0045 Neptune 51540-02-08 12:00 G 20545695.87 20545696.00 20545696.16 0.0088 0.0073 Jupiter 51541-02-01 06:00 G 20546054.56 20546054.75 20546054.94 0.0508 0.0293 Saturn 51542-07-17 23:31 G 20546586.30 20546586.48 20546586.66 0.0263 0.0180 Jupiter 51547-08-14 02:24 G 20548439.38 20548439.60 20548439.82 0.0522 0.0179 Uranus 51548-03-05 10:19 G 20548643.72 20548643.93 20548644.17 0.0144 0.0068 Uranus 51549-03-10 12:14 G 20549013.76 20549014.01 20549014.27 0.0144 0.0012 Uranus 51550-03-15 13:55 G 20549383.90 20549384.08 20549384.29 0.0144 0.0092 Jupiter 51553-02-05 21:50 G 20550442.17 20550442.41 20550442.64 0.0506 0.0062 Saturn 51556-01-04 03:22 G 20551504.62 20551504.64 20551504.68 0.0299 0.0296 Jupiter 51559-08-19 00:58 G 20552827.42 20552827.54 20552827.67 0.0523 0.0437 Jupiter 51565-02-10 13:12 G 20554829.83 20554830.05 20554830.28 0.0505 0.0170 Saturn 51571-07-13 05:46 G 20557173.50 20557173.74 20557173.99 0.0262 0.0030 Jupiter 51577-02-15 02:53 G 20559217.48 20559217.62 20559217.77 0.0503 0.0395 Saturn 51586-01-12 00:00 G 20562470.27 20562470.50 20562470.73 0.0299 0.0100 Uranus 51588-09-01 19:55 G 20563434.19 20563434.33 20563434.50 0.0134 0.0106 Uranus 51589-09-06 02:38 G 20563803.38 20563803.61 20563803.86 0.0134 0.0043 Uranus 51590-09-10 09:07 G 20564172.63 20564172.88 20564173.13 0.0134 0.0020 Uranus 51591-09-14 15:22 G 20564541.94 20564542.14 20564542.34 0.0134 0.0082 Mars 51595-12-09 08:10 G 20566088.66 20566088.84 20566089.03 0.1800 0.0581 Saturn 51600-07-07 19:26 G 20567761.19 20567761.31 20567761.44 0.0262 0.0224 Saturn 51601-07-19 05:17 G 20568137.64 20568137.72 20568137.83 0.0263 0.0242 Jupiter 51606-08-03 15:07 G 20569978.97 20569979.13 20569979.30 0.0518 0.0360 Saturn 51615-01-05 18:29 G 20573056.10 20573056.27 20573056.45 0.0299 0.0208 Neptune 51618-07-31 18:58 G 20574359.13 20574359.29 20574359.48 0.0089 0.0064 Jupiter 51618-08-08 11:17 G 20574366.75 20574366.97 20574367.20 0.0520 0.0112 Neptune 51619-08-03 06:00 G 20574726.53 20574726.75 20574727.00 0.0089 0.0036 Neptune 51620-08-04 17:31 G 20575093.98 20575094.23 20575094.50 0.0089 0.0007 Neptune 51621-08-07 04:48 G 20575461.45 20575461.70 20575461.95 0.0089 0.0022

Neptune 51622-08-09 15:50 G 20575828.96 20575829.16 20575829.38 0.0089 0.0051 Neptune 51623-08-12 02:38 G 20576196.52 20576196.61 20576196.74 0.0089 0.0080 Jupiter 51624-02-01 07:26 G 20576369.64 20576369.81 20576369.99 0.0508 0.0337 Saturn 51630-07-14 12:43 G 20578724.79 20578725.03 20578725.28 0.0263 0.0032 Jupiter 51630-08-13 07:26 G 20578754.59 20578754.81 20578755.03 0.0521 0.0142 Uranus 51631-03-01 17:02 G 20578955.21 20578955.21 20578955.24 0.0144 0.0144 Uranus 51632-03-05 18:29 G 20579325.05 20579325.27 20579325.51 0.0144 0.0065 Uranus 51633-03-10 20:24 G 20579695.10 20579695.35 20579695.61 0.0144 0.0015 Uranus 51634-03-15 21:50 G 20580065.24 20580065.41 20580065.62 0.0144 0.0095 Jupiter 51636-02-05 22:19 G 20580757.20 20580757.43 20580757.66 0.0507 0.0105 Pluto 51640-11-28 07:12 G 20582514.55 20582514.80 20582515.06 0.0066 0.0006 Jupiter 51642-08-18 02:10 G 20583142.44 20583142.59 20583142.74 0.0523 0.0393 Saturn 51645-01-13 16:19 G 20584022.00 20584022.18 20584022.37 0.0298 0.0190 Jupiter 51648-02-10 14:53 G 20585144.90 20585145.12 20585145.35 0.0506 0.0132 Saturn 51659-07-10 02:53 G 20589312.44 20589312.62 20589312.83 0.0263 0.0161 Jupiter 51660-02-15 07:26 G 20589532.65 20589532.81 20589532.98 0.0504 0.0361 Uranus 51672-09-02 04:05 G 20594115.53 20594115.67 20594115.85 0.0135 0.0103 Uranus 51673-09-06 11:02 G 20594484.73 20594484.96 20594485.21 0.0134 0.0040 Saturn 51674-01-07 13:41 G 20594607.84 20594608.07 20594608.29 0.0299 0.0112 Uranus 51674-09-10 17:31 G 20594853.99 20594854.23 20594854.49 0.0134 0.0023 Uranus 51675-09-14 23:46 G 20595223.30 20595223.49 20595223.69 0.0134 0.0085 Saturn 51689-07-15 21:36 G 20600276.17 20600276.40 20600276.63 0.0263 0.0098 Jupiter 51689-08-02 18:43 G 20600294.13 20600294.28 20600294.42 0.0517 0.0402 Neptune 51699-01-27 09:22 G 20603758.82 20603758.89 20603758.98 0.0088 0.0084 Neptune 51700-01-29 21:22 G 20604126.21 20604126.39 20604126.61 0.0088 0.0056 Neptune 51701-02-01 09:22 G 20604493.66 20604493.89 20604494.15 0.0088 0.0027 Jupiter 51701-08-08 12:14 G 20604681.79 20604682.01 20604682.23 0.0519 0.0158 Neptune 51702-02-03 21:50 G 20604861.15 20604861.41 20604861.67 0.0088 0.0002 Neptune 51703-02-06 09:36 G 20605228.67 20605228.90 20605229.16 0.0088 0.0031 Saturn 51704-01-17 11:31 G 20605573.92 20605573.98 20605574.05 0.0298 0.0286

Neptune 51704-02-08 21:50 G 20605596.23 20605596.41 20605596.61 0.0088 0.0060 Jupiter 51707-02-01 06:14 G 20606684.61 20606684.76 20606684.92 0.0509 0.0385 Jupiter 51713-08-13 02:38 G 20609069.38 20609069.61 20609069.84 0.0520 0.0082 Uranus 51715-03-03 02:53 G 20609636.58 20609636.62 20609636.71 0.0144 0.0139 Uranus 51716-03-07 04:48 G 20610006.47 20610006.70 20610006.94 0.0144 0.0060 Uranus 51717-03-12 06:29 G 20610376.52 20610376.77 20610377.03 0.0144 0.0019 Uranus 51718-03-17 08:38 G 20610746.67 20610746.86 20610747.04 0.0144 0.0099 Saturn 51718-07-12 12:00 G 20610863.78 20610864.00 20610864.23 0.0263 0.0095 Jupiter 51719-02-05 23:17 G 20611072.25 20611072.47 20611072.70 0.0508 0.0150 Jupiter 51725-08-17 21:07 G 20613457.21 20613457.38 20613457.56 0.0522 0.0333 Pluto 51728-06-03 07:26 G 20614477.69 20614477.81 20614477.99 0.0078 0.0063 Jupiter 51731-02-10 14:38 G 20615459.88 20615460.11 20615460.35 0.0506 0.0083 Saturn 51733-01-10 11:46 G 20616159.75 20616159.99 20616160.24 0.0299 0.0011 Jupiter 51743-02-15 06:00 G 20619847.57 20619847.75 20619847.94 0.0504 0.0313 Saturn 51748-07-18 06:58 G 20621827.62 20621827.79 20621827.99 0.0263 0.0166 Uranus 51756-09-03 12:14 G 20624796.84 20624797.01 20624797.17 0.0134 0.0100 Uranus 51757-09-07 18:43 G 20625166.05 20625166.28 20625166.53 0.0134 0.0037 Uranus 51758-09-12 01:26 G 20625535.31 20625535.56 20625535.81 0.0134 0.0025 Uranus 51759-09-16 07:26 G 20625904.64 20625904.81 20625905.02 0.0134 0.0088 Jupiter 51772-08-02 15:22 G 20630609.04 20630609.14 20630609.24 0.0516 0.0459 51775-06-12 08:10 G 20631652.67 20631652.84 20631653.02 0.1736 0.0627 Mars Saturn 51777-07-13 21:36 G 20632415.16 20632415.40 20632415.65 0.0263 0.0028 Neptune 51782-08-01 06:00 G 20634259.64 20634259.75 20634259.88 0.0089 0.0078 Neptune 51783-08-03 17:31 G 20634627.03 20634627.23 20634627.45 0.0089 0.0049 Neptune 51784-08-05 04:48 G 20634994.45 20634994.70 20634994.95 0.0089 0.0020 Jupiter 51784-08-07 07:41 G 20634996.62 20634996.82 20634997.04 0.0518 0.0218 Neptune 51785-08-07 16:05 G 20635361.92 20635362.17 20635362.43 0.0089 0.0009 Neptune 51786-08-10 03:07 G 20635729.42 20635729.63 20635729.88 0.0089 0.0038 Neptune 51787-08-12 14:10 G 20636096.95 20636097.09 20636097.28 0.0089 0.0067 Jupiter 51790-01-31 04:34 G 20636999.58 20636999.69 20636999.82 0.0510 0.0440

Saturn 51792-01-13 09:36 G 20637711.67 20637711.90 20637712.14 0.0298 0.0092 Jupiter 51796-08-12 02:10 G 20639384.36 20639384.59 20639384.83 0.0520 0.0032 Uranus 51799-03-03 13:41 G 20640317.99 20640318.07 20640318.18 0.0144 0.0134 Uranus 51800-03-08 15:22 G 20640687.91 20640688.14 20640688.38 0.0144 0.0055 Uranus 51801-03-13 17:17 G 20641057.96 20641058.22 20641058.47 0.0144 0.0024 Jupiter 51802-02-05 22:19 G 20641387.22 20641387.43 20641387.65 0.0508 0.0199 Uranus 51802-03-18 19:12 G 20641428.13 20641428.30 20641428.48 0.0144 0.0103 Saturn 51806-07-10 06:29 G 20643002.67 20643002.77 20643002.89 0.0262 0.0233 Saturn 51807-07-21 16:34 G 20643379.10 20643379.19 20643379.32 0.0263 0.0234 Jupiter 51808-08-17 22:34 G 20643772.25 20643772.44 20643772.64 0.0522 0.0289 Jupiter 51814-02-10 12:43 G 20645774.80 20645775.03 20645775.27 0.0506 0.0035 Saturn 51821-01-07 03:22 G 20648297.48 20648297.64 20648297.81 0.0299 0.0223 Jupiter 51826-02-15 04:19 G 20650162.49 20650162.68 20650162.89 0.0505 0.0267 Saturn 51836-07-16 06:29 G 20653966.53 20653966.77 20653967.01 0.0263 0.0037 Jupiter 51838-02-19 19:26 G 20654550.27 20654550.31 20654550.36 0.0504 0.0494 Uranus 51840-09-04 20:53 G 20655478.21 20655478.37 20655478.56 0.0134 0.0097 Uranus 51841-09-09 03:36 G 20655847.42 20655847.65 20655847.90 0.0134 0.0034 Uranus 51842-09-13 10:34 G 20656216.69 20656216.94 20656217.19 0.0134 0.0029 Uranus 51843-09-17 16:34 G 20656586.02 20656586.19 20656586.39 0.0134 0.0091 Saturn 51851-01-16 06:00 G 20659263.57 20659263.75 20659263.95 0.0298 0.0190 Jupiter 51855-08-03 14:10 G 20660924.07 20660924.09 20660924.13 0.0516 0.0511 Neptune 51864-01-31 07:41 G 20664026.67 20664026.82 20664026.99 0.0088 0.0069 Neptune 51865-02-01 19:41 G 20664394.11 20664394.32 20664394.57 0.0088 0.0041 Saturn 51865-07-11 15:36 G 20664553.96 20664554.15 20664554.34 0.0262 0.0168 Neptune 51866-02-04 07:55 G 20664761.58 20664761.83 20664762.09 0.0088 0.0011 Neptune 51867-02-06 20:10 G 20665129.09 20665129.34 20665129.60 0.0088 0.0018 Jupiter 51867-08-08 09:22 G 20665311.70 20665311.89 20665312.09 0.0518 0.0263 Neptune 51868-02-09 07:55 G 20665496.62 20665496.83 20665497.06 0.0088 0.0046 Neptune 51869-02-10 19:26 G 20665864.20 20665864.31 20665864.47 0.0088 0.0075 Jupiter 51873-01-31 03:50 G 20667314.61 20667314.66 20667314.74 0.0510 0.0487

Jupiter 51879-08-13 04:19 G 20669699.45 20669699.68 20669699.91 0.0520 0.0013 51879-12-11 14:24 G 20669819.91 20669820.10 20669820.28 0.1792 0.0470 Mars Saturn 51880-01-09 21:22 G 20669849.17 20669849.39 20669849.61 0.0299 0.0129 Uranus 51883-03-04 23:46 G 20670999.39 20670999.49 20670999.61 0.0144 0.0129 Uranus 51884-03-09 01:26 G 20671369.33 20671369.56 20671369.81 0.0144 0.0051 Jupiter 51885-02-04 20:38 G 20671702.16 20671702.36 20671702.57 0.0508 0.0248 Uranus 51885-03-14 03:22 G 20671739.39 20671739.64 20671739.90 0.0144 0.0029 Uranus 51886-03-19 05:17 G 20672109.57 20672109.72 20672109.91 0.0144 0.0108 Pluto 51886-12-02 00:58 G 20672367.32 20672367.54 20672367.79 0.0066 0.0027 Jupiter 51891-08-17 21:07 G 20674087.17 20674087.38 20674087.58 0.0521 0.0235 Saturn 51895-07-18 13:41 G 20675517.84 20675518.07 20675518.29 0.0263 0.0099 Jupiter 51897-02-09 12:58 G 20676089.81 20676090.04 20676090.28 0.0507 0.0015 Jupiter 51903-08-23 15:36 G 20678475.07 20678475.15 20678475.23 0.0522 0.0487 Jupiter 51909-02-15 05:02 G 20680477.50 20680477.71 20680477.92 0.0505 0.0222 Saturn 51910-01-18 22:48 G 20680815.38 20680815.45 20680815.55 0.0298 0.0280 Jupiter 51921-02-19 21:50 G 20684865.31 20684865.41 20684865.51 0.0504 0.0455 Saturn 51924-07-13 22:19 G 20686105.21 20686105.43 20686105.66 0.0262 0.0108 Uranus 51924-09-06 06:14 G 20686159.58 20686159.76 20686159.93 0.0134 0.0094 Uranus 51925-09-10 12:43 G 20686528.79 20686529.03 20686529.28 0.0134 0.0031 Uranus 51926-09-14 19:26 G 20686898.06 20686898.31 20686898.55 0.0134 0.0031 Uranus 51927-09-19 01:41 G 20687267.40 20687267.57 20687267.76 0.0134 0.0093 Saturn 51939-01-12 11:17 G 20691400.73 20691400.97 20691401.22 0.0299 0.0045 Neptune 51947-08-05 04:19 G 20694527.51 20694527.68 20694527.87 0.0089 0.0063 Neptune 51948-08-06 15:50 G 20694894.93 20694895.16 20694895.40 0.0089 0.0034 Neptune 51949-08-09 03:07 G 20695262.38 20695262.63 20695262.89 0.0089 0.0005 Jupiter 51950-08-08 11:31 G 20695626.80 20695626.98 20695627.17 0.0517 0.0308 Neptune 51950-08-11 14:10 G 20695629.86 20695630.09 20695630.35 0.0089 0.0024 Neptune 51951-08-14 01:26 G 20695997.37 20695997.56 20695997.78 0.0089 0.0053 Neptune 51952-08-15 12:29 G 20696364.95 20696365.02 20696365.15 0.0089 0.0082 Saturn 51954-07-20 18:43 G 20697069.09 20697069.28 20697069.48 0.0263 0.0157

Jupiter 51962-08-13 05:02 G 20700014.48 20700014.71 20700014.94 0.0519 0.0061

Uranus 51967-03-06 07:55 G 20701680.73 20701680.83 20701680.97 0.0144 0.0127

Jupiter 51968-02-05 23:31 G 20702017.28 20702017.48 20702017.67 0.0509 0.0290

Uranus 51968-03-10 09:50 G 20702050.68 20702050.91 20702051.16 0.0144 0.0048

Uranus 51969-03-15 12:00 G 20702420.76 20702421.00 20702421.26 0.0144 0.0031

Uranus 51970-03-20 14:24 G 20702790.94 20702791.10 20702791.27 0.0144 0.0110

Pluto 51974-06-07 00:29 G 20704330.30 20704330.52 20704330.77 0.0078 0.0034

Jupiter 51974-08-17 21:50 G 20704402.20 20704402.41 20704402.63 0.0521 0.0190

Jupiter 51980-02-10 18:14 G 20706405.03 20706405.26 20706405.50 0.0507 0.0046

Saturn 51983-07-16 03:07 G 20707656.39 20707656.63 20707656.87 0.0262 0.0051

Jupiter 51992-02-15 09:22 G 20710792.68 20710792.89 20710793.11 0.0505 0.0188

Saturn 51998-01-13 20:10 G 20712952.09 20712952.34 20712952.58 0.0299 0.0030

# 53RD MILLENNIUM CE

### This is a list of transits of Earth in the 53rd millennium CE.

FROM MAX- C START MAX END SUNRAD DEPTH S
TRANSIT

 Jupiter
 52004-02-20 00:58 G
 20715180.41
 20715180.54
 20715180.67
 0.0504
 0.0420

 Uranus
 52008-09-06 15:50 G
 20716840.98
 20716841.16
 20716841.35
 0.0134
 0.0091

 Uranus
 52009-09-10 22:34 G
 20717210.20
 20717210.44
 20717210.69
 0.0134
 0.0028

 Uranus
 52010-09-15 05:17 G
 20717579.48
 20717579.72
 20717579.97
 0.0134
 0.0034

 Uranus
 52011-09-19 11:31 G
 20717948.82
 20717948.98
 20717949.16
 0.0134
 0.0096

 Saturn
 52012-07-10 12:00 G
 20718243.95
 20718244.00
 20718244.06
 0.0262
 0.0255

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Uranus 52179-09-21 04:48 G 20779311.56 20779311.70 20779311.89 0.0134 0.0101 Saturn 52189-07-15 08:38 G 20782896.64 20782896.86 20782897.08 0.0261 0.0118 Neptune 52193-02-02 15:36 G 20784195.00 20784195.15 20784195.34 0.0088 0.0068 Neptune 52194-02-05 04:05 G 20784562.45 20784562.67 20784562.91 0.0088 0.0039 Neptune 52195-02-07 16:19 G 20784929.93 20784930.18 20784930.44 0.0088 0.0010 Neptune 52196-02-10 04:19 G 20785297.44 20785297.68 20785297.94 0.0088 0.0020 Neptune 52197-02-11 16:05 G 20785664.98 20785665.17 20785665.41 0.0088 0.0049 Neptune 52198-02-14 04:05 G 20786032.57 20786032.67 20786032.82 0.0088 0.0078 Jupiter 52199-08-08 09:07 G 20786572.74 20786572.88 20786573.03 0.0517 0.0404 Saturn 52204-01-13 10:05 G 20788190.70 20788190.92 20788191.14 0.0299 0.0127 Jupiter 52211-08-13 23:17 G 20790960.25 20790960.47 20790960.69 0.0518 0.0162 Jupiter 52217-02-06 03:50 G 20792963.50 20792963.66 20792963.83 0.0510 0.0366 Uranus 52219-03-09 06:14 G 20793724.65 20793724.76 20793724.93 0.0144 0.0120 Saturn 52219-07-23 01:26 G 20793860.35 20793860.56 20793860.77 0.0262 0.0139 Uranus 52220-03-13 08:24 G 20794094.61 20794094.85 20794095.10 0.0144 0.0042 Pluto 52220-06-09 20:38 G 20794183.11 20794183.36 20794183.62 0.0078 0.0017 Uranus 52221-03-18 10:19 G 20794464.68 20794464.93 20794465.18 0.0144 0.0037 Uranus 52222-03-23 11:46 G 20794834.86 20794834.99 20794835.17 0.0144 0.0116 Jupiter 52223-08-18 20:10 G 20795348.12 20795348.34 20795348.57 0.0520 0.0099 Jupiter 52229-02-10 21:22 G 20797351.16 20797351.39 20797351.62 0.0508 0.0123 Saturn 52234-01-20 16:34 G 20799156.05 20799156.19 20799156.32 0.0299 0.0248 Jupiter 52235-08-23 18:58 G 20799736.13 20799736.29 20799736.46 0.0522 0.0363 Jupiter 52241-02-15 14:10 G 20801738.86 20801739.09 20801739.32 0.0506 0.0117 Saturn 52248-07-17 05:17 G 20804447.49 20804447.72 20804447.96 0.0262 0.0075 Jupiter 52253-02-20 05:17 G 20806126.56 20806126.72 20806126.89 0.0505 0.0353 Uranus 52260-09-09 16:48 G 20808885.02 20808885.20 20808885.41 0.0134 0.0084 Uranus 52261-09-14 00:00 G 20809254.25 20809254.50 20809254.75 0.0134 0.0021 Uranus 52262-09-18 06:29 G 20809623.54 20809623.77 20809624.02 0.0134 0.0042 Saturn 52263-01-14 05:17 G 20809741.48 20809741.72 20809741.96 0.0299 0.0080 Uranus 52263-09-22 12:29 G 20809992.88 20809993.02 20809993.20 0.0134 0.0104

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Neptune 52358-02-06 13:41 G 20844462.88 20844463.07 20844463.30 0.0088 0.0053 Neptune 52359-02-09 02:10 G 20844830.35 20844830.59 20844830.85 0.0088 0.0024 Neptune 52360-02-11 14:38 G 20845197.85 20845198.11 20845198.37 0.0088 0.0006 Neptune 52361-02-13 02:53 G 20845565.38 20845565.62 20845565.86 0.0088 0.0035 Neptune 52362-02-15 14:38 G 20845932.94 20845933.11 20845933.30 0.0088 0.0064 Jupiter 52365-08-09 02:38 G 20847203.51 20847203.61 20847203.71 0.0516 0.0463 Saturn 52366-07-21 00:43 G 20847549.28 20847549.53 20847549.77 0.0262 0.0015 Jupiter 52377-08-13 20:24 G 20851591.14 20851591.35 20851591.56 0.0518 0.0212 52378-12-08 19:26 G 20852073.13 20852073.31 20852073.51 0.0066 0.0045 Pluto 52379-12-10 09:07 G 20852439.75 20852439.88 20852440.05 0.0067 0.0054 Pluto Saturn 52381-01-17 01:55 G 20852843.34 20852843.58 20852843.83 0.0299 0.0029 Jupiter 52383-02-06 21:50 G 20853594.28 20853594.41 20853594.55 0.0511 0.0421 Uranus 52387-03-11 02:53 G 20855087.47 20855087.62 20855087.80 0.0144 0.0110 Uranus 52388-03-15 04:48 G 20855457.45 20855457.70 20855457.95 0.0144 0.0032 Uranus 52389-03-20 06:29 G 20855827.53 20855827.77 20855828.02 0.0144 0.0046 Jupiter 52389-08-18 10:05 G 20855978.68 20855978.92 20855979.15 0.0519 0.0033 Uranus 52390-03-25 08:10 G 20856197.72 20856197.84 20856197.98 0.0144 0.0124 Jupiter 52395-02-11 17:46 G 20857982.02 20857982.24 20857982.46 0.0509 0.0171 Saturn 52395-07-16 11:31 G 20858136.80 20858136.98 20858137.15 0.0262 0.0185 Jupiter 52401-08-23 06:00 G 20860366.57 20860366.75 20860366.95 0.0521 0.0294 Jupiter 52407-02-16 10:34 G 20862369.71 20862369.94 20862370.18 0.0507 0.0071 Saturn 52410-01-10 12:14 G 20863429.00 20863429.01 20863429.03 0.0299 0.0299 Jupiter 52419-02-21 02:24 G 20866757.42 20866757.60 20866757.79 0.0505 0.0311 Saturn 52425-07-22 00:58 G 20869100.30 20869100.54 20869100.77 0.0262 0.0065 Uranus 52428-09-11 10:19 G 20870247.74 20870247.93 20870248.15 0.0134 0.0078 Uranus 52429-09-15 17:17 G 20870616.98 20870617.22 20870617.48 0.0134 0.0015 Uranus 52430-09-19 23:46 G 20870986.26 20870986.49 20870986.74 0.0134 0.0047 Uranus 52431-09-24 05:46 G 20871355.61 20871355.74 20871355.90 0.0134 0.0108 Saturn 52440-01-19 06:14 G 20874394.54 20874394.76 20874395.00 0.0299 0.0096 Neptune 52440-08-08 01:26 G 20874596.46 20874596.56 20874596.72 0.0089 0.0076

Neptune 52441-08-10 12:29 G 20874963.83 20874964.02 20874964.26 0.0089 0.0047 Neptune 52442-08-13 00:00 G 20875331.26 20875331.50 20875331.77 0.0089 0.0018 Neptune 52443-08-15 11:17 G 20875698.72 20875698.97 20875699.23 0.0089 0.0012 Neptune 52444-08-16 22:05 G 20876066.21 20876066.42 20876066.67 0.0089 0.0041 Neptune 52445-08-19 09:07 G 20876433.75 20876433.88 20876434.06 0.0089 0.0070 Mars 52447-12-16 06:58 G 20877282.60 20877282.79 20877282.97 0.1775 0.0479 Jupiter 52448-08-08 03:36 G 20877518.63 20877518.65 20877518.68 0.0515 0.0511 Saturn 52454-07-17 12:29 G 20879687.82 20879688.02 20879688.25 0.0262 0.0134 Jupiter 52460-08-12 21:36 G 20881906.20 20881906.40 20881906.60 0.0517 0.0260 Jupiter 52466-02-06 05:17 G 20883909.62 20883909.72 20883909.82 0.0511 0.0456 Pluto 52466-06-12 17:46 G 20884035.98 20884036.24 20884036.50 0.0078 0.0006 Saturn 52469-01-11 20:10 G 20884980.18 20884980.34 20884980.51 0.0299 0.0224 Uranus 52471-03-11 12:58 G 20885768.87 20885769.04 20885769.21 0.0144 0.0106 Uranus 52472-03-15 14:38 G 20886138.86 20886139.11 20886139.36 0.0144 0.0028 Jupiter 52472-08-17 18:00 G 20886294.02 20886294.25 20886294.48 0.0519 0.0006 Uranus 52473-03-20 16:05 G 20886508.94 20886509.17 20886509.42 0.0144 0.0050 Uranus 52474-03-25 18:14 G 20886879.16 20886879.26 20886879.38 0.0144 0.0128 Jupiter 52478-02-10 22:48 G 20888297.24 20888297.45 20888297.67 0.0509 0.0209 Saturn 52484-07-23 03:36 G 20890651.43 20890651.65 20890651.87 0.0262 0.0121 Jupiter 52484-08-22 14:10 G 20890681.89 20890682.09 20890682.29 0.0521 0.0262 Jupiter 52490-02-15 13:55 G 20892684.85 20892685.08 20892685.32 0.0508 0.0033 Jupiter 52496-08-27 08:53 G 20895069.87 20895069.87 20895069.88 0.0522 0.0522 Saturn 52499-01-20 15:50 G 20895945.96 20895946.16 20895946.36 0.0299 0.0173 Jupiter 52502-02-21 07:26 G 20897072.62 20897072.81 20897073.01 0.0506 0.0279 Uranus 52512-09-12 20:38 G 20900929.16 20900929.36 20900929.58 0.0134 0.0074 Saturn 52513-07-19 16:34 G 20901238.96 20901239.19 20901239.43 0.0263 0.0075 Uranus 52513-09-17 03:22 G 20901298.39 20901298.64 20901298.89 0.0134 0.0012 Uranus 52514-09-21 09:36 G 20901667.68 20901667.90 20901668.14 0.0134 0.0050 Uranus 52515-09-25 15:36 G 20902037.03 20902037.15 20902037.30 0.0134 0.0111 Neptune 52522-02-06 23:17 G 20904363.32 20904363.47 20904363.66 0.0088 0.0067

Neptune 52523-02-09 11:17 G 20904730.75 20904730.97 20904731.22 0.0088 0.0038 Neptune 52524-02-11 23:46 G 20905098.24 20905098.49 20905098.76 0.0088 0.0009 Neptune 52525-02-13 12:00 G 20905465.75 20905466.00 20905466.26 0.0088 0.0021 Neptune 52526-02-16 00:00 G 20905833.30 20905833.50 20905833.72 0.0088 0.0050 Neptune 52527-02-18 12:14 G 20906200.90 20906201.01 20906201.13 0.0088 0.0079 Saturn 52528-01-15 09:50 G 20906531.69 20906531.91 20906532.12 0.0299 0.0138 Saturn 52543-07-26 09:07 G 20912202.70 20912202.88 20912203.05 0.0263 0.0181 Jupiter 52543-08-14 03:36 G 20912221.46 20912221.65 20912221.84 0.0517 0.0297 Jupiter 52549-02-06 06:00 G 20914224.71 20914224.75 20914224.79 0.0511 0.0502 Uranus 52555-03-12 20:38 G 20916450.20 20916450.36 20916450.55 0.0144 0.0104 Jupiter 52555-08-18 21:07 G 20916609.15 20916609.38 20916609.61 0.0518 0.0042 Uranus 52556-03-16 22:34 G 20916820.19 20916820.44 20916820.70 0.0144 0.0026 Uranus 52557-03-22 00:29 G 20917190.28 20917190.52 20917190.76 0.0144 0.0052 Saturn 52558-01-23 05:46 G 20917497.63 20917497.74 20917497.87 0.0298 0.0260 Uranus 52558-03-27 02:38 G 20917560.50 20917560.61 20917560.72 0.0144 0.0131 Jupiter 52561-02-11 00:14 G 20918612.31 20918612.51 20918612.71 0.0510 0.0253 Jupiter 52567-08-23 10:48 G 20920996.74 20920996.95 20920997.17 0.0520 0.0204 Saturn 52572-07-20 23:02 G 20922790.21 20922790.46 20922790.70 0.0263 0.0014 Jupiter 52573-02-15 18:14 G 20923000.02 20923000.26 20923000.50 0.0508 0.0007 Jupiter 52579-08-28 05:46 G 20925384.64 20925384.74 20925384.85 0.0522 0.0465 Jupiter 52585-02-20 09:50 G 20927387.71 20927387.91 20927388.12 0.0506 0.0235 Saturn 52587-01-17 03:22 G 20928083.40 20928083.64 20928083.88 0.0299 0.0044 Uranus 52595-09-09 23:31 G 20931241.46 20931241.48 20931241.54 0.0135 0.0133 Uranus 52596-09-13 06:29 G 20931610.57 20931610.77 20931610.99 0.0134 0.0071 Jupiter 52597-02-25 01:26 G 20931775.49 20931775.56 20931775.64 0.0505 0.0474 Uranus 52597-09-17 13:12 G 20931979.80 20931980.05 20931980.30 0.0134 0.0009 Uranus 52598-09-21 19:26 G 20932349.08 20932349.31 20932349.55 0.0134 0.0053 Uranus 52599-09-26 00:58 G 20932718.43 20932718.54 20932718.69 0.0134 0.0114 Saturn 52601-07-17 05:46 G 20933377.63 20933377.74 20933377.88 0.0262 0.0224 Saturn 52602-07-28 16:34 G 20933754.12 20933754.19 20933754.28 0.0263 0.0246

Neptune 52605-08-11 23:31 G 20934864.32 20934864.48 20934864.69 0.0089 0.0061 Neptune 52606-08-14 10:48 G 20935231.73 20935231.95 20935232.21 0.0089 0.0032 Neptune 52607-08-16 22:19 G 20935599.18 20935599.43 20935599.69 0.0089 0.0003 Neptune 52608-08-18 09:22 G 20935966.66 20935966.89 20935967.14 0.0089 0.0027 Neptune 52609-08-20 20:24 G 20936334.17 20936334.35 20936334.56 0.0089 0.0056 Neptune 52610-08-23 07:41 G 20936701.76 20936701.82 20936701.90 0.0089 0.0085 52624-12-11 20:38 G 20941926.18 20941926.36 20941926.59 0.0066 0.0042 Pluto Pluto 52625-12-13 10:05 G 20942292.83 20942292.92 20942293.09 0.0067 0.0058 Jupiter 52626-08-14 00:58 G 20942536.38 20942536.54 20942536.71 0.0515 0.0355 52627-06-20 17:02 G 20942847.02 20942847.21 20942847.40 0.1760 0.0218 Mars Saturn 52631-07-24 07:12 G 20944341.56 20944341.80 20944342.04 0.0263 0.0052 Jupiter 52638-08-18 17:31 G 20946924.00 20946924.23 20946924.46 0.0517 0.0103 Uranus 52639-03-14 04:05 G 20947131.50 20947131.67 20947131.85 0.0144 0.0102 Uranus 52640-03-18 05:46 G 20947501.49 20947501.74 20947502.00 0.0144 0.0024 Uranus 52641-03-23 07:12 G 20947871.58 20947871.80 20947872.05 0.0144 0.0055 Uranus 52642-03-28 09:36 G 20948241.81 20948241.90 20948242.01 0.0144 0.0132 Jupiter 52644-02-12 00:14 G 20948927.33 20948927.51 20948927.70 0.0510 0.0305 Saturn 52646-01-20 00:14 G 20949635.28 20949635.51 20949635.76 0.0298 0.0057 Jupiter 52650-08-23 12:00 G 20951311.79 20951312.00 20951312.23 0.0520 0.0156 Jupiter 52656-02-16 18:00 G 20953315.01 20953315.25 20953315.48 0.0508 0.0056 Saturn 52660-07-18 15:07 G 20954928.94 20954929.13 20954929.33 0.0262 0.0157 Jupiter 52662-08-28 08:10 G 20955699.71 20955699.84 20955699.98 0.0521 0.0421 Jupiter 52668-02-21 08:24 G 20957702.63 20957702.85 20957703.07 0.0507 0.0186 Saturn 52675-01-13 18:58 G 20960221.17 20960221.29 20960221.42 0.0299 0.0258 Uranus 52679-09-11 09:36 G 20961922.84 20961922.90 20961922.98 0.0135 0.0129 Jupiter 52680-02-26 00:14 G 20962090.40 20962090.51 20962090.64 0.0506 0.0429 Uranus 52680-09-14 16:19 G 20962291.98 20962292.18 20962292.42 0.0134 0.0068 Uranus 52681-09-18 23:17 G 20962661.22 20962661.47 20962661.72 0.0134 0.0006 Uranus 52682-09-23 05:02 G 20963030.50 20963030.71 20963030.96 0.0134 0.0057 Uranus 52683-09-27 11:02 G 20963399.86 20963399.96 20963400.10 0.0134 0.0117

Neptune 52686-02-07 08:38 G 20964263.78 20964263.86 20964263.99 0.0089 0.0081 Neptune 52687-02-09 21:07 G 20964631.18 20964631.38 20964631.60 0.0088 0.0052 Neptune 52688-02-12 09:07 G 20964998.64 20964998.88 20964999.14 0.0088 0.0023 Neptune 52689-02-13 21:22 G 20965366.13 20965366.39 20965366.65 0.0088 0.0007 Neptune 52690-02-16 09:22 G 20965733.66 20965733.89 20965734.13 0.0088 0.0036 Saturn 52690-07-25 16:19 G 20965892.97 20965893.18 20965893.41 0.0263 0.0119 Neptune 52691-02-18 21:22 G 20966101.23 20966101.39 20966101.58 0.0088 0.0065 Saturn 52705-01-22 22:19 G 20971187.22 20971187.43 20971187.64 0.0298 0.0158 Jupiter 52709-08-14 00:29 G 20972851.38 20972851.52 20972851.66 0.0516 0.0407 Pluto 52712-06-16 18:58 G 20973889.04 20973889.29 20973889.55 0.0078 0.0010 Saturn 52719-07-22 01:12 G 20976480.32 20976480.55 20976480.79 0.0262 0.0090 Jupiter 52721-08-18 18:58 G 20977239.07 20977239.29 20977239.52 0.0517 0.0151 Uranus 52723-03-15 11:17 G 20977812.81 20977812.97 20977813.17 0.0144 0.0100 Uranus 52724-03-19 13:12 G 20978182.80 20978183.05 20978183.31 0.0144 0.0022 Uranus 52725-03-24 14:53 G 20978552.89 20978553.12 20978553.37 0.0144 0.0057 Uranus 52726-03-29 17:02 G 20978923.14 20978923.21 20978923.32 0.0144 0.0135 Jupiter 52727-02-11 22:05 G 20979242.26 20979242.42 20979242.60 0.0511 0.0358 52731-12-19 16:34 G 20981014.01 20981014.19 20981014.37 0.1767 0.0557 Mars Jupiter 52733-08-23 12:58 G 20981626.82 20981627.04 20981627.27 0.0519 0.0109 Saturn 52734-01-16 16:05 G 20981772.97 20981773.17 20981773.38 0.0299 0.0158 Jupiter 52739-02-16 15:07 G 20983629.90 20983630.13 20983630.36 0.0509 0.0109 Jupiter 52745-08-28 04:48 G 20986014.54 20986014.70 20986014.87 0.0520 0.0361 Saturn 52749-07-28 01:26 G 20987444.40 20987444.56 20987444.75 0.0263 0.0186 Jupiter 52751-02-21 07:26 G 20988017.59 20988017.81 20988018.04 0.0508 0.0136 Jupiter 52763-02-25 23:17 G 20992405.33 20992405.47 20992405.63 0.0506 0.0379 Uranus 52763-09-12 18:29 G 20992604.20 20992604.27 20992604.38 0.0135 0.0126 Saturn 52764-01-25 18:58 G 20992739.16 20992739.29 20992739.41 0.0298 0.0256 Uranus 52764-09-16 01:26 G 20992973.35 20992973.56 20992973.80 0.0134 0.0064 Uranus 52765-09-20 08:10 G 20993342.59 20993342.84 20993343.10 0.0134 0.0003 Uranus 52766-09-24 14:10 G 20993711.88 20993712.09 20993712.33 0.0134 0.0060

Uranus 52767-09-28 20:10 G 20994081.25 20994081.34 20994081.47 0.0134 0.0120 Neptune 52769-08-12 09:36 G 20994764.78 20994764.90 20994765.05 0.0089 0.0075 Neptune 52770-08-14 20:53 G 20995132.17 20995132.37 20995132.61 0.0089 0.0046 Neptune 52771-08-17 08:24 G 20995499.60 20995499.85 20995500.11 0.0089 0.0017 Neptune 52772-08-18 19:26 G 20995867.07 20995867.31 20995867.58 0.0089 0.0013 Neptune 52773-08-21 06:29 G 20996234.56 20996234.77 20996235.01 0.0089 0.0042 Neptune 52774-08-23 17:31 G 20996602.10 20996602.23 20996602.41 0.0089 0.0072 Saturn 52778-07-23 11:02 G 20998031.72 20998031.96 20998032.21 0.0262 0.0024 Jupiter 52792-08-13 02:53 G 21003166.51 21003166.62 21003166.73 0.0515 0.0451 Saturn 52793-01-18 10:34 G 21003324.71 21003324.94 21003325.18 0.0299 0.0064 Jupiter 52804-08-17 18:29 G 21007554.06 21007554.27 21007554.48 0.0516 0.0203 Uranus 52807-03-15 20:53 G 21008494.18 21008494.37 21008494.56 0.0144 0.0095 Saturn 52807-07-18 22:48 G 21008619.34 21008619.45 21008619.59 0.0262 0.0224 Uranus 52808-03-19 22:34 G 21008864.19 21008864.44 21008864.70 0.0144 0.0018 Saturn 52808-07-29 09:36 G 21008995.83 21008995.90 21008995.99 0.0263 0.0248 Uranus 52809-03-25 00:14 G 21009234.29 21009234.51 21009234.75 0.0144 0.0060 Jupiter 52810-02-10 20:24 G 21009557.22 21009557.35 21009557.49 0.0512 0.0413 Uranus 52810-03-30 02:24 G 21009604.55 21009604.60 21009604.69 0.0144 0.0139 Jupiter 52816-08-22 11:02 G 21011941.73 21011941.96 21011942.19 0.0518 0.0052 Jupiter 52822-02-15 14:53 G 21013944.90 21013945.12 21013945.35 0.0510 0.0160 Jupiter 52828-08-27 04:05 G 21016329.48 21016329.67 21016329.85 0.0520 0.0311 Jupiter 52834-02-20 09:36 G 21018332.67 21018332.90 21018333.13 0.0508 0.0094 Saturn 52837-07-24 19:12 G 21019583.05 21019583.30 21019583.54 0.0262 0.0040 Jupiter 52846-02-25 00:29 G 21022720.35 21022720.52 21022720.70 0.0506 0.0337 Uranus 52847-09-13 04:05 G 21023285.58 21023285.67 21023285.79 0.0135 0.0122 Uranus 52848-09-16 11:02 G 21023654.75 21023654.96 21023655.20 0.0134 0.0060 Uranus 52849-09-20 18:00 G 21024024.00 21024024.25 21024024.50 0.0134 0.0002 Uranus 52850-09-24 23:46 G 21024393.29 21024393.49 21024393.73 0.0134 0.0064 Neptune 52851-02-10 06:14 G 21024531.59 21024531.76 21024531.93 0.0088 0.0066 Uranus 52851-09-29 06:14 G 21024762.68 21024762.76 21024762.87 0.0134 0.0123

Saturn 52852-01-21 01:41 G 21024876.32 21024876.57 21024876.81 0.0299 0.0024 Neptune 52852-02-12 18:14 G 21024899.03 21024899.26 21024899.50 0.0088 0.0037 Neptune 52853-02-14 06:14 G 21025266.50 21025266.76 21025267.02 0.0088 0.0008 Neptune 52854-02-16 18:14 G 21025634.01 21025634.26 21025634.52 0.0088 0.0022 Neptune 52855-02-19 06:14 G 21026001.56 21026001.76 21026001.98 0.0088 0.0051 Neptune 52856-02-21 18:14 G 21026369.16 21026369.26 21026369.38 0.0088 0.0080 Saturn 52866-07-20 05:46 G 21030170.55 21030170.74 21030170.94 0.0262 0.0163 52870-12-14 21:50 G 21031779.22 21031779.41 21031779.64 0.0066 0.0038 Pluto 52871-12-16 11:17 G 21032145.90 21032145.97 21032146.11 0.0067 0.0061 Pluto Jupiter 52875-08-13 03:36 G 21033481.60 21033481.65 21033481.71 0.0514 0.0500 Saturn 52881-01-14 00:00 G 21035462.44 21035462.50 21035462.59 0.0299 0.0284 Jupiter 52887-08-17 18:00 G 21037869.05 21037869.25 21037869.45 0.0516 0.0253 Uranus 52891-03-16 07:26 G 21039175.62 21039175.81 21039176.02 0.0144 0.0090 Uranus 52892-03-20 09:22 G 21039545.63 21039545.89 21039546.14 0.0144 0.0013 Jupiter 52893-02-10 01:26 G 21039872.46 21039872.56 21039872.68 0.0512 0.0449 Uranus 52893-03-25 11:17 G 21039915.75 21039915.97 21039916.20 0.0144 0.0065 Uranus 52894-03-30 13:26 G 21040286.05 21040286.06 21040286.11 0.0144 0.0143 Saturn 52896-07-26 00:58 G 21041134.31 21041134.54 21041134.76 0.0262 0.0098 Jupiter 52899-08-22 13:26 G 21042256.83 21042257.06 21042257.30 0.0518 0.0012 Jupiter 52905-02-15 18:29 G 21044260.06 21044260.27 21044260.49 0.0510 0.0198 Saturn 52911-01-23 12:14 G 21046427.78 21046428.01 21046428.25 0.0299 0.0102 52911-06-22 23:17 G 21046578.28 21046578.47 21046578.66 0.1768 0.0313 Mars Jupiter 52911-08-28 09:36 G 21046644.71 21046644.90 21046645.10 0.0520 0.0276 Jupiter 52917-02-20 11:17 G 21048647.74 21048647.97 21048648.21 0.0508 0.0053 Saturn 52925-07-22 09:50 G 21051721.69 21051721.91 21051722.14 0.0262 0.0108 Jupiter 52929-02-25 02:53 G 21053035.44 21053035.62 21053035.82 0.0507 0.0297 Uranus 52931-09-14 13:55 G 21053966.98 21053967.08 21053967.21 0.0134 0.0118 Uranus 52932-09-17 20:53 G 21054336.15 21054336.37 21054336.61 0.0134 0.0057 Uranus 52933-09-22 03:36 G 21054705.40 21054705.65 21054705.91 0.0134 0.0006 Neptune 52934-08-15 06:29 G 21055032.60 21055032.77 21055032.98 0.0089 0.0061

Uranus 52934-09-26 09:50 G 21055074.70 21055074.91 21055075.14 0.0134 0.0066 Neptune 52935-08-17 17:46 G 21055400.02 21055400.24 21055400.50 0.0089 0.0032 Uranus 52935-09-30 16:05 G 21055444.11 21055444.17 21055444.26 0.0134 0.0127 Neptune 52936-08-19 05:31 G 21055767.48 21055767.73 21055767.99 0.0089 0.0002 Neptune 52937-08-21 16:48 G 21056134.96 21056135.20 21056135.45 0.0089 0.0027 Neptune 52938-08-24 03:22 G 21056502.47 21056502.64 21056502.87 0.0089 0.0058 Neptune 52939-08-26 14:24 G 21056870.07 21056870.10 21056870.20 0.0089 0.0087 Saturn 52940-01-17 08:10 G 21057013.68 21057013.84 21057014.02 0.0299 0.0212 Saturn 52955-07-29 04:19 G 21062685.49 21062685.68 21062685.88 0.0262 0.0153 52958-06-19 21:07 G 21063742.14 21063742.38 21063742.65 0.0078 0.0017 Pluto Saturn 52970-01-24 17:31 G 21067979.03 21067979.23 21067979.43 0.0299 0.0169 Jupiter 52970-08-18 02:10 G 21068184.40 21068184.59 21068184.78 0.0516 0.0284 Uranus 52975-03-17 18:14 G 21069857.07 21069857.26 21069857.48 0.0144 0.0085 Jupiter 52976-02-11 05:17 G 21070187.66 21070187.72 21070187.79 0.0512 0.0488 Uranus 52976-03-21 20:38 G 21070227.10 21070227.36 21070227.61 0.0144 0.0007 Uranus 52977-03-26 22:34 G 21070597.23 21070597.44 21070597.68 0.0144 0.0071 Jupiter 52982-08-22 20:24 G 21072572.12 21072572.35 21072572.58 0.0517 0.0026 Saturn 52984-07-23 11:17 G 21073272.73 21073272.97 21073273.21 0.0262 0.0057 Jupiter 52988-02-15 22:05 G 21074575.22 21074575.42 21074575.63 0.0511 0.0238 Jupiter 52994-08-27 14:10 G 21076959.88 21076960.09 21076960.29 0.0519 0.0236 Saturn 52999-01-18 11:46 G 21078564.79 21078564.99 21078565.21 0.0299 0.0149 Jupiter 53000-02-20 17:46 G 21078963.00 21078963.24 21078963.47 0.0509 0.0021

# 54TH MILLENNIUM CE

This is a list of transits of Earth in the 54th millennium CE.

FROM MAX- C START MAX END SUNRAD DEPTH S

TRANSIT

TIME

Jupiter 53006-09-02 06:00 G 21081347.68 21081347.75 21081347.82 0.0521 0.0495 Jupiter 53012-02-26 13:12 G 21083350.86 21083351.05 21083351.25 0.0507 0.0275 Saturn 53014-07-31 05:17 G 21084236.57 21084236.72 21084236.88 0.0262 0.0203 Neptune 53015-02-11 14:38 G 21084432.02 21084432.11 21084432.23 0.0088 0.0081 Uranus 53015-09-16 00:58 G 21084648.43 21084648.54 21084648.70 0.0134 0.0114 Mars 53015-12-22 03:22 G 21084745.46 21084745.64 21084745.81 0.1759 0.0687 Neptune 53016-02-14 02:38 G 21084799.42 21084799.61 21084799.84 0.0088 0.0052 Uranus 53016-09-19 08:10 G 21085017.61 21085017.84 21085018.08 0.0134 0.0052 Neptune 53017-02-15 14:38 G 21085166.87 21085167.11 21085167.37 0.0088 0.0023 Uranus 53017-09-23 14:53 G 21085386.87 21085387.12 21085387.38 0.0134 0.0010 Neptune 53018-02-18 02:53 G 21085534.36 21085534.62 21085534.88 0.0088 0.0007 Uranus 53018-09-27 20:53 G 21085756.18 21085756.37 21085756.60 0.0134 0.0071 Neptune 53019-02-20 14:24 G 21085901.88 21085902.10 21085902.36 0.0088 0.0037 Uranus 53019-10-02 03:22 G 21086125.61 21086125.64 21086125.71 0.0134 0.0131 Neptune 53020-02-23 02:10 G 21086269.44 21086269.59 21086269.79 0.0088 0.0065 Saturn 53029-01-26 18:29 G 21089530.13 21089530.27 21089530.44 0.0299 0.0229 Saturn 53043-07-26 10:34 G 21094823.70 21094823.94 21094824.19 0.0262 0.0010 Jupiter 53053-08-18 09:22 G 21098499.71 21098499.89 21098500.08 0.0515 0.0317 Saturn 53058-01-20 11:02 G 21100115.73 21100115.96 21100116.20 0.0299 0.0094 Uranus 53059-03-19 05:17 G 21100538.52 21100538.72 21100538.94 0.0144 0.0080 Uranus 53060-03-23 07:26 G 21100908.56 21100908.81 21100909.07 0.0144 0.0003 Uranus 53061-03-28 09:50 G 21101278.70 21101278.91 21101279.13 0.0144 0.0075 Jupiter 53065-08-22 23:02 G 21102887.24 21102887.46 21102887.70 0.0517 0.0069 Jupiter 53071-02-16 10:48 G 21104890.75 21104890.95 21104891.15 0.0511 0.0256 Saturn 53072-07-20 18:58 G 21105411.16 21105411.29 21105411.44 0.0262 0.0217 Saturn 53073-08-01 04:05 G 21105787.61 21105787.67 21105787.75 0.0262 0.0250 Jupiter 53077-08-27 19:41 G 21107275.10 21107275.32 21107275.53 0.0519 0.0202

Jupiter 53083-02-21 04:48 G 21109278.46 21109278.70 21109278.93 0.0509 0.0008 Saturn 53088-01-28 16:48 G 21111081.13 21111081.20 21111081.29 0.0299 0.0281 Jupiter 53089-09-01 17:31 G 21111663.15 21111663.23 21111663.34 0.0521 0.0476 Jupiter 53095-02-25 21:36 G 21113666.19 21113666.40 21113666.60 0.0507 0.0248 Neptune 53098-08-15 14:53 G 21114933.01 21114933.12 21114933.27 0.0089 0.0076 Neptune 53099-08-18 02:24 G 21115300.40 21115300.60 21115300.83 0.0089 0.0047 Uranus 53099-09-16 12:58 G 21115329.91 21115330.04 21115330.21 0.0134 0.0109 Neptune 53100-08-20 14:10 G 21115667.84 21115668.09 21115668.34 0.0089 0.0017 Uranus 53100-09-20 19:55 G 21115699.10 21115699.33 21115699.58 0.0134 0.0047 Neptune 53101-08-23 01:26 G 21116035.31 21116035.56 21116035.82 0.0089 0.0012 Uranus 53101-09-25 02:38 G 21116068.36 21116068.61 21116068.86 0.0134 0.0014 Saturn 53102-07-28 08:10 G 21116374.60 21116374.84 21116375.09 0.0262 0.0035 Neptune 53102-08-25 12:43 G 21116402.81 21116403.03 21116403.26 0.0089 0.0041 Uranus 53102-09-29 08:38 G 21116437.67 21116437.86 21116438.09 0.0134 0.0075 Neptune 53103-08-27 23:31 G 21116770.36 21116770.48 21116770.66 0.0089 0.0071 Jupiter 53107-03-03 12:58 G 21118054.00 21118054.04 21118054.10 0.0506 0.0492 Pluto 53116-12-19 03:07 G 21121632.41 21121632.63 21121632.90 0.0066 0.0023 Saturn 53117-01-22 07:55 G 21121666.59 21121666.83 21121667.07 0.0299 0.0044 Saturn 53131-07-23 16:48 G 21126962.03 21126962.20 21126962.39 0.0262 0.0172 Jupiter 53136-08-18 15:07 G 21128814.96 21128815.13 21128815.30 0.0515 0.0354 Uranus 53143-03-20 14:10 G 21131219.88 21131220.09 21131220.31 0.0144 0.0077 Uranus 53144-03-24 16:34 G 21131589.93 21131590.19 21131590.45 0.0144 0.0001 Uranus 53145-03-29 18:43 G 21131960.08 21131960.28 21131960.51 0.0144 0.0079 Jupiter 53148-08-23 11:46 G 21133202.76 21133202.99 21133203.22 0.0517 0.0088 Jupiter 53154-02-16 20:10 G 21135206.14 21135206.34 21135206.53 0.0511 0.0284 Jupiter 53160-08-28 07:41 G 21137590.61 21137590.82 21137591.04 0.0519 0.0180 Saturn 53161-07-29 05:17 G 21137925.48 21137925.72 21137925.95 0.0262 0.0078 Jupiter 53166-02-21 12:43 G 21139593.80 21139594.03 21139594.27 0.0509 0.0031 Jupiter 53172-09-02 02:24 G 21141978.49 21141978.60 21141978.72 0.0521 0.0446 Saturn 53176-01-24 03:36 G 21143217.40 21143217.65 21143217.89 0.0299 0.0006

Jupiter 53178-02-26 07:55 G 21143981.63 21143981.83 21143982.05 0.0508 0.0228 Neptune 53180-02-14 10:34 G 21144699.79 21144699.94 21144700.13 0.0088 0.0067 Neptune 53181-02-15 22:48 G 21145067.23 21145067.45 21145067.70 0.0088 0.0038 Neptune 53182-02-18 11:02 G 21145434.71 21145434.96 21145435.22 0.0088 0.0008 Neptune 53183-02-20 22:48 G 21145802.21 21145802.45 21145802.72 0.0088 0.0022 Uranus 53183-09-18 01:41 G 21146011.42 21146011.57 21146011.74 0.0134 0.0104 Neptune 53184-02-23 10:34 G 21146169.75 21146169.94 21146170.17 0.0088 0.0051 Uranus 53184-09-21 08:24 G 21146380.62 21146380.85 21146381.10 0.0134 0.0043 Neptune 53185-02-24 22:34 G 21146537.35 21146537.44 21146537.57 0.0088 0.0080 Uranus 53185-09-25 15:07 G 21146749.89 21146750.13 21146750.39 0.0134 0.0019 Uranus 53186-09-29 21:22 G 21147119.19 21147119.39 21147119.60 0.0134 0.0079 Jupiter 53190-03-03 03:50 G 21148369.59 21148369.66 21148369.73 0.0506 0.0480 Saturn 53190-07-24 14:10 G 21148512.88 21148513.09 21148513.31 0.0262 0.0127 53195-06-25 04:19 G 21150309.50 21150309.68 21150309.87 0.1776 0.0466 Mars Pluto 53204-06-23 04:05 G 21153595.46 21153595.67 21153595.90 0.0078 0.0041 Jupiter 53219-08-19 03:50 G 21159130.50 21159130.66 21159130.82 0.0515 0.0375 Saturn 53220-07-30 02:10 G 21159476.38 21159476.59 21159476.81 0.0262 0.0123 Uranus 53227-03-20 23:02 G 21161901.25 21161901.46 21161901.69 0.0144 0.0074 Uranus 53228-03-25 01:12 G 21162271.30 21162271.55 21162271.81 0.0144 0.0004 Uranus 53229-03-30 03:22 G 21162641.45 21162641.64 21162641.87 0.0144 0.0082 Jupiter 53231-08-23 21:22 G 21163518.16 21163518.39 21163518.62 0.0517 0.0116 Saturn 53235-01-25 00:29 G 21164768.28 21164768.52 21164768.76 0.0299 0.0056 Jupiter 53237-02-16 05:31 G 21165521.55 21165521.73 21165521.93 0.0512 0.0311 Jupiter 53243-08-28 10:48 G 21167905.72 21167905.95 21167906.17 0.0518 0.0137 Jupiter 53249-02-21 02:38 G 21169909.38 21169909.61 21169909.85 0.0510 0.0048 Saturn 53249-07-25 11:46 G 21170063.76 21170063.99 21170064.23 0.0262 0.0081 Jupiter 53255-09-02 07:12 G 21172293.66 21172293.80 21172293.94 0.0520 0.0408 Jupiter 53261-02-25 20:10 G 21174297.13 21174297.34 21174297.56 0.0508 0.0205 Neptune 53263-08-18 11:02 G 21175200.78 21175200.96 21175201.14 0.0089 0.0062 Saturn 53264-01-18 07:12 G 21175353.73 21175353.80 21175353.90 0.0299 0.0280

Neptune 53264-08-19 22:05 G 21175568.19 21175568.42 21175568.66 0.0089 0.0033 Neptune 53265-08-22 09:22 G 21175935.64 21175935.89 21175936.15 0.0089 0.0004 Neptune 53266-08-24 20:24 G 21176303.12 21176303.35 21176303.61 0.0089 0.0026 Neptune 53267-08-27 07:55 G 21176670.64 21176670.83 21176671.04 0.0089 0.0055 Uranus 53267-09-18 13:26 G 21176692.91 21176693.06 21176693.25 0.0134 0.0099 Neptune 53268-08-28 19:26 G 21177038.24 21177038.31 21177038.39 0.0089 0.0084 Uranus 53268-09-21 20:38 G 21177062.11 21177062.36 21177062.60 0.0134 0.0038 Uranus 53269-09-26 03:07 G 21177431.38 21177431.63 21177431.88 0.0134 0.0023 Uranus 53270-09-30 08:38 G 21177800.69 21177800.86 21177801.08 0.0134 0.0084 Jupiter 53273-03-02 12:29 G 21178684.93 21178685.02 21178685.13 0.0506 0.0454 Saturn 53279-08-01 00:14 G 21181027.33 21181027.51 21181027.70 0.0262 0.0169 Saturn 53294-01-25 23:31 G 21186319.26 21186319.48 21186319.71 0.0299 0.0112 Mars 53299-12-23 15:36 G 21188476.99 21188477.15 21188477.31 0.1751 0.0889 Jupiter 53302-08-19 06:43 G 21189445.65 21189445.78 21189445.92 0.0514 0.0421 Saturn 53308-07-27 10:48 G 21191614.70 21191614.95 21191615.19 0.0262 0.0033 Uranus 53311-03-22 08:10 G 21192582.61 21192582.84 21192583.06 0.0144 0.0070 Uranus 53312-03-26 10:05 G 21192952.67 21192952.92 21192953.18 0.0144 0.0007 Uranus 53313-03-31 12:14 G 21193322.82 21193323.01 21193323.23 0.0144 0.0085 Jupiter 53314-08-24 00:43 G 21193833.31 21193833.53 21193833.75 0.0516 0.0160 Jupiter 53320-02-17 16:05 G 21195837.00 21195837.17 21195837.35 0.0512 0.0340 Saturn 53323-01-20 10:19 G 21196904.76 21196904.93 21196905.10 0.0299 0.0216 Jupiter 53326-08-28 21:22 G 21198221.16 21198221.39 21198221.62 0.0518 0.0110 Jupiter 53332-02-22 10:19 G 21200224.70 21200224.93 21200225.17 0.0510 0.0080 Saturn 53337-07-22 12:58 G 21202201.98 21202202.04 21202202.11 0.0262 0.0252 Saturn 53338-08-03 00:00 G 21202578.37 21202578.50 21202578.63 0.0262 0.0219 Jupiter 53338-09-02 17:31 G 21202609.08 21202609.23 21202609.39 0.0520 0.0383 Neptune 53344-02-14 17:31 G 21204600.17 21204600.23 21204600.36 0.0088 0.0083 Jupiter 53344-02-27 01:55 G 21204612.36 21204612.58 21204612.81 0.0508 0.0173 Neptune 53345-02-16 06:14 G 21204967.56 21204967.76 21204967.97 0.0088 0.0053 Neptune 53346-02-18 18:14 G 21205335.02 21205335.26 21205335.52 0.0088 0.0024

Neptune 53347-02-21 06:14 G 21205702.51 21205702.76 21205703.02 0.0088 0.0006 Neptune 53348-02-23 18:00 G 21206070.03 21206070.25 21206070.50 0.0088 0.0036 Neptune 53349-02-25 05:46 G 21206437.59 21206437.74 21206437.94 0.0088 0.0065 Uranus 53351-09-20 01:26 G 21207374.39 21207374.56 21207374.75 0.0134 0.0094 Uranus 53352-09-23 08:24 G 21207743.60 21207743.85 21207744.09 0.0134 0.0033 Saturn 53353-01-28 02:10 G 21207870.40 21207870.59 21207870.79 0.0299 0.0175 Uranus 53353-09-27 14:53 G 21208112.88 21208113.12 21208113.37 0.0134 0.0028 Uranus 53354-10-01 20:53 G 21208482.19 21208482.37 21208482.56 0.0134 0.0088 Jupiter 53356-03-02 20:10 G 21209000.23 21209000.34 21209000.48 0.0507 0.0428 Pluto 53362-12-22 08:10 G 21211485.59 21211485.84 21211486.10 0.0066 0.0008 Saturn 53367-07-29 11:31 G 21213165.74 21213165.98 21213166.23 0.0263 0.0020 Saturn 53382-01-21 16:48 G 21218455.99 21218456.20 21218456.41 0.0298 0.0144 Jupiter 53385-08-18 15:07 G 21219761.03 21219761.13 21219761.24 0.0514 0.0454 Uranus 53394-03-17 17:31 G 21222894.20 21222894.23 21222894.30 0.0144 0.0141 Uranus 53395-03-22 19:26 G 21223264.09 21223264.31 21223264.55 0.0144 0.0065 Uranus 53396-03-26 21:36 G 21223634.14 21223634.40 21223634.66 0.0144 0.0012 Saturn 53396-07-23 14:24 G 21223752.95 21223753.10 21223753.27 0.0262 0.0199 Uranus 53397-03-31 23:46 G 21224004.29 21224004.49 21224004.69 0.0144 0.0090 Jupiter 53397-08-23 09:50 G 21224148.70 21224148.91 21224149.13 0.0516 0.0191 Jupiter 53403-02-17 19:41 G 21226152.17 21226152.32 21226152.48 0.0512 0.0381 Jupiter 53409-08-29 03:22 G 21228536.41 21228536.64 21228536.87 0.0517 0.0074 Saturn 53412-01-31 09:50 G 21229421.79 21229421.91 21229422.05 0.0298 0.0250 Jupiter 53415-02-22 14:38 G 21230539.88 21230540.11 21230540.34 0.0511 0.0118 Jupiter 53421-09-02 17:02 G 21232924.03 21232924.21 21232924.39 0.0519 0.0328 Saturn 53426-07-31 14:10 G 21234716.86 21234717.09 21234717.33 0.0263 0.0076 Jupiter 53427-02-27 09:50 G 21234927.68 21234927.91 21234928.13 0.0509 0.0140 Neptune 53427-08-19 17:31 G 21235101.15 21235101.23 21235101.38 0.0089 0.0079 Neptune 53428-08-21 05:17 G 21235468.52 21235468.72 21235468.94 0.0089 0.0049 Neptune 53429-08-23 16:34 G 21235835.95 21235836.19 21235836.45 0.0089 0.0020 Neptune 53430-08-26 03:50 G 21236203.41 21236203.66 21236203.92 0.0089 0.0010

Neptune 53431-08-28 15:07 G 21236570.91 21236571.13 21236571.37 0.0089 0.0039 Neptune 53432-08-30 01:55 G 21236938.45 21236938.58 21236938.77 0.0089 0.0069 Uranus 53435-09-21 12:58 G 21238055.86 21238056.04 21238056.24 0.0134 0.0088 Uranus 53436-09-24 19:55 G 21238425.08 21238425.33 21238425.58 0.0134 0.0027 Uranus 53437-09-29 02:24 G 21238794.36 21238794.60 21238794.85 0.0134 0.0033 Uranus 53438-10-03 08:10 G 21239163.67 21239163.84 21239164.03 0.0134 0.0093 Jupiter 53439-03-04 02:10 G 21239315.45 21239315.59 21239315.75 0.0507 0.0391 Saturn 53441-01-24 04:05 G 21240007.43 21240007.67 21240007.91 0.0298 0.0063 53450-06-27 10:19 G 21243448.83 21243448.93 21243449.10 0.0078 0.0067 Pluto Saturn 53455-07-26 18:29 G 21245304.07 21245304.27 21245304.48 0.0263 0.0141 Jupiter 53468-08-18 20:24 G 21250076.30 21250076.35 21250076.42 0.0513 0.0493 Uranus 53478-03-19 05:17 G 21253575.64 21253575.72 21253575.80 0.0144 0.0135 Uranus 53479-03-24 06:43 G 21253945.56 21253945.78 21253946.02 0.0144 0.0059 53479-06-27 08:53 G 21254040.69 21254040.87 21254041.05 0.1785 0.0666 Mars Uranus 53480-03-28 08:53 G 21254315.62 21254315.87 21254316.13 0.0144 0.0018 Jupiter 53480-08-23 08:53 G 21254463.68 21254463.87 21254464.08 0.0515 0.0247 Uranus 53481-04-02 10:48 G 21254685.78 21254685.95 21254686.16 0.0144 0.0096 Saturn 53485-08-01 19:12 G 21256268.09 21256268.30 21256268.51 0.0263 0.0135 Jupiter 53486-02-16 23:17 G 21256467.34 21256467.47 21256467.60 0.0514 0.0427 Jupiter 53492-08-28 01:55 G 21258851.35 21258851.58 21258851.81 0.0517 0.0016 Jupiter 53498-02-21 17:46 G 21260855.02 21260855.24 21260855.47 0.0511 0.0166 Saturn 53500-01-26 20:10 G 21261559.10 21261559.34 21261559.59 0.0298 0.0028 Jupiter 53504-09-02 20:38 G 21263239.17 21263239.36 21263239.56 0.0519 0.0285 Neptune 53509-02-17 12:43 G 21264867.89 21264868.03 21264868.21 0.0088 0.0069 Neptune 53510-02-20 00:43 G 21265235.32 21265235.53 21265235.78 0.0088 0.0040 Jupiter 53510-02-27 11:46 G 21265242.76 21265242.99 21265243.22 0.0509 0.0094 Neptune 53511-02-22 13:26 G 21265602.80 21265603.06 21265603.31 0.0088 0.0010 Neptune 53512-02-25 01:26 G 21265970.31 21265970.56 21265970.81 0.0088 0.0020 Neptune 53513-02-26 12:58 G 21266337.84 21266338.04 21266338.28 0.0088 0.0049 Neptune 53514-03-01 00:43 G 21266705.44 21266705.53 21266705.67 0.0088 0.0079 Saturn 53514-07-29 00:43 G 21266855.30 21266855.53 21266855.77 0.0263 0.0080 Uranus 53519-09-23 01:41 G 21268737.38 21268737.57 21268737.78 0.0134 0.0083 Uranus 53520-09-26 08:24 G 21269106.61 21269106.85 21269107.10 0.0134 0.0022 Uranus 53521-09-30 14:53 G 21269475.88 21269476.12 21269476.36 0.0134 0.0038 Jupiter 53522-03-04 02:24 G 21269630.44 21269630.60 21269630.78 0.0508 0.0346 Uranus 53522-10-04 20:53 G 21269845.20 21269845.37 21269845.54 0.0134 0.0098 Saturn 53529-01-20 15:07 G 21272145.08 21272145.13 21272145.21 0.0298 0.0286 Saturn 53544-08-04 02:10 G 21277819.44 21277819.59 21277819.75 0.0263 0.0199 Saturn 53559-01-29 14:53 G 21283110.90 21283111.12 21283111.35 0.0298 0.0124 Uranus 53562-03-20 17:46 G 21284257.15 21284257.24 21284257.38 0.0144 0.0129 Uranus 53563-03-25 19:55 G 21284627.10 21284627.33 21284627.58 0.0144 0.0053 Jupiter 53563-08-24 10:34 G 21284778.76 21284778.94 21284779.13 0.0515 0.0296 Uranus 53564-03-29 21:50 G 21284997.17 21284997.41 21284997.67 0.0144 0.0025 Uranus 53565-04-04 00:00 G 21285367.33 21285367.50 21285367.70 0.0144 0.0102 Jupiter 53569-02-17 00:14 G 21286782.43 21286782.51 21286782.60 0.0514 0.0476 Saturn 53573-07-30 09:07 G 21288406.63 21288406.88 21288407.12 0.0263 0.0014 Jupiter 53575-08-29 05:02 G 21289166.47 21289166.71 21289166.94 0.0516 0.0030 Jupiter 53581-02-21 16:34 G 21291169.98 21291170.19 21291170.40 0.0512 0.0218 Mars 53583-12-27 06:14 G 21292208.62 21292208.76 21292208.89 0.1743 0.1184 Jupiter 53587-09-02 22:34 G 21293554.23 21293554.44 21293554.64 0.0518 0.0238 Saturn 53588-01-23 10:34 G 21293696.76 21293696.94 21293697.13 0.0298 0.0189 Neptune 53592-08-21 11:17 G 21295368.83 21295368.97 21295369.17 0.0089 0.0066 Jupiter 53593-02-26 10:05 G 21295557.69 21295557.92 21295558.16 0.0510 0.0042 Neptune 53593-08-23 22:48 G 21295736.23 21295736.45 21295736.70 0.0089 0.0037 Neptune 53594-08-26 10:19 G 21296103.68 21296103.93 21296104.19 0.0089 0.0007 Neptune 53595-08-28 21:07 G 21296471.15 21296471.38 21296471.65 0.0089 0.0023 Neptune 53596-08-30 08:24 G 21296838.66 21296838.85 21296839.07 0.0089 0.0052 Neptune 53597-09-01 19:55 G 21297206.24 21297206.33 21297206.44 0.0089 0.0081 Jupiter 53599-09-07 13:26 G 21297942.00 21297942.06 21297942.13 0.0519 0.0496 Saturn 53602-07-25 21:50 G 21298994.28 21298994.41 21298994.57 0.0263 0.0214

Uranus 53603-09-23 14:53 G 21299418.93 21299419.12 21299419.34 0.0134 0.0077 Uranus 53604-09-26 21:50 G 21299788.16 21299788.41 21299788.66 0.0134 0.0016 Jupiter 53605-03-03 02:38 G 21299945.42 21299945.61 21299945.80 0.0509 0.0296 Uranus 53605-10-01 03:50 G 21300157.43 21300157.66 21300157.91 0.0134 0.0044 Uranus 53606-10-05 09:22 G 21300526.76 21300526.89 21300527.07 0.0134 0.0104 Pluto 53608-12-25 16:19 G 21301338.94 21301339.18 21301339.44 0.0066 0.0018 Saturn 53618-01-31 12:00 G 21304662.85 21304663.00 21304663.17 0.0298 0.0224 Saturn 53632-07-31 18:29 G 21309958.03 21309958.27 21309958.51 0.0263 0.0053 Uranus 53646-03-21 04:19 G 21314938.57 21314938.68 21314938.83 0.0144 0.0125 Jupiter 53646-08-23 12:43 G 21315093.86 21315094.03 21315094.21 0.0514 0.0342 Saturn 53647-01-25 06:43 G 21315248.55 21315248.78 21315249.01 0.0298 0.0091 Uranus 53647-03-26 06:29 G 21315308.53 21315308.77 21315309.02 0.0144 0.0048 Uranus 53648-03-30 08:38 G 21315678.61 21315678.86 21315679.11 0.0144 0.0029 Uranus 53649-04-04 10:48 G 21316048.79 21316048.95 21316049.14 0.0144 0.0106 Jupiter 53658-08-28 03:22 G 21319481.41 21319481.64 21319481.87 0.0515 0.0086 Saturn 53661-07-27 07:12 G 21320545.60 21320545.80 21320546.00 0.0263 0.0147 Jupiter 53664-02-21 14:10 G 21321484.90 21321485.09 21321485.30 0.0513 0.0276 Jupiter 53670-09-01 19:12 G 21323869.09 21323869.30 21323869.52 0.0517 0.0177 Neptune 53673-02-16 18:29 G 21324768.22 21324768.27 21324768.37 0.0088 0.0085 Neptune 53674-02-19 06:29 G 21325135.59 21325135.77 21325136.00 0.0088 0.0056 Neptune 53675-02-21 19:12 G 21325503.05 21325503.30 21325503.55 0.0088 0.0026 Neptune 53676-02-24 07:26 G 21325870.55 21325870.81 21325871.07 0.0088 0.0004 Jupiter 53676-02-26 08:53 G 21325872.63 21325872.87 21325873.11 0.0511 0.0013 Neptune 53677-02-25 18:58 G 21326238.07 21326238.29 21326238.55 0.0088 0.0034 Neptune 53678-02-28 06:58 G 21326605.63 21326605.79 21326605.99 0.0088 0.0063 Jupiter 53682-09-06 12:14 G 21328256.89 21328257.01 21328257.13 0.0519 0.0444 Uranus 53686-09-19 22:05 G 21329731.39 21329731.42 21329731.49 0.0135 0.0132 Uranus 53687-09-24 05:02 G 21330100.52 21330100.71 21330100.94 0.0134 0.0072 Jupiter 53688-03-02 03:07 G 21330260.43 21330260.63 21330260.84 0.0509 0.0250 Uranus 53688-09-27 11:46 G 21330469.74 21330469.99 21330470.25 0.0134 0.0011

Uranus 53689-10-01 17:46 G 21330839.02 21330839.24 21330839.49 0.0134 0.0050 Uranus 53690-10-05 23:46 G 21331208.35 21331208.49 21331208.64 0.0134 0.0109 Saturn 53691-08-03 04:05 G 21331509.46 21331509.67 21331509.89 0.0263 0.0119 53695-06-28 20:10 G 21332935.18 21332935.34 21332935.55 0.0078 0.0055 Pluto Jupiter 53700-03-07 18:14 G 21334648.23 21334648.26 21334648.30 0.0507 0.0500 Saturn 53706-01-28 01:55 G 21336800.33 21336800.58 21336800.82 0.0298 0.0005 Saturn 53720-07-29 15:50 G 21342096.94 21342097.16 21342097.40 0.0263 0.0084 Jupiter 53729-08-23 11:31 G 21345408.84 21345408.98 21345409.13 0.0513 0.0397 Uranus 53730-03-22 15:22 G 21345620.02 21345620.14 21345620.30 0.0144 0.0120 Uranus 53731-03-27 17:31 G 21345989.99 21345990.23 21345990.48 0.0144 0.0044 Uranus 53732-03-31 19:26 G 21346360.07 21346360.31 21346360.57 0.0144 0.0033 Uranus 53733-04-05 21:36 G 21346730.26 21346730.40 21346730.58 0.0144 0.0111 Saturn 53735-01-22 04:48 G 21347386.68 21347386.70 21347386.75 0.0298 0.0294 Jupiter 53741-08-28 01:41 G 21349796.35 21349796.57 21349796.80 0.0515 0.0141 Jupiter 53747-02-21 16:34 G 21351800.00 21351800.19 21351800.37 0.0513 0.0320 Saturn 53750-08-05 12:58 G 21353060.88 21353061.04 21353061.22 0.0263 0.0184 Jupiter 53753-09-01 20:24 G 21354184.12 21354184.35 21354184.57 0.0517 0.0130 Neptune 53756-08-21 17:17 G 21355269.16 21355269.22 21355269.34 0.0089 0.0083 Neptune 53757-08-24 05:02 G 21355636.51 21355636.71 21355636.92 0.0089 0.0053 Neptune 53758-08-26 16:05 G 21356003.94 21356004.17 21356004.43 0.0089 0.0024 Jupiter 53759-02-26 09:22 G 21356187.66 21356187.89 21356188.13 0.0511 0.0061 Neptune 53759-08-29 03:36 G 21356371.39 21356371.65 21356371.90 0.0089 0.0006 Neptune 53760-08-30 14:38 G 21356738.88 21356739.11 21356739.35 0.0089 0.0035 Neptune 53761-09-02 01:26 G 21357106.41 21357106.56 21357106.76 0.0089 0.0065 Mars 53763-06-29 12:00 G 21357771.83 21357772.00 21357772.16 0.1794 0.0954 Saturn 53765-01-29 17:46 G 21358352.00 21358352.24 21358352.47 0.0298 0.0094 Jupiter 53765-09-06 15:36 G 21358572.01 21358572.15 21358572.30 0.0519 0.0401 Uranus 53770-09-21 12:14 G 21360412.94 21360413.01 21360413.11 0.0135 0.0126 Jupiter 53771-03-03 02:24 G 21360575.38 21360575.60 21360575.82 0.0509 0.0200 Uranus 53771-09-25 18:58 G 21360782.09 21360782.29 21360782.53 0.0134 0.0066

Uranus 53772-09-29 01:41 G 21361151.32 21361151.57 21361151.83 0.0134 0.0005 Uranus 53773-10-03 07:55 G 21361520.61 21361520.83 21361521.06 0.0134 0.0055 Uranus 53774-10-07 13:12 G 21361889.95 21361890.05 21361890.20 0.0134 0.0115 Saturn 53779-07-31 23:46 G 21363648.25 21363648.49 21363648.74 0.0263 0.0021 Jupiter 53783-03-07 17:46 G 21364963.15 21364963.24 21364963.35 0.0508 0.0453 Mars 53788-12-25 09:50 G 21367082.85 21367082.91 21367082.97 0.1731 0.1616 Saturn 53794-01-23 19:26 G 21368938.14 21368938.31 21368938.49 0.0298 0.0209 Saturn 53808-07-27 08:53 G 21374235.75 21374235.87 21374235.99 0.0263 0.0229 Saturn 53809-08-07 20:24 G 21374612.28 21374612.35 21374612.45 0.0263 0.0245 Jupiter 53812-08-23 12:58 G 21375723.92 21375724.04 21375724.15 0.0513 0.0444 Uranus 53814-03-24 00:14 G 21376301.38 21376301.51 21376301.67 0.0144 0.0117 Uranus 53815-03-29 02:10 G 21376671.35 21376671.59 21376671.84 0.0144 0.0041 Uranus 53816-04-02 04:05 G 21377041.43 21377041.67 21377041.92 0.0144 0.0036 Uranus 53817-04-07 06:43 G 21377411.63 21377411.78 21377411.94 0.0144 0.0113 Saturn 53824-02-02 06:00 G 21379903.56 21379903.75 21379903.95 0.0298 0.0176 Jupiter 53824-08-28 06:58 G 21380111.58 21380111.79 21380112.01 0.0515 0.0180 Jupiter 53830-02-21 16:48 G 21382115.04 21382115.20 21382115.37 0.0513 0.0370 Jupiter 53836-09-02 00:14 G 21384499.28 21384499.51 21384499.74 0.0516 0.0086 Neptune 53838-02-20 12:29 G 21385035.89 21385036.02 21385036.19 0.0088 0.0072 Saturn 53838-08-03 05:31 G 21385199.49 21385199.73 21385199.97 0.0263 0.0037 Neptune 53839-02-23 00:29 G 21385403.31 21385403.52 21385403.77 0.0088 0.0042 Neptune 53840-02-25 12:43 G 21385770.78 21385771.03 21385771.29 0.0088 0.0013 Neptune 53841-02-27 00:29 G 21386138.28 21386138.52 21386138.79 0.0088 0.0018 Jupiter 53842-02-26 09:36 G 21386502.68 21386502.90 21386503.13 0.0512 0.0110 Neptune 53842-03-01 12:29 G 21386505.82 21386506.02 21386506.26 0.0088 0.0047 Neptune 53843-03-04 00:43 G 21386873.41 21386873.53 21386873.68 0.0088 0.0076 Jupiter 53848-09-06 17:02 G 21388887.04 21388887.21 21388887.38 0.0518 0.0353 Saturn 53853-01-26 04:48 G 21390489.49 21390489.70 21390489.93 0.0298 0.0135 Pluto 53853-12-28 08:24 G 21390825.79 21390825.85 21390825.99 0.0066 0.0062 Jupiter 53854-03-03 05:02 G 21390890.49 21390890.71 21390890.93 0.0510 0.0158

Uranus 53854-09-23 01:41 G 21391094.47 21391094.57 21391094.70 0.0135 0.0120 Pluto 53854-12-29 22:48 G 21391192.25 21391192.45 21391192.67 0.0067 0.0038 Uranus 53855-09-27 08:53 G 21391463.65 21391463.87 21391464.10 0.0134 0.0059 Uranus 53856-09-30 15:36 G 21391832.90 21391833.15 21391833.40 0.0134 0.0002 Uranus 53857-10-04 21:22 G 21392202.18 21392202.39 21392202.63 0.0134 0.0061 Uranus 53858-10-09 03:36 G 21392571.55 21392571.65 21392571.76 0.0134 0.0120 Jupiter 53866-03-08 00:29 G 21395278.41 21395278.52 21395278.66 0.0508 0.0423 Saturn 53867-07-29 14:24 G 21395786.92 21395787.10 21395787.30 0.0263 0.0171 53867-12-29 22:05 G 21395940.33 21395940.42 21395940.50 0.1736 0.1530 Mars Saturn 53883-02-03 13:41 G 21401454.94 21401455.07 21401455.21 0.0299 0.0247 Jupiter 53895-08-23 19:41 G 21406039.25 21406039.32 21406039.41 0.0512 0.0480 Saturn 53897-08-04 08:38 G 21406750.63 21406750.86 21406751.09 0.0263 0.0092 Uranus 53898-03-24 12:14 G 21406982.87 21406983.01 21406983.19 0.0144 0.0111 Uranus 53899-03-29 14:10 G 21407352.85 21407353.09 21407353.34 0.0144 0.0035 Uranus 53900-04-03 16:19 G 21407722.93 21407723.18 21407723.42 0.0144 0.0042 Uranus 53901-04-08 18:29 G 21408093.14 21408093.27 21408093.43 0.0144 0.0119 Jupiter 53907-08-29 11:31 G 21410426.78 21410426.98 21410427.19 0.0514 0.0220 Saturn 53912-01-29 10:34 G 21412040.70 21412040.94 21412041.18 0.0298 0.0067 Jupiter 53913-02-21 21:07 G 21412430.25 21412430.38 21412430.53 0.0514 0.0410 Jupiter 53919-09-03 00:43 G 21414814.30 21414814.53 21414814.77 0.0516 0.0039 Neptune 53921-08-25 09:36 G 21415536.77 21415536.90 21415537.08 0.0089 0.0071 Neptune 53922-08-27 21:07 G 21415904.16 21415904.38 21415904.62 0.0089 0.0041 Neptune 53923-08-30 08:24 G 21416271.61 21416271.85 21416272.11 0.0089 0.0012 Neptune 53924-08-31 19:41 G 21416639.07 21416639.32 21416639.58 0.0089 0.0018 Jupiter 53925-02-26 18:58 G 21416818.07 21416818.29 21416818.52 0.0512 0.0136 Neptune 53925-09-03 06:29 G 21417006.58 21417006.77 21417007.01 0.0089 0.0048 Saturn 53926-07-31 17:31 G 21417338.02 21417338.23 21417338.46 0.0263 0.0117 Neptune 53926-09-05 17:46 G 21417374.13 21417374.24 21417374.38 0.0089 0.0077 Jupiter 53931-09-07 20:38 G 21419202.18 21419202.36 21419202.54 0.0518 0.0314 Jupiter 53937-03-03 13:12 G 21421205.82 21421206.05 21421206.28 0.0510 0.0128

Uranus 53938-09-24 14:38 G 21421775.99 21421776.11 21421776.26 0.0135 0.0114 Uranus 53939-09-28 21:50 G 21422145.18 21422145.41 21422145.65 0.0134 0.0053 Uranus 53940-10-02 04:34 G 21422514.44 21422514.69 21422514.94 0.0134 0.0007 53941-07-03 05:17 G 21422788.48 21422788.72 21422788.98 0.0078 0.0020 Pluto Uranus 53941-10-06 10:34 G 21422883.74 21422883.94 21422884.17 0.0134 0.0068 Uranus 53942-10-10 16:48 G 21423253.13 21423253.20 21423253.29 0.0134 0.0126 Jupiter 53949-03-08 06:14 G 21425593.61 21425593.76 21425593.91 0.0508 0.0389 Saturn 53956-08-06 09:36 G 21428301.70 21428301.90 21428302.11 0.0263 0.0142 Saturn 53971-01-30 11:17 G 21433591.72 21433591.97 21433592.21 0.0298 0.0010 Uranus 53982-03-26 00:00 G 21437664.33 21437664.50 21437664.68 0.0144 0.0105 Uranus 53983-03-31 01:41 G 21438034.32 21438034.57 21438034.82 0.0144 0.0029 Uranus 53984-04-04 03:22 G 21438404.41 21438404.64 21438404.89 0.0144 0.0047 Uranus 53985-04-09 06:00 G 21438774.63 21438774.75 21438774.89 0.0144 0.0124 Saturn 53985-08-01 18:14 G 21438889.03 21438889.26 21438889.50 0.0263 0.0066 Jupiter 53990-08-28 15:50 G 21440741.96 21440742.16 21440742.36 0.0514 0.0260 Jupiter 53996-02-22 07:41 G 21442745.70 21442745.82 21442745.94 0.0514 0.0437

## 55TH MILLENNIUM CE

#### This is a list of transits of Earth in the 55th millennium CE.

FROM MAX- C START MAX END SUNRAD DEPTH S

TRANSIT

TIME

Neptune 54002-02-20 18:00 G 21444936.23 21444936.25 21444936.28 0.0089 0.0088

Jupiter 54002-09-02 11:46 G 21445129.76 21445129.99 21445130.23 0.0516 0.0016

Neptune 54003-02-23 05:46 G 21445303.56 21445303.74 21445303.95 0.0088 0.0059

Neptune 54004-02-25 17:31 G 21445671.00 21445671.23 21445671.49 0.0088 0.0030 Neptune 54005-02-27 06:00 G 21446038.49 21446038.75 21446039.01 0.0088 0.0001 Neptune 54006-03-01 18:00 G 21446406.01 21446406.25 21446406.50 0.0088 0.0030 Neptune 54007-03-04 05:46 G 21446773.57 21446773.74 21446773.95 0.0088 0.0060 Jupiter 54008-02-27 02:24 G 21447133.38 21447133.60 21447133.83 0.0512 0.0169 Jupiter 54014-09-07 06:58 G 21449517.60 21449517.79 21449517.99 0.0518 0.0287 Saturn 54015-08-08 08:24 G 21449852.69 21449852.85 21449853.03 0.0262 0.0188 Jupiter 54020-03-02 19:12 G 21451521.07 21451521.30 21451521.53 0.0511 0.0095 Uranus 54022-09-25 03:50 G 21452457.52 21452457.66 21452457.82 0.0135 0.0108 Uranus 54023-09-29 11:02 G 21452826.73 21452826.96 21452827.20 0.0134 0.0047 Uranus 54024-10-02 18:00 G 21453196.00 21453196.25 21453196.50 0.0134 0.0013 Uranus 54025-10-07 00:00 G 21453565.31 21453565.50 21453565.73 0.0134 0.0074 Uranus 54026-10-11 06:29 G 21453934.74 21453934.77 21453934.82 0.0134 0.0132 Saturn 54030-01-31 09:07 G 21455142.64 21455142.88 21455143.12 0.0298 0.0043 Jupiter 54032-03-07 14:53 G 21455908.96 21455909.12 21455909.29 0.0509 0.0363 Saturn 54044-08-02 17:02 G 21460439.97 21460440.21 21460440.46 0.0263 0.0019 Mars 54047-07-01 13:12 G 21461502.92 21461503.05 21461503.18 0.1802 0.1349 Saturn 54059-01-24 15:07 G 21465728.11 21465728.13 21465728.16 0.0298 0.0296 Uranus 54066-03-26 14:38 G 21468345.93 21468346.11 21468346.30 0.0144 0.0097 Uranus 54067-03-31 16:19 G 21468715.93 21468716.18 21468716.44 0.0144 0.0022 Uranus 54068-04-04 18:14 G 21469086.04 21469086.26 21469086.51 0.0144 0.0055 Uranus 54069-04-09 20:53 G 21469456.28 21469456.37 21469456.49 0.0144 0.0131 54072-12-28 04:05 G 21470814.53 21470814.67 21470814.81 0.1724 0.1144 Mars Saturn 54073-07-28 17:31 G 21471027.15 21471027.23 21471027.34 0.0263 0.0242 Jupiter 54073-08-28 04:05 G 21471057.48 21471057.67 21471057.87 0.0514 0.0284 Saturn 54074-08-09 05:46 G 21471403.64 21471403.74 21471403.86 0.0262 0.0233 Jupiter 54079-02-21 14:24 G 21473061.01 21473061.10 21473061.19 0.0515 0.0472 Neptune 54085-08-24 14:24 G 21475437.09 21475437.10 21475437.17 0.0089 0.0088 Jupiter 54085-09-01 21:07 G 21475445.15 21475445.38 21475445.61 0.0515 0.0017 Neptune 54086-08-27 02:24 G 21475804.41 21475804.60 21475804.79 0.0089 0.0058

Neptune 54087-08-29 13:26 G 21476171.83 21476172.06 21476172.31 0.0089 0.0029 Neptune 54088-08-31 00:58 G 21476539.28 21476539.54 21476539.80 0.0089 0.0001 Saturn 54089-02-01 05:46 G 21476693.51 21476693.74 21476693.98 0.0298 0.0093 Neptune 54089-09-02 11:46 G 21476906.76 21476906.99 21476907.24 0.0089 0.0031 Neptune 54090-09-04 22:48 G 21477274.28 21477274.45 21477274.66 0.0089 0.0060 Jupiter 54091-02-26 11:17 G 21477448.76 21477448.97 21477449.19 0.0513 0.0197 Jupiter 54097-09-06 10:05 G 21479832.72 21479832.92 21479833.13 0.0517 0.0244 Pluto 54099-12-31 17:17 G 21480679.03 21480679.22 21480679.47 0.0066 0.0034 Pluto 54101-01-02 07:26 G 21481045.81 21481045.81 21481045.83 0.0067 0.0067 Jupiter 54103-03-04 09:22 G 21481836.66 21481836.89 21481837.12 0.0511 0.0078 Saturn 54103-08-05 14:38 G 21481990.86 21481991.11 21481991.35 0.0263 0.0027 Uranus 54106-09-26 17:31 G 21483139.09 21483139.23 21483139.42 0.0135 0.0102 Uranus 54107-10-01 00:58 G 21483508.31 21483508.54 21483508.79 0.0134 0.0042 Uranus 54108-10-04 07:55 G 21483877.58 21483877.83 21483878.08 0.0134 0.0019 Uranus 54109-10-08 14:24 G 21484246.90 21484247.10 21484247.31 0.0134 0.0079 Jupiter 54115-03-09 03:22 G 21486224.47 21486224.64 21486224.82 0.0509 0.0342 Saturn 54118-01-26 12:43 G 21487278.89 21487279.03 21487279.17 0.0298 0.0243 Saturn 54132-07-30 14:38 G 21492577.95 21492578.11 21492578.28 0.0263 0.0197 Saturn 54148-02-04 02:10 G 21498244.38 21498244.59 21498244.81 0.0298 0.0144 Uranus 54150-03-28 03:07 G 21499027.45 21499027.63 21499027.84 0.0144 0.0092 Uranus 54151-04-02 05:02 G 21499397.46 21499397.71 21499397.97 0.0144 0.0016 Uranus 54152-04-06 07:12 G 21499767.57 21499767.80 21499768.04 0.0144 0.0060 Uranus 54153-04-11 09:50 G 21500137.84 21500137.91 21500137.99 0.0144 0.0137 Jupiter 54156-08-28 07:55 G 21501372.65 21501372.83 21501373.01 0.0513 0.0328 Jupiter 54162-02-22 03:22 G 21503376.58 21503376.64 21503376.70 0.0515 0.0496 Saturn 54162-08-06 11:46 G 21503541.76 21503541.99 21503542.23 0.0263 0.0073 Neptune 54167-02-23 10:05 G 21505203.81 21505203.92 21505204.08 0.0089 0.0076 Neptune 54168-02-25 22:34 G 21505571.22 21505571.44 21505571.67 0.0089 0.0046 Jupiter 54168-09-02 01:55 G 21505760.35 21505760.58 21505760.81 0.0515 0.0058 Neptune 54169-02-27 10:34 G 21505938.69 21505938.94 21505939.20 0.0088 0.0017

Neptune 54170-03-01 22:19 G 21506306.19 21506306.43 21506306.70 0.0088 0.0014 Neptune 54171-03-04 10:05 G 21506673.71 21506673.92 21506674.16 0.0088 0.0043 Neptune 54172-03-05 21:50 G 21507041.29 21507041.41 21507041.58 0.0088 0.0072 Jupiter 54174-02-26 23:46 G 21507764.28 21507764.49 21507764.70 0.0513 0.0222 Saturn 54177-01-27 11:17 G 21508829.79 21508829.97 21508830.17 0.0298 0.0188 Jupiter 54180-09-06 22:05 G 21510148.22 21510148.42 21510148.64 0.0517 0.0220 Jupiter 54186-03-03 18:29 G 21512152.04 21512152.27 21512152.51 0.0511 0.0049 Pluto 54187-07-06 17:31 G 21512641.99 21512642.23 21512642.48 0.0078 0.0025 Uranus 54190-09-27 08:10 G 21513820.69 21513820.84 21513821.04 0.0135 0.0096 Saturn 54191-08-01 11:46 G 21514128.79 21514128.99 21514129.19 0.0263 0.0151 Uranus 54191-10-01 15:50 G 21514189.92 21514190.16 21514190.41 0.0134 0.0035 Jupiter 54192-09-11 18:14 G 21514536.21 21514536.26 21514536.32 0.0519 0.0501 Uranus 54192-10-04 22:48 G 21514559.20 21514559.45 21514559.70 0.0134 0.0025 Uranus 54193-10-09 05:02 G 21514928.53 21514928.71 21514928.92 0.0134 0.0085 Jupiter 54198-03-08 10:34 G 21516539.76 21516539.94 21516540.13 0.0509 0.0313 Saturn 54207-02-06 00:43 G 21519795.36 21519795.53 21519795.72 0.0298 0.0200 Saturn 54221-08-08 09:50 G 21525092.70 21525092.91 21525093.14 0.0263 0.0121 Uranus 54234-03-29 17:02 G 21529709.01 21529709.21 21529709.42 0.0144 0.0085 Uranus 54235-04-03 18:43 G 21530079.02 21530079.28 21530079.54 0.0144 0.0010 Saturn 54236-01-30 12:43 G 21530380.81 21530381.03 21530381.25 0.0297 0.0127 Uranus 54236-04-07 20:53 G 21530449.15 21530449.37 21530449.60 0.0144 0.0067 Uranus 54237-04-12 23:31 G 21530819.45 21530819.48 21530819.52 0.0144 0.0143 Jupiter 54239-08-29 18:29 G 21531688.12 21531688.27 21531688.45 0.0513 0.0357 Saturn 54250-08-03 10:05 G 21535679.70 21535679.92 21535680.15 0.0263 0.0104 Neptune 54250-08-28 06:29 G 21535704.66 21535704.77 21535704.92 0.0089 0.0076 Neptune 54251-08-30 18:14 G 21536072.05 21536072.26 21536072.48 0.0089 0.0046 Jupiter 54251-09-03 13:26 G 21536075.83 21536076.06 21536076.29 0.0515 0.0084 Neptune 54252-09-01 05:31 G 21536439.48 21536439.73 21536439.99 0.0089 0.0017 Neptune 54253-09-03 16:48 G 21536806.95 21536807.20 21536807.46 0.0089 0.0013 Neptune 54254-09-06 03:50 G 21537174.45 21537174.66 21537174.90 0.0089 0.0043

Neptune 54255-09-08 15:22 G 21537541.99 21537542.14 21537542.29 0.0089 0.0072 Jupiter 54257-02-27 05:17 G 21538079.52 21538079.72 21538079.93 0.0514 0.0260 Jupiter 54263-09-08 06:29 G 21540463.56 21540463.77 21540463.99 0.0516 0.0189 Saturn 54266-02-07 02:24 G 21541346.49 21541346.60 21541346.72 0.0298 0.0262 Jupiter 54269-03-04 01:26 G 21542467.32 21542467.56 21542467.79 0.0512 0.0018 Uranus 54274-09-28 23:31 G 21544502.31 21544502.48 21544502.68 0.0135 0.0089 Jupiter 54275-09-12 19:55 G 21544851.22 21544851.33 21544851.44 0.0518 0.0450 Uranus 54275-10-03 06:58 G 21544871.55 21544871.79 21544872.04 0.0134 0.0029 Uranus 54276-10-06 13:41 G 21545240.84 21545241.07 21545241.33 0.0134 0.0032 Uranus 54277-10-10 20:10 G 21545610.17 21545610.34 21545610.54 0.0134 0.0091 Saturn 54280-08-09 09:36 G 21546643.72 21546643.90 21546644.09 0.0263 0.0172 Jupiter 54281-03-08 21:22 G 21546855.20 21546855.39 21546855.59 0.0510 0.0287 Saturn 54295-01-31 18:14 G 21551932.02 21551932.26 21551932.50 0.0297 0.0057 Saturn 54309-08-05 10:48 G 21557230.71 21557230.95 21557231.19 0.0263 0.0052 Uranus 54318-03-31 03:07 G 21560390.43 21560390.63 21560390.86 0.0144 0.0082 Uranus 54319-04-05 05:02 G 21560760.46 21560760.71 21560760.97 0.0144 0.0006 Uranus 54320-04-09 06:58 G 21561130.58 21561130.79 21561131.02 0.0144 0.0070 Jupiter 54322-08-30 02:38 G 21562003.46 21562003.61 21562003.75 0.0512 0.0391 Neptune 54332-02-27 02:53 G 21565471.46 21565471.62 21565471.82 0.0089 0.0063 Neptune 54333-02-28 14:53 G 21565838.90 21565839.12 21565839.38 0.0089 0.0034 Neptune 54334-03-03 03:22 G 21566206.38 21566206.64 21566206.90 0.0088 0.0004 Jupiter 54334-09-03 14:38 G 21566390.89 21566391.11 21566391.34 0.0513 0.0137 Neptune 54335-03-05 15:07 G 21566573.89 21566574.13 21566574.38 0.0088 0.0026 Neptune 54336-03-07 02:53 G 21566941.44 21566941.62 21566941.84 0.0088 0.0056 Neptune 54337-03-09 15:07 G 21567309.07 21567309.13 21567309.20 0.0088 0.0085 Saturn 54338-07-31 20:38 G 21567818.31 21567818.36 21567818.43 0.0264 0.0256 Saturn 54339-08-12 11:02 G 21568194.85 21568194.96 21568195.10 0.0264 0.0227 Jupiter 54340-02-28 12:14 G 21568394.83 21568395.01 21568395.21 0.0515 0.0299 Pluto 54346-01-05 00:14 G 21570532.27 21570532.51 21570532.78 0.0066 0.0012 Jupiter 54346-09-08 07:41 G 21570778.60 21570778.82 21570779.04 0.0516 0.0135

Jupiter 54352-03-04 07:55 G 21572782.60 21572782.83 21572783.07 0.0512 0.0024 Saturn 54354-02-03 03:36 G 21573483.41 21573483.65 21573483.90 0.0297 0.0021 54356-12-31 22:19 G 21574546.25 21574546.43 21574546.60 0.1717 0.0680 Mars Jupiter 54358-09-13 02:38 G 21575166.48 21575166.61 21575166.75 0.0518 0.0414 Uranus 54358-09-30 14:10 G 21575183.90 21575184.09 21575184.30 0.0135 0.0083 Uranus 54359-10-04 21:22 G 21575553.15 21575553.39 21575553.65 0.0134 0.0023 Uranus 54360-10-08 04:34 G 21575922.45 21575922.69 21575922.93 0.0134 0.0038 Uranus 54361-10-12 10:34 G 21576291.79 21576291.94 21576292.13 0.0134 0.0098 Jupiter 54364-03-09 02:10 G 21577170.39 21577170.59 21577170.80 0.0510 0.0247 Saturn 54368-08-06 13:55 G 21578781.84 21578782.08 21578782.33 0.0264 0.0007 Jupiter 54376-03-13 17:46 G 21581558.23 21581558.24 21581558.26 0.0509 0.0507 Saturn 54383-01-27 23:02 G 21584069.43 21584069.46 21584069.50 0.0297 0.0293 Saturn 54397-08-02 00:29 G 21589369.37 21589369.52 21589369.69 0.0264 0.0198 Uranus 54402-03-31 15:22 G 21591071.93 21591072.14 21591072.37 0.0144 0.0076 Uranus 54403-04-05 17:02 G 21591441.95 21591442.21 21591442.47 0.0144 0.0001 Uranus 54404-04-09 18:43 G 21591812.07 21591812.28 21591812.51 0.0144 0.0075 Jupiter 54405-08-29 02:53 G 21592318.51 21592318.62 21592318.73 0.0511 0.0445 Saturn 54413-02-04 17:46 G 21595035.02 21595035.24 21595035.48 0.0297 0.0108 Neptune 54415-08-30 22:48 G 21595972.30 21595972.45 21595972.66 0.0089 0.0064 Neptune 54416-09-01 10:19 G 21596339.71 21596339.93 21596340.18 0.0089 0.0034 Jupiter 54417-09-02 19:12 G 21596706.08 21596706.30 21596706.52 0.0513 0.0180 Neptune 54417-09-03 21:50 G 21596707.16 21596707.41 21596707.67 0.0089 0.0004 Neptune 54418-09-06 08:53 G 21597074.64 21597074.87 21597075.13 0.0089 0.0026 Neptune 54419-09-08 20:24 G 21597442.16 21597442.35 21597442.56 0.0089 0.0055 Neptune 54420-09-10 06:58 G 21597809.74 21597809.79 21597809.89 0.0089 0.0085 Jupiter 54423-02-27 15:36 G 21598709.98 21598710.15 21598710.32 0.0515 0.0345 Saturn 54427-08-08 19:26 G 21600333.08 21600333.31 21600333.55 0.0264 0.0066 Jupiter 54429-09-07 13:12 G 21601093.82 21601094.05 21601094.28 0.0515 0.0096 Pluto 54433-07-10 01:55 G 21602495.43 21602495.58 21602495.78 0.0078 0.0058 Jupiter 54435-03-04 08:24 G 21603097.62 21603097.85 21603098.09 0.0513 0.0074

Jupiter 54441-09-12 06:43 G 21605481.62 21605481.78 21605481.94 0.0517 0.0371 Saturn 54442-01-29 13:26 G 21605620.89 21605621.06 21605621.24 0.0297 0.0206 Uranus 54442-10-01 04:05 G 21605865.46 21605865.67 21605865.88 0.0135 0.0076 Uranus 54443-10-05 11:17 G 21606234.73 21606234.97 21606235.23 0.0135 0.0016 Uranus 54444-10-08 18:14 G 21606604.02 21606604.26 21606604.50 0.0134 0.0044 Uranus 54445-10-13 00:14 G 21606973.37 21606973.51 21606973.69 0.0134 0.0104 Jupiter 54447-03-09 02:53 G 21607485.40 21607485.62 21607485.83 0.0511 0.0198 Saturn 54456-08-03 06:58 G 21610920.58 21610920.79 21610921.00 0.0264 0.0137 Jupiter 54459-03-13 20:10 G 21611873.25 21611873.34 21611873.44 0.0510 0.0463 Saturn 54472-02-07 11:17 G 21616586.80 21616586.97 21616587.16 0.0297 0.0200 Uranus 54486-04-01 02:38 G 21621753.40 21621753.61 21621753.85 0.0143 0.0071 Saturn 54486-08-10 02:53 G 21621884.42 21621884.62 21621884.84 0.0264 0.0130 Uranus 54487-04-06 04:05 G 21622123.42 21622123.67 21622123.93 0.0144 0.0005 Uranus 54488-04-10 05:31 G 21622493.53 21622493.73 21622493.96 0.0144 0.0080 Jupiter 54488-08-28 06:29 G 21622633.71 21622633.77 21622633.84 0.0511 0.0490 Neptune 54496-02-26 07:12 G 21625371.70 21625371.80 21625371.92 0.0089 0.0080 Neptune 54497-02-27 18:58 G 21625739.10 21625739.29 21625739.52 0.0089 0.0051 Neptune 54498-03-02 07:26 G 21626106.56 21626106.81 21626107.07 0.0089 0.0021 Neptune 54499-03-04 19:26 G 21626474.06 21626474.31 21626474.57 0.0088 0.0009 Neptune 54500-03-07 07:26 G 21626841.58 21626841.81 21626842.05 0.0088 0.0039 Jupiter 54500-09-02 22:19 G 21627021.23 21627021.43 21627021.64 0.0513 0.0225 Saturn 54501-02-01 07:41 G 21627172.59 21627172.82 21627173.04 0.0297 0.0112 Neptune 54501-03-09 19:12 G 21627209.16 21627209.30 21627209.48 0.0088 0.0069 Jupiter 54506-02-27 13:26 G 21629024.91 21629025.06 21629025.20 0.0515 0.0403 Jupiter 54512-09-07 12:14 G 21631408.78 21631409.01 21631409.24 0.0514 0.0037 Saturn 54515-08-06 15:07 G 21632471.89 21632472.13 21632472.36 0.0264 0.0073 Jupiter 54518-03-04 07:26 G 21633412.59 21633412.81 21633413.04 0.0514 0.0131 Jupiter 54524-09-12 03:50 G 21635796.47 21635796.66 21635796.84 0.0516 0.0309 Uranus 54525-09-28 08:10 G 21636177.79 21636177.84 21636177.91 0.0135 0.0131 Uranus 54526-10-02 16:19 G 21636546.97 21636547.18 21636547.40 0.0135 0.0071

Uranus 54527-10-06 23:46 G 21636916.24 21636916.49 21636916.74 0.0135 0.0011 Uranus 54528-10-10 06:43 G 21637285.55 21637285.78 21637286.02 0.0134 0.0049 Uranus 54529-10-14 13:12 G 21637654.92 21637655.05 21637655.21 0.0134 0.0108 Jupiter 54530-03-09 02:24 G 21637800.38 21637800.60 21637800.83 0.0512 0.0145 Saturn 54531-02-10 06:43 G 21638138.78 21638138.78 21638138.80 0.0297 0.0297 Jupiter 54542-03-13 21:07 G 21642188.25 21642188.38 21642188.52 0.0510 0.0415 Saturn 54545-08-12 12:14 G 21643435.85 21643436.01 21643436.18 0.0264 0.0196 Saturn 54560-02-04 02:24 G 21648724.36 21648724.60 21648724.85 0.0297 0.0017 Uranus 54569-03-28 15:50 G 21652065.09 21652065.16 21652065.24 0.0143 0.0136 Uranus 54570-04-02 16:48 G 21652434.97 21652435.20 21652435.43 0.0143 0.0063 Uranus 54571-04-07 17:46 G 21652804.99 21652805.24 21652805.50 0.0144 0.0012 Uranus 54572-04-11 18:58 G 21653175.11 21653175.29 21653175.51 0.0144 0.0087 Saturn 54574-08-08 00:00 G 21654023.25 21654023.50 21654023.75 0.0264 0.0007 Neptune 54579-08-31 05:02 G 21655872.62 21655872.71 21655872.84 0.0089 0.0080 Neptune 54580-09-01 16:05 G 21656239.98 21656240.17 21656240.40 0.0089 0.0051 Neptune 54581-09-04 03:36 G 21656607.41 21656607.65 21656607.90 0.0089 0.0021 Neptune 54582-09-06 15:07 G 21656974.87 21656975.13 21656975.38 0.0089 0.0009 Jupiter 54583-09-02 20:53 G 21657336.18 21657336.37 21657336.56 0.0512 0.0284 Neptune 54583-09-09 01:41 G 21657342.36 21657342.57 21657342.82 0.0089 0.0039 Neptune 54584-09-10 13:12 G 21657709.90 21657710.05 21657710.23 0.0089 0.0068 Jupiter 54589-02-26 11:31 G 21659339.88 21659339.98 21659340.09 0.0516 0.0462 Pluto 54592-01-08 10:34 G 21660385.70 21660385.94 21660386.19 0.0066 0.0021 Jupiter 54595-09-07 11:02 G 21661723.73 21661723.96 21661724.19 0.0514 0.0018 Jupiter 54601-03-04 08:24 G 21663727.64 21663727.85 21663728.07 0.0514 0.0180 Saturn 54603-08-04 06:58 G 21664610.66 21664610.79 21664610.93 0.0264 0.0222 Saturn 54604-08-14 21:36 G 21664987.40 21664987.40 21664987.44 0.0264 0.0263 Jupiter 54607-09-13 05:02 G 21666111.51 21666111.71 21666111.91 0.0516 0.0261 Uranus 54609-09-29 21:22 G 21666859.30 21666859.39 21666859.48 0.0135 0.0126 Uranus 54610-10-04 05:02 G 21667228.50 21667228.71 21667228.94 0.0135 0.0065 Uranus 54611-10-08 12:43 G 21667597.78 21667598.03 21667598.28 0.0135 0.0005

Uranus 54612-10-11 19:41 G 21667967.09 21667967.32 21667967.55 0.0134 0.0055 Jupiter 54613-03-09 01:41 G 21668115.34 21668115.57 21668115.81 0.0512 0.0093 Uranus 54613-10-16 02:24 G 21668336.47 21668336.60 21668336.73 0.0134 0.0114 Saturn 54619-02-06 20:53 G 21670276.14 21670276.37 21670276.61 0.0297 0.0078 Jupiter 54625-03-13 18:43 G 21672503.12 21672503.28 21672503.45 0.0510 0.0361 Saturn 54633-08-10 08:53 G 21675574.64 21675574.87 21675575.12 0.0264 0.0058 54641-01-03 16:48 G 21678278.01 21678278.20 21678278.39 0.1711 0.0205 Mars Saturn 54648-02-01 02:38 G 21680862.45 21680862.61 21680862.78 0.0296 0.0217 Uranus 54653-03-30 04:48 G 21682746.62 21682746.70 21682746.83 0.0143 0.0131 Uranus 54654-04-04 05:46 G 21683116.51 21683116.74 21683116.98 0.0143 0.0057 Uranus 54655-04-09 06:58 G 21683486.53 21683486.79 21683487.04 0.0144 0.0018 Uranus 54656-04-13 07:55 G 21683856.66 21683856.83 21683857.05 0.0144 0.0093 Neptune 54661-02-28 23:17 G 21685639.33 21685639.47 21685639.67 0.0089 0.0068 Neptune 54662-03-03 11:46 G 21686006.77 21686006.99 21686007.24 0.0089 0.0038 Saturn 54662-08-05 16:34 G 21686162.01 21686162.19 21686162.40 0.0264 0.0156 Neptune 54663-03-06 00:14 G 21686374.25 21686374.51 21686374.77 0.0089 0.0008 Neptune 54664-03-07 12:29 G 21686741.77 21686742.02 21686742.27 0.0089 0.0022 Neptune 54665-03-10 00:00 G 21687109.30 21687109.50 21687109.72 0.0088 0.0052 Neptune 54666-03-12 11:31 G 21687476.91 21687476.98 21687477.12 0.0088 0.0082 Jupiter 54666-09-02 21:07 G 21687651.21 21687651.38 21687651.56 0.0512 0.0335 Jupiter 54672-02-27 12:00 G 21689654.98 21689655.00 21689655.02 0.0516 0.0514 Saturn 54678-02-08 13:41 G 21691827.87 21691828.07 21691828.27 0.0297 0.0168 Pluto 54678-07-12 12:43 G 21691981.88 21691982.03 21691982.23 0.0078 0.0057 Jupiter 54678-09-07 14:38 G 21692038.88 21692039.11 21692039.34 0.0514 0.0063 Jupiter 54684-03-03 06:43 G 21694042.57 21694042.78 21694042.99 0.0515 0.0236 Jupiter 54690-09-12 06:29 G 21696426.56 21696426.77 21696426.98 0.0515 0.0210 Saturn 54692-08-11 16:48 G 21697125.99 21697126.20 21697126.42 0.0264 0.0121 Uranus 54693-09-30 09:22 G 21697540.80 21697540.89 21697541.02 0.0135 0.0121 54694-07-09 06:00 G 21697822.66 21697822.75 21697822.84 0.1814 0.1603 Mars Uranus 54694-10-04 17:46 G 21697910.02 21697910.24 21697910.47 0.0135 0.0060

Uranus 54695-10-09 01:12 G 21698279.29 21698279.55 21698279.80 0.0135 0.0001 Jupiter 54696-03-07 23:31 G 21698430.25 21698430.48 21698430.72 0.0513 0.0035 Uranus 54696-10-12 08:10 G 21698648.62 21698648.84 21698649.07 0.0135 0.0060 Uranus 54697-10-16 14:38 G 21699018.01 21699018.11 21699018.24 0.0134 0.0119 Jupiter 54702-09-17 22:19 G 21700814.35 21700814.43 21700814.51 0.0517 0.0483 Saturn 54707-02-03 17:46 G 21702414.03 21702414.24 21702414.46 0.0296 0.0131 Jupiter 54708-03-13 18:43 G 21702818.10 21702818.28 21702818.47 0.0511 0.0312 Saturn 54721-08-08 01:26 G 21707713.33 21707713.56 21707713.79 0.0264 0.0091 Saturn 54737-02-11 02:38 G 21713379.48 21713379.61 21713379.74 0.0297 0.0251 Uranus 54737-03-31 18:43 G 21713428.16 21713428.28 21713428.41 0.0143 0.0123 Uranus 54738-04-05 19:12 G 21713798.07 21713798.30 21713798.55 0.0143 0.0050 Uranus 54739-04-10 20:24 G 21714168.09 21714168.35 21714168.60 0.0144 0.0024 Uranus 54740-04-14 21:22 G 21714538.22 21714538.39 21714538.59 0.0144 0.0099 Neptune 54744-09-02 22:48 G 21716140.29 21716140.45 21716140.63 0.0089 0.0067 Neptune 54745-09-05 09:50 G 21716507.69 21716507.91 21716508.16 0.0089 0.0038 Neptune 54746-09-07 21:07 G 21716875.13 21716875.38 21716875.64 0.0089 0.0008 Neptune 54747-09-10 08:24 G 21717242.60 21717242.85 21717243.10 0.0089 0.0022 Neptune 54748-09-11 19:12 G 21717610.11 21717610.30 21717610.53 0.0089 0.0052 Jupiter 54749-09-03 01:41 G 21717966.42 21717966.57 21717966.73 0.0511 0.0377 Neptune 54749-09-14 06:43 G 21717977.69 21717977.78 21717977.89 0.0089 0.0081 Saturn 54751-08-14 23:02 G 21718677.29 21718677.46 21718677.65 0.0264 0.0181 Jupiter 54761-09-07 16:34 G 21722353.96 21722354.19 21722354.41 0.0513 0.0110 Saturn 54766-02-05 04:48 G 21723965.46 21723965.70 21723965.94 0.0297 0.0053 Jupiter 54767-03-04 07:26 G 21724357.62 21724357.81 21724358.01 0.0515 0.0286 Jupiter 54773-09-12 05:17 G 21726741.50 21726741.72 21726741.94 0.0515 0.0156 Uranus 54777-10-01 23:02 G 21728222.35 21728222.46 21728222.61 0.0135 0.0115 Uranus 54778-10-06 07:12 G 21728591.58 21728591.80 21728592.04 0.0135 0.0054 Jupiter 54779-03-09 05:46 G 21728745.50 21728745.74 21728745.97 0.0513 0.0007 Uranus 54779-10-10 14:38 G 21728960.86 21728961.11 21728961.36 0.0135 0.0006 Saturn 54780-08-09 07:55 G 21729264.59 21729264.83 21729265.08 0.0264 0.0030

Uranus 54780-10-13 21:22 G 21729330.19 21729330.39 21729330.63 0.0134 0.0066 Uranus 54781-10-18 03:36 G 21729699.58 21729699.65 21729699.77 0.0134 0.0125 Jupiter 54785-09-17 00:14 G 21731129.39 21731129.51 21731129.63 0.0517 0.0438 Jupiter 54791-03-13 23:46 G 21733133.29 21733133.49 21733133.69 0.0511 0.0273 Saturn 54809-08-04 12:00 G 21739851.94 21739852.00 21739852.10 0.0264 0.0249 Saturn 54810-08-16 03:22 G 21740228.55 21740228.64 21740228.76 0.0264 0.0237 Uranus 54821-04-01 05:46 G 21744109.62 21744109.74 21744109.90 0.0143 0.0119 Uranus 54822-04-06 06:43 G 21744479.54 21744479.78 21744480.02 0.0143 0.0046 Uranus 54823-04-11 07:26 G 21744849.56 21744849.81 21744850.07 0.0144 0.0029 Uranus 54824-04-15 08:53 G 21745219.70 21745219.87 21745220.06 0.0144 0.0103 Saturn 54825-02-06 11:17 G 21745516.73 21745516.97 21745517.22 0.0297 0.0017 Neptune 54825-03-01 03:50 G 21745539.61 21745539.66 21745539.77 0.0089 0.0085 Neptune 54826-03-03 16:19 G 21745907.00 21745907.18 21745907.41 0.0089 0.0055 Neptune 54827-03-06 05:02 G 21746274.47 21746274.71 21746274.97 0.0089 0.0025 Neptune 54828-03-07 17:17 G 21746641.96 21746642.22 21746642.48 0.0089 0.0005 Neptune 54829-03-10 05:31 G 21747009.49 21747009.73 21747009.97 0.0088 0.0035 Neptune 54830-03-12 17:31 G 21747377.06 21747377.23 21747377.41 0.0088 0.0065 Jupiter 54832-09-02 01:41 G 21748281.45 21748281.57 21748281.70 0.0511 0.0429 Pluto 54837-01-10 04:05 G 21749872.56 21749872.67 21749872.86 0.0066 0.0054 Pluto 54838-01-11 18:00 G 21750239.09 21750239.25 21750239.46 0.0066 0.0047 Saturn 54839-08-11 12:00 G 21750815.76 21750816.00 21750816.25 0.0264 0.0028 Jupiter 54844-09-06 18:58 G 21752669.07 21752669.29 21752669.51 0.0513 0.0156 Jupiter 54850-03-03 14:53 G 21754672.94 21754673.12 21754673.31 0.0515 0.0321 Jupiter 54856-09-11 13:41 G 21757056.85 21757057.07 21757057.30 0.0515 0.0125 Uranus 54861-10-02 11:17 G 21758903.85 21758903.97 21758904.14 0.0135 0.0111 Jupiter 54862-03-08 10:05 G 21759060.69 21759060.92 21759061.16 0.0514 0.0041 Uranus 54862-10-06 19:41 G 21759273.09 21759273.32 21759273.56 0.0135 0.0050 Uranus 54863-10-11 03:07 G 21759642.38 21759642.63 21759642.88 0.0135 0.0010 Uranus 54864-10-14 10:05 G 21760011.71 21760011.92 21760012.14 0.0135 0.0070 Uranus 54865-10-18 16:34 G 21760381.13 21760381.19 21760381.27 0.0134 0.0129

Saturn 54868-08-05 14:53 G 21761402.95 21761403.12 21761403.28 0.0264 0.0194 Jupiter 54868-09-16 07:55 G 21761444.70 21761444.83 21761444.98 0.0516 0.0405 Jupiter 54874-03-13 02:53 G 21763448.41 21763448.62 21763448.83 0.0512 0.0232 Saturn 54884-02-08 13:55 G 21767067.85 21767068.08 21767068.32 0.0297 0.0079 Jupiter 54886-03-17 22:34 G 21767836.44 21767836.44 21767836.46 0.0510 0.0509 Saturn 54898-08-12 13:55 G 21772366.85 21772367.08 21772367.32 0.0264 0.0081 Uranus 54905-04-02 16:34 G 21774791.05 21774791.19 21774791.35 0.0143 0.0115 Uranus 54906-04-07 17:02 G 21775160.97 21775161.21 21775161.47 0.0143 0.0042 Uranus 54907-04-12 18:00 G 21775531.00 21775531.25 21775531.50 0.0144 0.0033 Uranus 54908-04-16 19:26 G 21775901.14 21775901.31 21775901.48 0.0144 0.0107 Neptune 54908-09-03 06:29 G 21776040.70 21776040.77 21776040.88 0.0089 0.0083 Neptune 54909-09-05 17:46 G 21776408.04 21776408.24 21776408.45 0.0089 0.0053 Neptune 54910-09-08 04:48 G 21776775.46 21776775.70 21776775.96 0.0089 0.0024 Neptune 54911-09-10 16:05 G 21777142.91 21777143.17 21777143.43 0.0089 0.0006 Neptune 54912-09-12 02:53 G 21777510.40 21777510.62 21777510.87 0.0089 0.0036 Saturn 54913-02-01 22:48 G 21777653.33 21777653.45 21777653.58 0.0296 0.0255 Neptune 54913-09-14 13:41 G 21777877.93 21777878.07 21777878.27 0.0089 0.0066 Jupiter 54915-09-03 11:46 G 21778596.89 21778596.99 21778597.09 0.0510 0.0459 Pluto 54924-07-15 22:48 G 21781835.22 21781835.45 21781835.72 0.0078 0.0020 54925-01-06 12:43 G 21782009.84 21782010.03 21782010.21 0.1704 0.0309 Mars Saturn 54927-08-08 14:53 G 21782953.92 21782954.12 21782954.33 0.0264 0.0144 Jupiter 54927-09-08 05:17 G 21782984.51 21782984.72 21782984.94 0.0512 0.0184 Jupiter 54933-03-03 19:12 G 21784988.14 21784988.30 21784988.47 0.0516 0.0363 Jupiter 54939-09-12 21:22 G 21787372.16 21787372.39 21787372.62 0.0514 0.0091 Saturn 54943-02-10 12:58 G 21788618.82 21788619.04 21788619.26 0.0297 0.0133 Jupiter 54945-03-08 16:48 G 21789375.96 21789376.20 21789376.43 0.0514 0.0075 Uranus 54945-10-04 00:14 G 21789585.36 21789585.51 21789585.67 0.0135 0.0105 Uranus 54946-10-08 08:24 G 21789954.61 21789954.85 21789955.08 0.0135 0.0045 Uranus 54947-10-12 15:36 G 21790323.90 21790324.15 21790324.41 0.0135 0.0015 Uranus 54948-10-15 22:48 G 21790693.25 21790693.45 21790693.66 0.0135 0.0075

Uranus 54949-10-20 05:02 G 21791062.70 21791062.71 21791062.76 0.0134 0.0134 Jupiter 54951-09-17 09:50 G 21791759.75 21791759.91 21791760.09 0.0516 0.0358 Jupiter 54957-03-13 15:07 G 21793763.92 21793764.13 21793764.35 0.0512 0.0211 Saturn 54957-08-14 14:10 G 21793917.88 21793918.09 21793918.31 0.0264 0.0131 Jupiter 54969-03-18 09:50 G 21798151.85 21798151.91 21798151.98 0.0510 0.0485 Saturn 54972-02-03 21:50 G 21799204.23 21799204.41 21799204.59 0.0296 0.0200 54978-07-11 01:12 G 21801553.38 21801553.55 21801553.73 0.1823 0.0887 Mars Saturn 54986-08-09 13:26 G 21804504.84 21804505.06 21804505.29 0.0264 0.0097 Uranus 54989-04-03 02:53 G 21805472.47 21805472.62 21805472.80 0.0143 0.0110 Neptune 54990-03-03 22:05 G 21805807.28 21805807.42 21805807.59 0.0089 0.0071 Uranus 54990-04-08 03:22 G 21805842.40 21805842.64 21805842.90 0.0143 0.0037 Neptune 54991-03-06 10:05 G 21806174.71 21806174.92 21806175.17 0.0089 0.0042 Uranus 54991-04-13 03:50 G 21806212.42 21806212.66 21806212.92 0.0143 0.0037 Neptune 54992-03-07 22:34 G 21806542.19 21806542.44 21806542.70 0.0089 0.0011 Uranus 54992-04-17 05:17 G 21806582.57 21806582.72 21806582.89 0.0144 0.0111 Neptune 54993-03-10 10:48 G 21806909.70 21806909.95 21806910.21 0.0089 0.0019 Neptune 54994-03-12 22:48 G 21807277.25 21807277.45 21807277.68 0.0089 0.0049 Neptune 54995-03-15 10:34 G 21807644.85 21807644.94 21807645.09 0.0088 0.0079 Jupiter 54998-09-02 21:36 G 21808912.34 21808912.40 21808912.47 0.0510 0.0488

### **56TH MILLENNIUM CE**

### This is a list of transits of Earth in the 56th millennium CE.

FROM MAX- C START MAX END SUNRAD DEPTH S

TRANSIT

TIME

Saturn 55002-02-12 10:19 G 21810169.76 21810169.93 21810170.13 0.0297 0.0187 Jupiter 55010-09-08 08:24 G 21813299.65 21813299.85 21813300.06 0.0511 0.0231 Jupiter 55016-03-04 07:55 G 21815303.68 21815303.83 21815303.98 0.0517 0.0387 Saturn 55016-08-16 12:43 G 21815468.85 21815469.03 21815469.21 0.0264 0.0179 Jupiter 55022-09-13 02:10 G 21817687.36 21817687.59 21817687.83 0.0514 0.0049 Jupiter 55028-03-09 05:02 G 21819691.48 21819691.71 21819691.94 0.0514 0.0101 Uranus 55029-10-05 10:05 G 21820266.76 21820266.92 21820267.10 0.0135 0.0101 Uranus 55030-10-09 18:29 G 21820636.03 21820636.27 21820636.51 0.0135 0.0040 Saturn 55031-02-05 19:41 G 21820755.12 21820755.32 21820755.54 0.0296 0.0146 Uranus 55031-10-14 01:55 G 21821005.34 21821005.58 21821005.84 0.0135 0.0020 Uranus 55032-10-17 09:07 G 21821374.69 21821374.88 21821375.10 0.0135 0.0079 Jupiter 55034-09-17 21:50 G 21822075.24 21822075.41 21822075.59 0.0516 0.0334 Jupiter 55040-03-14 00:14 G 21824079.29 21824079.51 21824079.73 0.0512 0.0181 Saturn 55045-08-11 11:17 G 21826055.73 21826055.97 21826056.21 0.0264 0.0050 Jupiter 55052-03-18 17:02 G 21828467.11 21828467.21 21828467.32 0.0511 0.0454 Saturn 55061-02-13 07:26 G 21831720.67 21831720.81 21831720.96 0.0297 0.0238 Uranus 55073-04-04 13:55 G 21836153.92 21836154.08 21836154.27 0.0143 0.0104 Neptune 55073-09-06 01:41 G 21836308.43 21836308.57 21836308.75 0.0089 0.0069 Uranus 55074-04-09 14:24 G 21836523.85 21836524.10 21836524.35 0.0143 0.0031 Saturn 55074-08-06 18:00 G 21836643.22 21836643.25 21836643.31 0.0265 0.0261 Neptune 55074-09-08 12:58 G 21836675.82 21836676.04 21836676.28 0.0089 0.0039 Uranus 55075-04-14 14:53 G 21836893.89 21836894.12 21836894.38 0.0143 0.0043 Saturn 55075-08-18 10:34 G 21837019.81 21837019.94 21837020.06 0.0264 0.0226 Neptune 55075-09-11 00:00 G 21837043.26 21837043.50 21837043.77 0.0089 0.0010 Uranus 55076-04-18 15:50 G 21837264.04 21837264.16 21837264.33 0.0144 0.0117 Neptune 55076-09-12 11:31 G 21837410.73 21837410.98 21837411.23 0.0089 0.0020 Neptune 55077-09-14 22:05 G 21837778.22 21837778.42 21837778.65 0.0089 0.0050 Neptune 55078-09-17 08:53 G 21838145.79 21838145.87 21838146.01 0.0089 0.0080 Pluto 55083-01-14 14:10 G 21839725.85 21839726.09 21839726.34 0.0066 0.0022 Saturn 55090-02-06 18:58 G 21842306.06 21842306.29 21842306.53 0.0296 0.0090

Jupiter 55093-09-07 20:24 G 21843615.15 21843615.35 21843615.55 0.0511 0.0257 Jupiter 55099-03-04 17:31 G 21845619.09 21845619.23 21845619.36 0.0517 0.0419 Saturn 55104-08-13 08:53 G 21847606.62 21847606.87 21847607.12 0.0264 0.0003 Jupiter 55105-09-13 14:38 G 21848002.88 21848003.11 21848003.34 0.0513 0.0025 Jupiter 55111-03-10 11:31 G 21850006.75 21850006.98 21850007.20 0.0515 0.0137 Uranus 55113-10-06 20:10 G 21850948.18 21850948.34 21850948.54 0.0135 0.0097 Uranus 55114-10-11 04:34 G 21851317.46 21851317.69 21851317.95 0.0135 0.0037 Uranus 55115-10-15 12:43 G 21851686.78 21851687.03 21851687.28 0.0135 0.0024 Uranus 55116-10-18 19:55 G 21852056.15 21852056.33 21852056.54 0.0135 0.0084 Jupiter 55117-09-18 07:26 G 21852390.63 21852390.81 21852391.00 0.0515 0.0304 Saturn 55120-02-16 05:31 G 21853271.70 21853271.73 21853271.78 0.0297 0.0293 Jupiter 55123-03-15 08:24 G 21854394.62 21854394.85 21854395.07 0.0513 0.0150 Saturn 55133-08-08 16:05 G 21858194.03 21858194.17 21858194.32 0.0265 0.0213 Jupiter 55135-03-20 05:02 G 21858782.60 21858782.71 21858782.85 0.0511 0.0433 Saturn 55149-02-08 19:41 G 21863857.08 21863857.32 21863857.56 0.0296 0.0030 Neptune 55154-03-05 04:34 G 21865707.66 21865707.69 21865707.75 0.0089 0.0087 Neptune 55155-03-07 16:34 G 21866075.01 21866075.19 21866075.41 0.0089 0.0058 Neptune 55156-03-09 04:48 G 21866442.47 21866442.70 21866442.96 0.0089 0.0028 Neptune 55157-03-11 17:17 G 21866809.97 21866810.22 21866810.48 0.0089 0.0003 Uranus 55157-04-06 01:55 G 21866835.42 21866835.58 21866835.79 0.0143 0.0098 Neptune 55158-03-14 05:31 G 21867177.50 21867177.73 21867177.98 0.0089 0.0033 Uranus 55158-04-11 02:38 G 21867205.36 21867205.61 21867205.86 0.0143 0.0025 Neptune 55159-03-16 17:17 G 21867545.06 21867545.22 21867545.42 0.0088 0.0063 Uranus 55159-04-16 03:07 G 21867575.39 21867575.63 21867575.87 0.0143 0.0048 Uranus 55160-04-20 04:19 G 21867945.55 21867945.68 21867945.82 0.0143 0.0122 Saturn 55163-08-15 06:58 G 21869157.55 21869157.79 21869158.04 0.0264 0.0046 Pluto 55170-07-20 12:29 G 21871688.81 21871689.02 21871689.28 0.0078 0.0033 Jupiter 55176-09-08 06:00 G 21873930.56 21873930.75 21873930.95 0.0511 0.0287 Jupiter 55182-03-04 23:02 G 21875934.36 21875934.46 21875934.58 0.0518 0.0460 Jupiter 55188-09-12 17:46 G 21878318.01 21878318.24 21878318.48 0.0512 0.0027

Saturn 55192-08-09 14:38 G 21879744.92 21879745.11 21879745.30 0.0265 0.0165 Jupiter 55194-03-09 21:07 G 21880322.16 21880322.38 21880322.61 0.0516 0.0171 Uranus 55197-10-07 05:31 G 21881629.56 21881629.73 21881629.93 0.0135 0.0093 Uranus 55198-10-11 14:10 G 21881998.85 21881999.09 21881999.34 0.0135 0.0032 Uranus 55199-10-15 22:05 G 21882368.18 21882368.42 21882368.67 0.0135 0.0028 Jupiter 55200-09-17 10:34 G 21882705.75 21882705.94 21882706.15 0.0514 0.0255 Uranus 55200-10-19 05:46 G 21882737.55 21882737.74 21882737.94 0.0135 0.0087 Jupiter 55206-03-14 17:46 G 21884710.02 21884710.24 21884710.47 0.0514 0.0117 Saturn 55208-02-11 00:00 G 21885408.25 21885408.50 21885408.74 0.0296 0.0037 55209-01-09 09:22 G 21885741.73 21885741.89 21885742.05 0.1698 0.0854 Mars Jupiter 55218-03-19 12:43 G 21889097.90 21889098.03 21889098.19 0.0511 0.0399 Saturn 55222-08-16 06:43 G 21890708.56 21890708.78 21890709.01 0.0265 0.0097 Saturn 55237-02-03 19:12 G 21895994.22 21895994.30 21895994.39 0.0295 0.0276 Neptune 55237-09-06 10:48 G 21896208.89 21896208.95 21896209.04 0.0089 0.0084 Neptune 55238-09-08 21:36 G 21896576.23 21896576.40 21896576.63 0.0089 0.0055 Neptune 55239-09-11 09:22 G 21896943.65 21896943.89 21896944.14 0.0089 0.0025 Neptune 55240-09-12 20:24 G 21897311.10 21897311.35 21897311.61 0.0089 0.0005 Uranus 55241-04-06 14:10 G 21897516.91 21897517.09 21897517.30 0.0143 0.0092 Neptune 55241-09-15 07:12 G 21897678.58 21897678.80 21897679.05 0.0089 0.0035 Uranus 55242-04-11 14:38 G 21897886.86 21897887.11 21897887.37 0.0143 0.0019 Neptune 55242-09-17 18:00 G 21898046.10 21898046.25 21898046.45 0.0089 0.0065 Uranus 55243-04-16 14:53 G 21898256.90 21898257.12 21898257.38 0.0143 0.0055 Uranus 55244-04-20 16:05 G 21898627.08 21898627.17 21898627.31 0.0143 0.0128 Saturn 55251-08-11 14:53 G 21901295.90 21901296.12 21901296.35 0.0266 0.0113 Jupiter 55259-09-08 08:53 G 21904245.70 21904245.87 21904246.04 0.0510 0.0337 55262-07-12 19:55 G 21905284.13 21905284.33 21905284.53 0.1832 0.0098 Mars Jupiter 55265-03-04 05:46 G 21906249.70 21906249.74 21906249.80 0.0518 0.0503 Saturn 55267-02-12 08:10 G 21906959.62 21906959.84 21906960.07 0.0295 0.0112 Jupiter 55271-09-13 01:12 G 21908633.33 21908633.55 21908633.79 0.0512 0.0063 Jupiter 55277-03-09 03:07 G 21910637.42 21910637.63 21910637.85 0.0516 0.0211

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Uranus 55452-10-22 14:10 G 21974781.94 21974782.09 21974782.28 0.0135 0.0099 Jupiter 55455-03-15 00:00 G 21975655.27 21975655.50 21975655.74 0.0515 0.0030 Saturn 55457-08-12 09:50 G 21976536.72 21976536.91 21976537.12 0.0266 0.0156 Jupiter 55461-09-22 13:41 G 21978038.93 21978039.07 21978039.22 0.0515 0.0398 Jupiter 55467-03-19 17:31 G 21980043.03 21980043.23 21980043.44 0.0513 0.0252 Saturn 55473-02-13 03:36 G 21982200.42 21982200.65 21982200.89 0.0295 0.0067 Neptune 55483-03-08 08:24 G 21985875.83 21985875.85 21985875.90 0.0089 0.0088 Neptune 55484-03-09 20:38 G 21986243.18 21986243.36 21986243.57 0.0089 0.0058 Neptune 55485-03-12 08:53 G 21986610.62 21986610.87 21986611.12 0.0089 0.0028 Neptune 55486-03-14 20:53 G 21986978.11 21986978.37 21986978.63 0.0089 0.0002 Neptune 55487-03-17 08:53 G 21987345.63 21987345.87 21987346.12 0.0089 0.0032 Saturn 55487-08-19 14:24 G 21987500.90 21987501.10 21987501.33 0.0266 0.0132 Neptune 55488-03-18 20:53 G 21987713.20 21987713.37 21987713.57 0.0089 0.0062 55493-01-12 07:41 G 21989473.73 21989473.82 21989473.92 0.1692 0.1453 Mars Uranus 55493-04-09 21:22 G 21989561.19 21989561.39 21989561.61 0.0143 0.0079 Uranus 55494-04-14 21:36 G 21989931.14 21989931.40 21989931.65 0.0143 0.0007 Uranus 55495-04-19 21:50 G 21990301.19 21990301.41 21990301.64 0.0143 0.0066 Uranus 55496-04-23 22:19 G 21990671.39 21990671.43 21990671.52 0.0143 0.0139 Saturn 55502-02-08 12:00 G 21992786.85 21992787.00 21992787.17 0.0294 0.0221 Jupiter 55508-09-08 15:36 G 21995191.09 21995191.15 21995191.21 0.0508 0.0486 Saturn 55516-08-14 20:24 G 21998088.12 21998088.35 21998088.59 0.0266 0.0088 Jupiter 55520-09-13 06:58 G 21999578.58 21999578.79 21999579.00 0.0510 0.0213 Jupiter 55526-03-10 01:55 G 22001582.43 22001582.58 22001582.74 0.0518 0.0381 Saturn 55532-02-16 21:36 G 22003752.20 22003752.40 22003752.61 0.0296 0.0160 Jupiter 55532-09-17 23:17 G 22003966.24 22003966.47 22003966.70 0.0512 0.0066 Uranus 55533-10-11 23:31 G 22004355.29 22004355.48 22004355.70 0.0135 0.0077 Uranus 55534-10-16 08:24 G 22004724.60 22004724.85 22004725.10 0.0135 0.0017 Uranus 55535-10-20 16:19 G 22005093.95 22005094.18 22005094.43 0.0135 0.0043 Uranus 55536-10-23 23:31 G 22005463.34 22005463.48 22005463.67 0.0135 0.0102 Jupiter 55538-03-14 21:07 G 22005970.15 22005970.38 22005970.61 0.0516 0.0091

Jupiter 55544-09-22 14:10 G 22008353.92 22008354.09 22008354.26 0.0514 0.0343 55546-07-15 13:41 G 22009014.90 22009015.07 22009015.25 0.1840 0.0796 Mars Saturn 55546-08-22 00:00 G 22009052.35 22009052.50 22009052.68 0.0265 0.0198 Jupiter 55550-03-19 14:24 G 22010357.88 22010358.10 22010358.32 0.0515 0.0191 Saturn 55561-02-10 06:00 G 22014338.54 22014338.75 22014338.97 0.0294 0.0130 Jupiter 55562-03-24 09:50 G 22014745.83 22014745.91 22014746.00 0.0512 0.0478 Neptune 55566-09-10 17:02 G 22016377.15 22016377.21 22016377.31 0.0089 0.0084 Neptune 55567-09-13 04:48 G 22016744.50 22016744.70 22016744.90 0.0089 0.0054 Neptune 55568-09-14 15:36 G 22017111.92 22017112.15 22017112.41 0.0089 0.0025 Neptune 55569-09-17 03:07 G 22017479.38 22017479.63 22017479.89 0.0089 0.0006 Neptune 55570-09-19 14:38 G 22017846.87 22017847.11 22017847.34 0.0089 0.0035 Neptune 55571-09-22 01:26 G 22018214.39 22018214.56 22018214.74 0.0089 0.0065 Pluto 55575-01-22 04:34 G 22019432.46 22019432.69 22019432.94 0.0066 0.0025 Saturn 55575-08-17 07:12 G 22019639.56 22019639.80 22019640.05 0.0265 0.0019 Uranus 55577-04-11 06:14 G 22020242.56 22020242.76 22020242.99 0.0143 0.0075 Uranus 55578-04-16 06:14 G 22020612.50 22020612.76 22020613.02 0.0143 0.0003 Uranus 55579-04-21 06:14 G 22020982.55 22020982.76 22020983.00 0.0143 0.0069 Uranus 55580-04-25 06:58 G 22021352.77 22021352.79 22021352.85 0.0143 0.0142 Saturn 55591-02-18 14:24 G 22025303.98 22025304.10 22025304.24 0.0296 0.0251 Jupiter 55603-09-13 09:36 G 22029893.71 22029893.90 22029894.10 0.0509 0.0261 Saturn 55604-08-11 13:26 G 22030226.96 22030227.06 22030227.19 0.0266 0.0236 Saturn 55605-08-23 08:53 G 22030603.85 22030603.87 22030603.92 0.0265 0.0262 Jupiter 55609-03-08 21:50 G 22031897.30 22031897.41 22031897.53 0.0519 0.0447 Jupiter 55615-09-17 23:31 G 22034281.25 22034281.48 22034281.71 0.0511 0.0012 Uranus 55616-10-07 23:31 G 22034667.45 22034667.48 22034667.55 0.0136 0.0133 Uranus 55617-10-12 08:53 G 22035036.67 22035036.87 22035037.09 0.0136 0.0073 Uranus 55618-10-16 17:46 G 22035405.99 22035406.24 22035406.49 0.0135 0.0013 Uranus 55619-10-21 01:26 G 22035775.34 22035775.56 22035775.81 0.0135 0.0047 Saturn 55620-02-12 21:36 G 22035890.16 22035890.40 22035890.64 0.0295 0.0044 Uranus 55620-10-24 09:22 G 22036144.74 22036144.89 22036145.05 0.0135 0.0105

Jupiter 55621-03-13 19:26 G 22036285.09 22036285.31 22036285.54 0.0517 0.0149 Jupiter 55627-09-22 11:46 G 22038668.81 22038668.99 22038669.19 0.0513 0.0286 Jupiter 55633-03-18 18:00 G 22040673.02 22040673.25 22040673.47 0.0515 0.0149 Saturn 55634-08-18 17:17 G 22041190.97 22041191.22 22041191.46 0.0265 0.0049 Jupiter 55645-03-23 11:46 G 22045060.88 22045060.99 22045061.13 0.0513 0.0432 Neptune 55648-03-10 05:02 G 22046143.59 22046143.71 22046143.88 0.0089 0.0073 Neptune 55649-03-12 17:31 G 22046511.02 22046511.23 22046511.47 0.0089 0.0043 Neptune 55650-03-15 05:46 G 22046878.48 22046878.74 22046879.00 0.0089 0.0013 Neptune 55651-03-17 17:31 G 22047245.99 22047246.23 22047246.50 0.0089 0.0018 Neptune 55652-03-19 05:31 G 22047613.53 22047613.73 22047613.97 0.0089 0.0048 Neptune 55653-03-21 17:46 G 22047981.12 22047981.24 22047981.37 0.0089 0.0077 Uranus 55660-04-06 17:02 G 22050554.19 22050554.21 22050554.28 0.0142 0.0140 Uranus 55661-04-11 16:19 G 22050923.97 22050924.18 22050924.41 0.0143 0.0070 Pluto 55661-07-25 05:46 G 22051028.58 22051028.74 22051028.92 0.0078 0.0059 Uranus 55662-04-16 16:19 G 22051293.92 22051294.18 22051294.43 0.0143 0.0002 Uranus 55663-04-21 16:19 G 22051663.96 22051664.18 22051664.40 0.0143 0.0074 Saturn 55663-08-13 21:50 G 22051778.23 22051778.41 22051778.61 0.0266 0.0172 Saturn 55679-02-14 09:50 G 22057441.67 22057441.91 22057442.15 0.0295 0.0037 Jupiter 55686-09-12 07:55 G 22060208.66 22060208.83 22060209.02 0.0509 0.0319 Jupiter 55692-03-08 03:07 G 22062212.56 22062212.63 22062212.71 0.0519 0.0488 Saturn 55693-08-20 00:58 G 22062742.32 22062742.54 22062742.77 0.0265 0.0112 55698-01-12 00:29 G 22064348.35 22064348.52 22064348.70 0.1683 0.0590 Mars Jupiter 55698-09-17 00:29 G 22064596.29 22064596.52 22064596.75 0.0511 0.0039 Uranus 55700-10-09 07:12 G 22065348.75 22065348.80 22065348.89 0.0136 0.0130 Uranus 55701-10-13 16:48 G 22065717.99 22065718.20 22065718.42 0.0136 0.0070 Uranus 55702-10-18 01:26 G 22066087.31 22066087.56 22066087.81 0.0135 0.0010 Uranus 55703-10-22 09:36 G 22066456.67 22066456.90 22066457.13 0.0135 0.0049 Jupiter 55704-03-14 00:00 G 22066600.28 22066600.50 22066600.72 0.0517 0.0193 Uranus 55704-10-25 16:48 G 22066826.07 22066826.20 22066826.37 0.0135 0.0108 Saturn 55708-02-09 00:14 G 22068027.47 22068027.51 22068027.59 0.0295 0.0285

Jupiter 55710-09-22 18:00 G 22068984.05 22068984.25 22068984.46 0.0513 0.0247 Jupiter 55716-03-18 19:26 G 22070988.08 22070988.31 22070988.54 0.0515 0.0099 Saturn 55722-08-16 04:19 G 22073329.46 22073329.68 22073329.90 0.0266 0.0111 Jupiter 55728-03-23 12:00 G 22075375.85 22075376.00 22075376.16 0.0513 0.0381 Neptune 55731-09-13 14:38 G 22076644.98 22076645.11 22076645.30 0.0089 0.0069 Neptune 55732-09-15 02:10 G 22077012.38 22077012.59 22077012.84 0.0089 0.0039 Neptune 55733-09-17 13:55 G 22077379.82 22077380.08 22077380.34 0.0089 0.0009 Neptune 55734-09-20 00:58 G 22077747.30 22077747.54 22077747.79 0.0089 0.0021 Neptune 55735-09-22 12:00 G 22078114.81 22078115.00 22078115.23 0.0089 0.0051 Neptune 55736-09-23 23:02 G 22078482.38 22078482.46 22078482.59 0.0089 0.0081 Saturn 55738-02-16 17:02 G 22078992.99 22078993.21 22078993.44 0.0295 0.0108 Uranus 55744-04-08 03:22 G 22081235.58 22081235.64 22081235.74 0.0142 0.0136 Uranus 55745-04-13 02:53 G 22081605.39 22081605.62 22081605.85 0.0143 0.0065 Uranus 55746-04-18 02:24 G 22081975.35 22081975.60 22081975.86 0.0143 0.0007 Uranus 55747-04-23 02:24 G 22082345.39 22082345.60 22082345.82 0.0143 0.0078 Saturn 55752-08-22 06:43 G 22084293.59 22084293.78 22084293.97 0.0265 0.0172 Saturn 55767-02-10 06:43 G 22089578.62 22089578.78 22089578.95 0.0295 0.0216 Jupiter 55769-09-12 16:05 G 22090524.00 22090524.17 22090524.33 0.0509 0.0354 Saturn 55781-08-17 07:41 G 22094880.59 22094880.82 22094881.07 0.0265 0.0055 Jupiter 55781-09-17 08:38 G 22094911.63 22094911.86 22094912.09 0.0511 0.0074 Uranus 55784-10-09 16:34 G 22096030.11 22096030.19 22096030.29 0.0136 0.0126 Uranus 55785-10-14 01:26 G 22096399.36 22096399.56 22096399.80 0.0136 0.0067 Uranus 55786-10-18 10:19 G 22096768.68 22096768.93 22096769.18 0.0135 0.0007 Jupiter 55787-03-14 01:12 G 22096915.34 22096915.55 22096915.76 0.0518 0.0243 Uranus 55787-10-22 18:14 G 22097138.04 22097138.26 22097138.50 0.0135 0.0053 Uranus 55788-10-26 01:41 G 22097507.45 22097507.57 22097507.73 0.0135 0.0111 Jupiter 55793-09-21 23:31 G 22099299.27 22099299.48 22099299.69 0.0512 0.0207 Saturn 55797-02-17 20:53 G 22100544.17 22100544.37 22100544.57 0.0295 0.0172 Jupiter 55799-03-18 23:02 G 22101303.23 22101303.46 22101303.69 0.0516 0.0056 Jupiter 55805-09-27 11:46 G 22103686.91 22103686.99 22103687.07 0.0514 0.0481

Jupiter 55811-03-24 21:50 G 22105691.24 22105691.41 22105691.58 0.0514 0.0354 Saturn 55811-08-25 09:50 G 22105844.79 22105844.91 22105845.03 0.0265 0.0228 Neptune 55812-03-11 15:07 G 22106044.09 22106044.13 22106044.18 0.0089 0.0087 Neptune 55813-03-14 02:38 G 22106411.44 22106411.61 22106411.83 0.0089 0.0058 Neptune 55814-03-16 14:53 G 22106778.89 22106779.12 22106779.38 0.0089 0.0028 Neptune 55815-03-19 03:22 G 22107146.39 22107146.64 22107146.90 0.0089 0.0003 Neptune 55816-03-20 15:07 G 22107513.90 22107514.13 22107514.38 0.0089 0.0033 Neptune 55817-03-23 03:07 G 22107881.46 22107881.63 22107881.83 0.0089 0.0063 55820-01-24 19:26 G 22108919.22 22108919.31 22108919.45 0.0066 0.0059 Pluto 55821-01-25 08:53 G 22109285.69 22109285.87 22109286.10 0.0066 0.0041 Pluto Saturn 55826-02-12 08:53 G 22111129.67 22111129.87 22111130.08 0.0295 0.0155 Uranus 55828-04-09 14:10 G 22111917.00 22111917.09 22111917.21 0.0142 0.0130 Uranus 55829-04-14 13:12 G 22112286.83 22112287.05 22112287.29 0.0143 0.0061 Uranus 55830-04-19 12:58 G 22112656.79 22112657.04 22112657.30 0.0143 0.0011 Uranus 55831-04-24 12:43 G 22113026.84 22113027.03 22113027.26 0.0143 0.0083 Saturn 55840-08-19 08:53 G 22116431.63 22116431.87 22116432.12 0.0265 0.0003 Jupiter 55852-09-13 00:00 G 22120839.35 22120839.50 22120839.65 0.0508 0.0388 Saturn 55856-02-20 21:22 G 22122095.24 22122095.39 22122095.55 0.0295 0.0231 Jupiter 55864-09-17 10:19 G 22125226.71 22125226.93 22125227.16 0.0510 0.0125 Uranus 55868-10-11 01:12 G 22126711.46 22126711.55 22126711.66 0.0136 0.0123 Saturn 55869-08-14 15:22 G 22127019.00 22127019.14 22127019.29 0.0266 0.0215 Uranus 55869-10-15 10:19 G 22127080.71 22127080.93 22127081.16 0.0136 0.0064 Jupiter 55870-03-14 12:00 G 22127230.81 22127231.00 22127231.20 0.0518 0.0273 Uranus 55870-10-19 18:43 G 22127450.03 22127450.28 22127450.54 0.0135 0.0005 Uranus 55871-10-24 02:38 G 22127819.39 22127819.61 22127819.85 0.0135 0.0056 Uranus 55872-10-27 10:34 G 22128188.81 22128188.94 22128189.08 0.0135 0.0113 Jupiter 55876-09-22 03:22 G 22129614.42 22129614.64 22129614.86 0.0512 0.0162 Jupiter 55882-03-19 09:50 G 22131618.67 22131618.91 22131619.14 0.0516 0.0027 Saturn 55885-02-13 09:07 G 22132680.65 22132680.88 22132681.11 0.0295 0.0096 Jupiter 55888-09-26 22:19 G 22134002.32 22134002.43 22134002.54 0.0514 0.0453

Jupiter 55894-03-24 05:31 G 22136006.55 22136006.73 22136006.91 0.0514 0.0320 Neptune 55895-09-14 01:26 G 22136545.49 22136545.56 22136545.67 0.0089 0.0083 Neptune 55896-09-15 12:58 G 22136912.85 22136913.04 22136913.26 0.0089 0.0053 Neptune 55897-09-18 00:14 G 22137280.26 22137280.51 22137280.76 0.0089 0.0023 Neptune 55898-09-20 11:31 G 22137647.73 22137647.98 22137648.24 0.0089 0.0007 Saturn 55899-08-21 08:10 G 22137982.60 22137982.84 22137983.08 0.0265 0.0049 Neptune 55899-09-22 22:34 G 22138015.22 22138015.44 22138015.68 0.0089 0.0037 Neptune 55900-09-25 09:50 G 22138382.76 22138382.91 22138383.09 0.0089 0.0067 Pluto 55907-07-30 10:34 G 22140881.74 22140881.94 22140882.19 0.0078 0.0039 Uranus 55912-04-11 00:00 G 22142598.38 22142598.50 22142598.61 0.0142 0.0127 Uranus 55913-04-15 22:48 G 22142968.23 22142968.45 22142968.70 0.0143 0.0057 Uranus 55914-04-20 22:34 G 22143338.19 22143338.44 22143338.70 0.0143 0.0015 Saturn 55915-02-22 19:12 G 22143646.25 22143646.30 22143646.38 0.0295 0.0285 Uranus 55915-04-25 22:34 G 22143708.25 22143708.44 22143708.65 0.0143 0.0087 Saturn 55928-08-16 13:55 G 22148569.90 22148570.08 22148570.29 0.0266 0.0167 Jupiter 55935-09-14 04:48 G 22151154.58 22151154.70 22151154.82 0.0508 0.0433 Saturn 55944-02-16 07:55 G 22154231.59 22154231.83 22154232.07 0.0294 0.0041 Jupiter 55947-09-18 22:05 G 22155542.19 22155542.42 22155542.64 0.0510 0.0152 Uranus 55952-10-12 11:02 G 22157392.86 22157392.96 22157393.09 0.0136 0.0120 Jupiter 55953-03-14 21:07 G 22157546.19 22157546.38 22157546.57 0.0518 0.0306 Uranus 55953-10-16 19:55 G 22157762.12 22157762.33 22157762.57 0.0136 0.0061 Uranus 55954-10-21 04:48 G 22158131.45 22158131.70 22158131.95 0.0135 0.0001 Uranus 55955-10-25 12:29 G 22158500.81 22158501.02 22158501.26 0.0135 0.0059 Uranus 55956-10-28 19:41 G 22158870.22 22158870.32 22158870.47 0.0135 0.0117 Saturn 55958-08-23 06:00 G 22159533.53 22159533.75 22159533.99 0.0265 0.0097 Jupiter 55959-09-23 15:22 G 22159929.92 22159930.14 22159930.37 0.0512 0.0138 Jupiter 55965-03-19 15:36 G 22161933.92 22161934.15 22161934.39 0.0517 0.0014 Jupiter 55971-09-28 07:55 G 22164317.70 22164317.83 22164317.96 0.0514 0.0423 Neptune 55977-03-14 12:14 G 22166311.89 22166312.01 22166312.19 0.0089 0.0072 Jupiter 55977-03-24 13:12 G 22166321.85 22166322.05 22166322.24 0.0515 0.0287

Neptune 55978-03-17 00:43 G 22166679.32 22166679.53 22166679.78 0.0089 0.0042

Neptune 55979-03-19 12:58 G 22167046.80 22167047.04 22167047.31 0.0089 0.0012

Neptune 55980-03-21 01:26 G 22167414.31 22167414.56 22167414.82 0.0089 0.0019

Neptune 55981-03-23 13:12 G 22167781.85 22167782.05 22167782.28 0.0089 0.0049

Mars 55982-01-16 01:12 G 22168080.36 22168080.55 22168080.74 0.1678 0.0099

Neptune 55982-03-26 01:12 G 22168149.45 22168149.55 22168149.68 0.0089 0.0079

Saturn 55987-08-18 11:46 G 22170120.77 22170120.99 22170121.21 0.0267 0.0118

Uranus 55996-04-11 08:24 G 22173279.73 22173279.85 22173279.98 0.0142 0.0124

Uranus 55997-04-16 07:26 G 22173649.58 22173649.81 22173650.05 0.0143 0.0054

Uranus 55998-04-21 06:58 G 22174019.54 22174019.79 22174020.05 0.0143 0.0018

Uranus 55999-04-26 07:12 G 22174389.61 22174389.80 22174390.01 0.0143 0.0089

# **57TH MILLENNIUM CE**

### This is a list of transits of Earth in the 57th millennium CE.

FROM MAX- C START MAX END SUNRAD DEPTH S

TRANSIT

TIME

Saturn 56003-02-17 06:58 G 22175782.55 22175782.79 22175783.03 0.0294 0.0015

Saturn 56017-08-24 03:36 G 22181084.45 22181084.65 22181084.86 0.0266 0.0144

Jupiter 56018-09-13 17:31 G 22181470.13 22181470.23 22181470.33 0.0507 0.0458

Jupiter 56030-09-18 08:24 G 22185857.63 22185857.85 22185858.07 0.0509 0.0181

Jupiter 56036-03-14 03:36 G 22187861.48 22187861.65 22187861.82 0.0519 0.0346

Uranus 56036-10-12 20:10 G 22188074.23 22188074.34 22188074.49 0.0136 0.0117

Uranus 56037-10-17 05:17 G 22188443.50 22188443.72 22188443.96 0.0136 0.0058

Uranus 56038-10-21 13:55 G 22188812.82 22188813.08 22188813.33 0.0135 0.0003

Uranus 56039-10-25 21:36 G 22189182.19 22189182.40 22189182.64 0.0135 0.0061 Uranus 56040-10-29 05:02 G 22189551.61 22189551.71 22189551.85 0.0135 0.0119 Jupiter 56042-09-22 19:41 G 22190245.09 22190245.32 22190245.55 0.0511 0.0089 Saturn 56046-08-19 09:22 G 22191671.66 22191671.89 22191672.13 0.0267 0.0071 Jupiter 56048-03-19 02:53 G 22192249.38 22192249.62 22192249.85 0.0518 0.0042 Jupiter 56054-09-27 12:14 G 22194632.85 22194633.01 22194633.17 0.0513 0.0377 Jupiter 56060-03-24 00:14 G 22196637.31 22196637.51 22196637.72 0.0515 0.0258 Neptune 56060-09-16 00:00 G 22196813.35 22196813.50 22196813.69 0.0089 0.0067 Neptune 56061-09-18 11:31 G 22197180.75 22197180.98 22197181.22 0.0089 0.0037 Saturn 56062-02-18 07:26 G 22197333.58 22197333.81 22197334.06 0.0294 0.0074 Neptune 56062-09-20 22:34 G 22197548.19 22197548.44 22197548.70 0.0089 0.0007 Neptune 56063-09-23 09:50 G 22197915.67 22197915.91 22197916.16 0.0089 0.0023 Neptune 56064-09-24 20:38 G 22198283.18 22198283.36 22198283.59 0.0089 0.0053 Neptune 56065-09-27 07:41 G 22198650.76 22198650.82 22198650.94 0.0089 0.0083 Pluto 56066-01-27 00:58 G 22198772.35 22198772.54 22198772.75 0.0066 0.0042 Pluto 56067-01-28 13:55 G 22199138.98 22199139.08 22199139.23 0.0066 0.0058 Saturn 56076-08-25 01:26 G 22202635.40 22202635.56 22202635.74 0.0266 0.0192 Uranus 56080-04-11 16:19 G 22203961.05 22203961.18 22203961.31 0.0142 0.0121 Uranus 56081-04-16 15:22 G 22204330.90 22204331.14 22204331.38 0.0143 0.0051 Uranus 56082-04-21 15:07 G 22204700.87 22204701.13 22204701.38 0.0143 0.0020 Uranus 56083-04-26 14:38 G 22205070.94 22205071.11 22205071.33 0.0143 0.0093 Saturn 56091-02-12 03:36 G 22207919.52 22207919.65 22207919.80 0.0293 0.0238 Jupiter 56101-09-13 22:19 G 22211785.42 22211785.43 22211785.45 0.0506 0.0505 Saturn 56105-08-21 07:41 G 22213222.58 22213222.82 22213223.07 0.0267 0.0022 Jupiter 56113-09-18 12:58 G 22216172.84 22216173.04 22216173.25 0.0508 0.0228 Jupiter 56119-03-15 12:58 G 22218176.89 22218177.04 22218177.20 0.0520 0.0383 Uranus 56120-10-14 05:17 G 22218755.59 22218755.72 22218755.87 0.0136 0.0113 Saturn 56121-02-20 10:34 G 22218884.72 22218884.94 22218885.15 0.0294 0.0137 Uranus 56121-10-18 14:24 G 22219124.87 22219125.10 22219125.34 0.0136 0.0054 Uranus 56122-10-22 23:02 G 22219494.20 22219494.46 22219494.71 0.0135 0.0006

Uranus 56123-10-27 06:58 G 22219863.58 22219863.79 22219864.02 0.0135 0.0064 Uranus 56124-10-30 14:38 G 22220233.01 22220233.11 22220233.22 0.0135 0.0122 Jupiter 56125-09-23 05:17 G 22220560.49 22220560.72 22220560.95 0.0511 0.0057 Jupiter 56131-03-20 11:02 G 22222564.73 22222564.96 22222565.19 0.0518 0.0077 Saturn 56134-08-16 02:10 G 22223809.56 22223809.59 22223809.65 0.0267 0.0263 Saturn 56135-08-28 00:43 G 22224186.45 22224186.53 22224186.64 0.0266 0.0243 Jupiter 56137-09-27 23:02 G 22224948.29 22224948.46 22224948.63 0.0513 0.0349 Neptune 56141-03-14 22:05 G 22226212.38 22226212.42 22226212.51 0.0089 0.0086 Neptune 56142-03-17 10:19 G 22226579.75 22226579.93 22226580.15 0.0089 0.0056 Neptune 56143-03-19 22:48 G 22226947.21 22226947.45 22226947.71 0.0089 0.0026 Jupiter 56143-03-25 05:31 G 22226952.52 22226952.73 22226952.95 0.0516 0.0217 Neptune 56144-03-21 11:02 G 22227314.70 22227314.96 22227315.22 0.0089 0.0005 Neptune 56145-03-23 23:02 G 22227682.23 22227682.46 22227682.71 0.0089 0.0035 Neptune 56146-03-26 11:02 G 22228049.80 22228049.96 22228050.15 0.0089 0.0065 Saturn 56150-02-14 07:12 G 22229470.61 22229470.80 22229471.00 0.0293 0.0173 Pluto 56153-08-01 18:14 G 22230735.01 22230735.26 22230735.53 0.0078 0.0010 Jupiter 56155-03-30 01:41 G 22231340.55 22231340.57 22231340.59 0.0514 0.0511 Uranus 56164-04-13 00:00 G 22234642.38 22234642.50 22234642.67 0.0142 0.0117 Saturn 56164-08-22 07:26 G 22234773.57 22234773.81 22234774.06 0.0267 0.0030 Uranus 56165-04-17 23:31 G 22235012.25 22235012.48 22235012.73 0.0143 0.0047 Uranus 56166-04-22 23:02 G 22235382.21 22235382.46 22235382.72 0.0143 0.0024 Uranus 56167-04-27 23:02 G 22235752.29 22235752.46 22235752.67 0.0143 0.0095 Saturn 56180-02-22 17:17 G 22240436.06 22240436.22 22240436.40 0.0294 0.0209 Mars 56193-07-21 19:12 G 22245334.22 22245334.30 22245334.39 0.1851 0.1675 Saturn 56193-08-17 03:07 G 22245360.50 22245360.63 22245360.80 0.0268 0.0210 Jupiter 56196-09-17 22:05 G 22246488.22 22246488.42 22246488.62 0.0508 0.0261 Jupiter 56202-03-15 16:34 G 22248492.06 22248492.19 22248492.32 0.0520 0.0431 Uranus 56204-10-15 12:43 G 22249436.90 22249437.03 22249437.19 0.0136 0.0110 Uranus 56205-10-19 22:05 G 22249806.19 22249806.42 22249806.66 0.0136 0.0051 Uranus 56206-10-24 06:43 G 22250175.53 22250175.78 22250176.03 0.0135 0.0009

Uranus 56207-10-28 14:53 G 22250544.91 22250545.12 22250545.34 0.0135 0.0067 Jupiter 56208-09-23 13:26 G 22250875.83 22250876.06 22250876.29 0.0510 0.0022 Uranus 56208-10-31 22:19 G 22250914.36 22250914.43 22250914.54 0.0135 0.0125 Saturn 56209-02-16 14:24 G 22251021.88 22251022.10 22251022.33 0.0293 0.0101 Jupiter 56214-03-20 13:41 G 22252879.85 22252880.07 22252880.30 0.0518 0.0127 Jupiter 56220-09-28 01:26 G 22255263.38 22255263.56 22255263.75 0.0511 0.0296 Saturn 56223-08-25 09:22 G 22256324.66 22256324.89 22256325.13 0.0267 0.0084 Neptune 56224-09-17 11:02 G 22256713.88 22256713.96 22256714.09 0.0089 0.0081 Neptune 56225-09-19 22:19 G 22257081.24 22257081.43 22257081.66 0.0089 0.0051 Jupiter 56226-03-25 10:05 G 22257267.70 22257267.92 22257268.15 0.0517 0.0172 Neptune 56226-09-22 09:50 G 22257448.67 22257448.91 22257449.17 0.0089 0.0021 Neptune 56227-09-24 21:07 G 22257816.13 22257816.38 22257816.64 0.0089 0.0009 Neptune 56228-09-26 07:55 G 22258183.62 22258183.83 22258184.08 0.0089 0.0039 Neptune 56229-09-28 19:12 G 22258551.16 22258551.30 22258551.48 0.0089 0.0069 Jupiter 56238-03-30 06:43 G 22261655.70 22261655.78 22261655.89 0.0514 0.0470 Saturn 56239-02-25 03:36 G 22261987.61 22261987.65 22261987.71 0.0294 0.0286 Uranus 56248-04-14 09:22 G 22265323.75 22265323.89 22265324.06 0.0142 0.0113 Uranus 56249-04-19 08:38 G 22265693.62 22265693.86 22265694.11 0.0142 0.0043 Uranus 56250-04-24 08:24 G 22266063.60 22266063.85 22266064.10 0.0143 0.0028 Uranus 56251-04-29 08:24 G 22266433.68 22266433.85 22266434.05 0.0143 0.0099 Saturn 56252-08-19 07:12 G 22266911.60 22266911.80 22266912.00 0.0268 0.0152 56266-01-19 01:55 G 22271812.42 22271812.58 22271812.75 0.1673 0.0782 Mars Saturn 56268-02-19 01:55 G 22272573.34 22272573.58 22272573.83 0.0293 0.0022 Jupiter 56279-09-19 00:58 G 22276803.37 22276803.54 22276803.73 0.0507 0.0312 Saturn 56282-08-26 13:12 G 22277875.85 22277876.05 22277876.27 0.0267 0.0142 Jupiter 56285-03-14 16:48 G 22278807.14 22278807.20 22278807.29 0.0522 0.0492 Uranus 56288-10-15 20:53 G 22280118.22 22280118.37 22280118.53 0.0136 0.0107 Uranus 56289-10-20 06:00 G 22280487.52 22280487.75 22280488.00 0.0136 0.0048 Uranus 56290-10-24 14:53 G 22280856.87 22280857.12 22280857.37 0.0135 0.0012 Jupiter 56291-09-23 14:38 G 22281190.88 22281191.11 22281191.34 0.0509 0.0034

Uranus 56291-10-28 23:02 G 22281226.26 22281226.46 22281226.69 0.0135 0.0070 Uranus 56292-11-01 06:43 G 22281595.72 22281595.78 22281595.88 0.0135 0.0128 Jupiter 56297-03-19 15:50 G 22283194.94 22283195.16 22283195.38 0.0519 0.0180 Jupiter 56303-09-29 04:48 G 22285578.50 22285578.70 22285578.91 0.0511 0.0250 Neptune 56306-03-18 20:38 G 22286480.22 22286480.36 22286480.54 0.0089 0.0070 Neptune 56307-03-21 08:38 G 22286847.65 22286847.86 22286848.11 0.0089 0.0040 Neptune 56308-03-22 21:07 G 22287215.13 22287215.38 22287215.65 0.0089 0.0010 Neptune 56309-03-25 09:22 G 22287582.65 22287582.89 22287583.15 0.0089 0.0021 Jupiter 56309-03-25 13:55 G 22287582.85 22287583.08 22287583.31 0.0517 0.0125 \* Neptune 56310-03-27 21:22 G 22287950.19 22287950.39 22287950.61 0.0089 0.0051 Neptune 56311-03-30 09:36 G 22288317.81 22288317.90 22288318.01 0.0089 0.0081 Saturn 56311-08-22 13:26 G 22288462.83 22288463.06 22288463.29 0.0267 0.0090 Pluto 56312-02-01 03:36 G 22288625.44 22288625.65 22288625.89 0.0066 0.0032 Jupiter 56321-03-30 07:55 G 22291970.70 22291970.83 22291970.97 0.0515 0.0418 Saturn 56327-02-21 16:05 G 22294124.93 22294125.17 22294125.41 0.0293 0.0064 Uranus 56332-04-15 18:43 G 22296005.14 22296005.28 22296005.47 0.0142 0.0109 Uranus 56333-04-20 18:29 G 22296375.03 22296375.27 22296375.52 0.0142 0.0038 Uranus 56334-04-25 18:00 G 22296745.00 22296745.25 22296745.50 0.0143 0.0032 Uranus 56335-04-30 18:14 G 22297115.09 22297115.26 22297115.45 0.0143 0.0103 Saturn 56341-08-28 19:41 G 22299427.17 22299427.32 22299427.48 0.0267 0.0203 Saturn 56356-02-16 02:10 G 22304711.44 22304711.59 22304711.76 0.0292 0.0219 Jupiter 56362-09-19 02:24 G 22307118.44 22307118.60 22307118.76 0.0507 0.0364 Saturn 56370-08-23 21:50 G 22310014.16 22310014.41 22310014.65 0.0267 0.0024 Uranus 56372-10-17 04:48 G 22310799.55 22310799.70 22310799.87 0.0136 0.0104 Uranus 56373-10-21 14:24 G 22311168.86 22311169.10 22311169.34 0.0136 0.0045 Jupiter 56374-09-23 17:31 G 22311506.00 22311506.23 22311506.46 0.0509 0.0082 Uranus 56374-10-25 23:02 G 22311538.21 22311538.46 22311538.72 0.0135 0.0014 Uranus 56375-10-30 07:12 G 22311907.60 22311907.80 22311908.03 0.0135 0.0073 Uranus 56376-11-02 15:07 G 22312277.08 22312277.13 22312277.21 0.0135 0.0130 Jupiter 56380-03-19 15:36 G 22313509.95 22313510.15 22313510.36 0.0519 0.0238

Saturn 56386-02-23 08:38 G 22315676.66 22315676.86 22315677.07 0.0294 0.0155 Jupiter 56386-09-28 08:53 G 22315893.66 22315893.87 22315894.09 0.0511 0.0205 Neptune 56389-09-20 09:36 G 22316981.74 22316981.90 22316982.09 0.0089 0.0065 Neptune 56390-09-22 20:53 G 22317349.15 22317349.37 22317349.62 0.0089 0.0035 Neptune 56391-09-25 08:24 G 22317716.59 22317716.85 22317717.10 0.0089 0.0005 Jupiter 56392-03-24 11:31 G 22317897.75 22317897.98 22317898.22 0.0518 0.0064 Neptune 56392-09-26 19:26 G 22318084.07 22318084.31 22318084.56 0.0089 0.0025 Neptune 56393-09-29 06:14 G 22318451.57 22318451.76 22318451.98 0.0089 0.0055 Neptune 56394-10-01 17:17 G 22318819.17 22318819.22 22318819.32 0.0089 0.0085 Jupiter 56398-10-02 22:34 G 22320281.38 22320281.44 22320281.52 0.0512 0.0485 Pluto 56399-08-05 21:07 G 22320588.12 22320588.38 22320588.64 0.0078 0.0002 Saturn 56399-08-19 03:07 G 22320601.55 22320601.63 22320601.75 0.0268 0.0245 Jupiter 56404-03-29 05:17 G 22322285.56 22322285.72 22322285.90 0.0516 0.0358 Saturn 56415-02-17 19:41 G 22326263.10 22326263.32 22326263.54 0.0292 0.0130 Uranus 56416-04-16 04:48 G 22326686.54 22326686.70 22326686.89 0.0142 0.0104 Uranus 56417-04-21 04:05 G 22327056.43 22327056.67 22327056.93 0.0143 0.0035 Uranus 56418-04-26 04:05 G 22327426.42 22327426.67 22327426.92 0.0143 0.0036 Uranus 56419-05-01 04:19 G 22327796.52 22327796.68 22327796.86 0.0143 0.0107 Saturn 56429-08-25 07:41 G 22331565.58 22331565.82 22331566.07 0.0267 0.0045 Saturn 56445-02-25 02:10 G 22337228.46 22337228.59 22337228.73 0.0294 0.0246 Jupiter 56445-09-18 06:00 G 22337433.62 22337433.75 22337433.89 0.0506 0.0410 Uranus 56456-10-17 14:24 G 22341480.94 22341481.10 22341481.28 0.0136 0.0101 Jupiter 56457-09-22 19:41 G 22341821.09 22341821.32 22341821.54 0.0508 0.0133 Uranus 56457-10-21 23:46 G 22341850.26 22341850.49 22341850.74 0.0136 0.0042 Saturn 56458-08-20 13:26 G 22342152.87 22342153.06 22342153.24 0.0268 0.0176 Uranus 56458-10-26 08:38 G 22342219.61 22342219.86 22342220.11 0.0135 0.0017 Uranus 56459-10-30 16:34 G 22342589.00 22342589.19 22342589.42 0.0135 0.0076 Uranus 56460-11-03 00:29 G 22342958.50 22342958.52 22342958.57 0.0135 0.0133 Jupiter 56463-03-19 10:48 G 22343824.76 22343824.95 22343825.14 0.0521 0.0308 Jupiter 56469-09-27 08:38 G 22346208.64 22346208.86 22346209.08 0.0510 0.0147

Neptune 56470-03-18 06:29 G 22346380.71 22346380.77 22346380.87 0.0089 0.0084 56471-01-18 21:22 G 22346687.25 22346687.39 22346687.53 0.1664 0.1077 Mars Neptune 56471-03-20 18:43 G 22346748.09 22346748.28 22346748.50 0.0089 0.0054 Neptune 56472-03-22 06:58 G 22347115.55 22347115.79 22347116.05 0.0089 0.0024 Neptune 56473-03-24 19:12 G 22347483.04 22347483.30 22347483.56 0.0089 0.0007 Saturn 56474-02-19 13:12 G 22347814.81 22347815.05 22347815.30 0.0293 0.0040 Neptune 56474-03-27 07:12 G 22347850.57 22347850.80 22347851.04 0.0089 0.0037 Jupiter 56475-03-24 08:53 G 22348212.64 22348212.87 22348213.11 0.0519 0.0003 Neptune 56475-03-29 19:26 G 22348218.14 22348218.31 22348218.48 0.0089 0.0067 56477-07-23 05:17 G 22349064.52 22349064.72 22349064.92 0.1859 0.0279 Mars Jupiter 56481-10-01 20:53 G 22350596.25 22350596.37 22350596.50 0.0512 0.0427 Jupiter 56487-03-29 07:26 G 22352600.63 22352600.81 22352601.00 0.0516 0.0310 Saturn 56488-08-26 18:14 G 22353117.05 22353117.26 22353117.49 0.0267 0.0114 Uranus 56500-04-17 13:55 G 22357367.91 22357368.08 22357368.27 0.0142 0.0101 Uranus 56501-04-22 13:26 G 22357737.81 22357738.06 22357738.31 0.0143 0.0031 Uranus 56502-04-27 12:43 G 22358107.80 22358108.03 22358108.29 0.0143 0.0040 Uranus 56503-05-02 13:12 G 22358477.90 22358478.05 22358478.22 0.0143 0.0110 Saturn 56517-08-22 23:02 G 22363704.24 22363704.46 22363704.69 0.0268 0.0109 Jupiter 56528-09-18 07:26 G 22367748.72 22367748.81 22367748.91 0.0505 0.0462 Saturn 56533-02-22 04:48 G 22369366.46 22369366.70 22369366.94 0.0293 0.0047 Jupiter 56540-09-22 17:17 G 22372136.01 22372136.22 22372136.44 0.0507 0.0193 Uranus 56540-10-18 23:46 G 22372162.34 22372162.49 22372162.69 0.0136 0.0098 Uranus 56541-10-23 09:22 G 22372531.66 22372531.89 22372532.14 0.0135 0.0039 Uranus 56542-10-27 18:14 G 22372901.01 22372901.26 22372901.51 0.0135 0.0020 Uranus 56543-11-01 02:10 G 22373270.40 22373270.59 22373270.81 0.0135 0.0078 Jupiter 56546-03-19 13:41 G 22374139.90 22374140.07 22374140.24 0.0521 0.0356 Saturn 56547-08-30 04:48 G 22374668.53 22374668.70 22374668.89 0.0267 0.0183 Mars 56550-01-22 02:24 G 22375544.51 22375544.60 22375544.70 0.1668 0.1442 Jupiter 56552-09-27 08:38 G 22376523.63 22376523.86 22376524.09 0.0510 0.0093 Neptune 56553-09-20 20:38 G 22376882.26 22376882.36 22376882.50 0.0089 0.0079

Neptune 56554-09-23 07:55 G 22377249.64 22377249.83 22377250.07 0.0089 0.0049 Neptune 56555-09-25 19:41 G 22377617.07 22377617.32 22377617.57 0.0089 0.0019 Neptune 56556-09-27 06:43 G 22377984.53 22377984.78 22377985.04 0.0089 0.0012 Neptune 56557-09-29 17:31 G 22378352.03 22378352.23 22378352.48 0.0089 0.0042 Pluto 56558-02-03 06:29 G 22378478.53 22378478.77 22378479.02 0.0066 0.0023 Jupiter 56558-03-24 10:48 G 22378527.72 22378527.95 22378528.18 0.0519 0.0050 Neptune 56558-10-02 05:17 G 22378719.57 22378719.72 22378719.87 0.0089 0.0071 Saturn 56562-02-16 00:58 G 22379952.44 22379952.54 22379952.65 0.0292 0.0262 Jupiter 56564-10-02 01:12 G 22380911.40 22380911.55 22380911.70 0.0512 0.0383 Jupiter 56570-03-29 06:14 G 22382915.56 22382915.76 22382915.97 0.0517 0.0252 Saturn 56576-08-24 08:10 G 22385255.60 22385255.84 22385256.08 0.0267 0.0042 Uranus 56584-04-17 21:50 G 22388049.24 22388049.41 22388049.61 0.0142 0.0098 Uranus 56585-04-22 21:07 G 22388419.14 22388419.38 22388419.64 0.0143 0.0029 Uranus 56586-04-27 20:53 G 22388789.13 22388789.37 22388789.62 0.0143 0.0042 Uranus 56587-05-02 21:07 G 22389159.24 22389159.38 22389159.55 0.0143 0.0113 Saturn 56592-02-24 17:31 G 22390918.01 22390918.23 22390918.45 0.0293 0.0128 Saturn 56605-08-20 14:24 G 22395843.05 22395843.10 22395843.16 0.0268 0.0260 Saturn 56606-09-01 14:10 G 22396220.01 22396220.09 22396220.18 0.0267 0.0249 Saturn 56621-02-18 11:17 G 22401503.79 22401503.97 22401504.17 0.0293 0.0186 Jupiter 56623-09-23 23:02 G 22402451.25 22402451.46 22402451.67 0.0507 0.0235 Uranus 56624-10-20 10:05 G 22402843.75 22402843.92 22402844.12 0.0136 0.0094 Uranus 56625-10-24 19:41 G 22403213.08 22403213.32 22403213.57 0.0135 0.0035 Uranus 56626-10-29 04:05 G 22403582.43 22403582.67 22403582.92 0.0135 0.0024 Uranus 56627-11-02 12:00 G 22403951.82 22403952.00 22403952.22 0.0135 0.0082 Jupiter 56629-03-19 14:24 G 22404454.96 22404455.10 22404455.24 0.0521 0.0413 Neptune 56635-03-22 04:48 G 22406648.56 22406648.70 22406648.89 0.0089 0.0068 Saturn 56635-08-27 15:50 G 22406806.91 22406807.16 22406807.40 0.0267 0.0022 Jupiter 56635-09-28 14:24 G 22406838.87 22406839.10 22406839.33 0.0509 0.0051 Neptune 56636-03-23 16:48 G 22407015.99 22407016.20 22407016.46 0.0089 0.0038 Neptune 56637-03-26 05:17 G 22407383.47 22407383.72 22407383.98 0.0089 0.0007

Neptune 56638-03-28 17:02 G 22407750.97 22407751.21 22407751.47 0.0089 0.0023 Neptune 56639-03-31 05:17 G 22408118.52 22408118.72 22408118.93 0.0089 0.0053 Neptune 56640-04-01 17:17 G 22408486.14 22408486.22 22408486.32 0.0089 0.0083 Jupiter 56641-03-24 08:38 G 22408842.63 22408842.86 22408843.09 0.0520 0.0110 Pluto 56645-08-09 00:58 G 22410441.29 22410441.54 22410441.80 0.0078 0.0019 Jupiter 56647-10-03 04:19 G 22411226.51 22411226.68 22411226.86 0.0511 0.0336 Saturn 56651-02-27 02:10 G 22412469.42 22412469.59 22412469.77 0.0293 0.0203 Jupiter 56653-03-29 06:43 G 22413230.57 22413230.78 22413231.00 0.0518 0.0201 Saturn 56664-08-21 21:50 G 22417394.25 22417394.41 22417394.59 0.0268 0.0196 Jupiter 56665-04-03 05:46 G 22417618.71 22417618.74 22417618.78 0.0515 0.0509 Uranus 56668-04-19 05:46 G 22418730.55 22418730.74 22418730.93 0.0142 0.0095 Uranus 56669-04-24 04:48 G 22419100.45 22419100.70 22419100.96 0.0143 0.0026 Uranus 56670-04-29 04:19 G 22419470.45 22419470.68 22419470.93 0.0143 0.0045 Uranus 56671-05-04 04:48 G 22419840.55 22419840.70 22419840.85 0.0143 0.0115 Saturn 56680-02-20 18:58 G 22423055.07 22423055.29 22423055.52 0.0293 0.0114 Saturn 56694-08-28 20:53 G 22428358.14 22428358.37 22428358.61 0.0267 0.0082 Jupiter 56706-09-24 04:48 G 22432766.51 22432766.70 22432766.90 0.0506 0.0275 Uranus 56708-10-21 19:26 G 22433525.13 22433525.31 22433525.51 0.0136 0.0090 Uranus 56709-10-26 04:34 G 22433894.45 22433894.69 22433894.95 0.0136 0.0032 Saturn 56710-03-01 06:43 G 22434020.70 22434020.78 22434020.89 0.0294 0.0269 Uranus 56710-10-30 13:12 G 22434263.81 22434264.05 22434264.30 0.0135 0.0027 Uranus 56711-11-03 20:53 G 22434633.19 22434633.37 22434633.58 0.0135 0.0085 Jupiter 56712-03-19 15:36 G 22434770.05 22434770.15 22434770.26 0.0522 0.0466 Neptune 56718-09-24 18:29 G 22437150.11 22437150.27 22437150.47 0.0089 0.0063 Jupiter 56718-09-28 14:38 G 22437153.87 22437154.11 22437154.34 0.0508 0.0009 Neptune 56719-09-27 06:00 G 22437517.52 22437517.75 22437517.99 0.0089 0.0033 Neptune 56720-09-28 17:31 G 22437884.98 22437885.23 22437885.49 0.0089 0.0003 Neptune 56721-10-01 04:19 G 22438252.46 22438252.68 22438252.95 0.0089 0.0028 Neptune 56722-10-03 15:22 G 22438619.97 22438620.14 22438620.36 0.0089 0.0058 Saturn 56723-08-25 03:07 G 22438945.42 22438945.63 22438945.85 0.0268 0.0135

Neptune 56723-10-06 02:53 G 22438987.59 22438987.62 22438987.68 0.0089 0.0087 Jupiter 56724-03-24 16:48 G 22439157.98 22439158.20 22439158.43 0.0520 0.0147 Jupiter 56730-10-03 06:29 G 22441541.58 22441541.77 22441541.96 0.0510 0.0285 Jupiter 56736-03-29 15:07 G 22443545.91 22443546.13 22443546.35 0.0518 0.0164 Saturn 56739-02-22 22:34 G 22444606.21 22444606.44 22444606.69 0.0293 0.0051 Jupiter 56748-04-03 11:02 G 22447933.87 22447933.96 22447934.06 0.0516 0.0468 Uranus 56752-04-20 13:41 G 22449411.89 22449412.07 22449412.29 0.0142 0.0092 Uranus 56753-04-25 13:12 G 22449781.79 22449782.05 22449782.30 0.0143 0.0022 Saturn 56753-08-30 23:31 G 22449909.28 22449909.48 22449909.70 0.0267 0.0138 Uranus 56754-04-30 12:29 G 22450151.79 22450152.02 22450152.27 0.0143 0.0048 56755-01-22 23:17 G 22450419.29 22450419.47 22450419.65 0.1660 0.0364 Mars Uranus 56755-05-05 12:29 G 22450521.89 22450522.02 22450522.18 0.0143 0.0118 Mars 56761-07-25 13:12 G 22452794.91 22452795.05 22452795.19 0.1867 0.1304 Saturn 56782-08-26 05:17 G 22460496.49 22460496.72 22460496.96 0.0268 0.0079 Jupiter 56789-09-23 08:24 G 22463081.67 22463081.85 22463082.03 0.0506 0.0324 Uranus 56792-10-22 04:19 G 22464206.49 22464206.68 22464206.88 0.0136 0.0086 Uranus 56793-10-26 13:26 G 22464575.82 22464576.06 22464576.31 0.0136 0.0028 Uranus 56794-10-30 22:05 G 22464945.17 22464945.42 22464945.66 0.0135 0.0031 Jupiter 56795-03-20 01:26 G 22465085.51 22465085.56 22465085.63 0.0522 0.0503 Uranus 56795-11-04 05:46 G 22465314.57 22465314.74 22465314.95 0.0135 0.0089 Saturn 56798-02-23 23:46 G 22466157.25 22466157.49 22466157.74 0.0293 0.0010 Neptune 56799-03-22 14:38 G 22466549.04 22466549.11 22466549.24 0.0089 0.0082 Neptune 56800-03-24 02:53 G 22466916.43 22466916.62 22466916.85 0.0089 0.0052 Neptune 56801-03-26 14:53 G 22467283.88 22467284.12 22467284.38 0.0089 0.0022 Jupiter 56801-09-28 00:29 G 22467469.29 22467469.52 22467469.76 0.0508 0.0037 Neptune 56802-03-29 03:22 G 22467651.38 22467651.64 22467651.90 0.0089 0.0009 Neptune 56803-03-31 15:07 G 22468018.91 22468019.13 22468019.37 0.0089 0.0039 Pluto 56804-02-07 06:58 G 22468331.55 22468331.79 22468332.04 0.0066 0.0019 Neptune 56804-04-02 03:07 G 22468386.47 22468386.63 22468386.80 0.0089 0.0069 Jupiter 56807-03-25 00:00 G 22469473.29 22469473.50 22469473.72 0.0520 0.0186

Saturn 56812-09-01 00:29 G 22471460.35 22471460.52 22471460.69 0.0267 0.0190 Jupiter 56813-10-02 17:17 G 22471857.02 22471857.22 22471857.42 0.0510 0.0258 Jupiter 56819-03-29 19:12 G 22473861.07 22473861.30 22473861.52 0.0518 0.0120 Jupiter 56831-04-03 16:48 G 22478249.08 22478249.20 22478249.33 0.0516 0.0430 Uranus 56836-04-20 23:02 G 22480093.26 22480093.46 22480093.66 0.0142 0.0087 Uranus 56837-04-25 22:05 G 22480463.17 22480463.42 22480463.68 0.0143 0.0018 Uranus 56838-04-30 21:22 G 22480833.16 22480833.39 22480833.64 0.0143 0.0052 Uranus 56839-05-05 21:36 G 22481203.27 22481203.40 22481203.54 0.0143 0.0122 Saturn 56841-08-27 05:17 G 22482047.48 22482047.72 22482047.97 0.0268 0.0027 Saturn 56857-02-25 00:00 G 22487708.26 22487708.50 22487708.74 0.0292 0.0067 Saturn 56871-09-02 22:48 G 22493011.36 22493011.45 22493011.57 0.0267 0.0240 Jupiter 56872-09-22 20:10 G 22493397.18 22493397.34 22493397.51 0.0506 0.0351 Uranus 56876-10-22 12:43 G 22494887.85 22494888.03 22494888.25 0.0136 0.0083 Uranus 56877-10-26 21:50 G 22495257.17 22495257.41 22495257.67 0.0136 0.0025 Uranus 56878-10-31 06:29 G 22495626.53 22495626.77 22495627.02 0.0135 0.0034 Uranus 56879-11-04 14:10 G 22495995.92 22495996.09 22495996.29 0.0135 0.0091 Neptune 56882-09-24 05:02 G 22497050.59 22497050.71 22497050.84 0.0089 0.0077 Neptune 56883-09-26 16:34 G 22497417.98 22497418.19 22497418.41 0.0089 0.0047 Jupiter 56884-09-27 10:34 G 22497784.71 22497784.94 22497785.17 0.0507 0.0068 Neptune 56884-09-28 04:05 G 22497785.42 22497785.67 22497785.92 0.0089 0.0017 Neptune 56885-09-30 15:22 G 22498152.89 22498153.14 22498153.40 0.0089 0.0013 Saturn 56886-02-18 23:02 G 22498294.32 22498294.46 22498294.60 0.0292 0.0238 Neptune 56886-10-03 02:38 G 22498520.39 22498520.61 22498520.84 0.0089 0.0043 Neptune 56887-10-05 13:41 G 22498887.94 22498888.07 22498888.23 0.0089 0.0073 Jupiter 56890-03-24 05:46 G 22499788.53 22499788.74 22499788.95 0.0521 0.0229 Pluto 56891-08-11 23:31 G 22500294.24 22500294.48 22500294.75 0.0078 0.0017 Jupiter 56896-10-01 20:53 G 22502172.17 22502172.37 22502172.59 0.0509 0.0208 Saturn 56900-08-29 03:50 G 22503598.41 22503598.66 22503598.90 0.0268 0.0022 Jupiter 56902-03-30 06:00 G 22504176.52 22504176.75 22504176.98 0.0519 0.0089 Jupiter 56908-10-07 12:58 G 22506560.01 22506560.04 22506560.09 0.0511 0.0503

Jupiter 56914-04-04 04:34 G 22508564.54 22508564.69 22508564.84 0.0517 0.0402 Saturn 56916-02-27 23:02 G 22509259.24 22509259.46 22509259.69 0.0292 0.0123 Uranus 56920-04-22 08:24 G 22510774.65 22510774.85 22510775.07 0.0142 0.0083 Uranus 56921-04-27 07:41 G 22511144.56 22511144.82 22511145.07 0.0143 0.0014 Uranus 56922-05-02 06:58 G 22511514.57 22511514.79 22511515.04 0.0143 0.0056 Uranus 56923-05-07 06:58 G 22511884.69 22511884.79 22511884.93 0.0143 0.0127 Saturn 56929-08-23 18:58 G 22514185.17 22514185.29 22514185.43 0.0269 0.0226 Saturn 56945-02-20 21:36 G 22519845.22 22519845.40 22519845.60 0.0292 0.0183 Jupiter 56955-09-24 01:26 G 22523712.42 22523712.56 22523712.71 0.0505 0.0398 Saturn 56959-08-31 01:12 G 22525149.31 22525149.55 22525149.79 0.0268 0.0070 Uranus 56960-10-23 22:34 G 22525569.24 22525569.44 22525569.65 0.0136 0.0079 Uranus 56961-10-28 07:41 G 22525938.57 22525938.82 22525939.07 0.0136 0.0021 Uranus 56962-11-01 15:50 G 22526307.93 22526308.16 22526308.41 0.0135 0.0037 Uranus 56963-11-06 00:00 G 22526677.32 22526677.50 22526677.68 0.0135 0.0094 Neptune 56964-03-24 12:29 G 22526816.86 22526817.02 22526817.20 0.0089 0.0066 Neptune 56965-03-27 00:43 G 22527184.30 22527184.53 22527184.77 0.0089 0.0036 Neptune 56966-03-29 12:43 G 22527551.77 22527552.03 22527552.29 0.0089 0.0006 Neptune 56967-04-01 00:29 G 22527919.28 22527919.52 22527919.78 0.0089 0.0025 Jupiter 56967-09-28 15:50 G 22528099.94 22528100.16 22528100.39 0.0507 0.0114 Neptune 56968-04-02 12:14 G 22528286.82 22528287.01 22528287.23 0.0089 0.0055 Neptune 56969-04-05 00:00 G 22528654.45 22528654.50 22528654.60 0.0089 0.0085 Jupiter 56973-03-24 16:34 G 22530103.99 22530104.19 22530104.39 0.0522 0.0263 Saturn 56975-02-28 23:31 G 22530810.30 22530810.48 22530810.68 0.0292 0.0181 Jupiter 56979-10-03 07:55 G 22532487.61 22532487.83 22532488.04 0.0509 0.0178 Jupiter 56985-03-29 15:22 G 22534491.91 22534492.14 22534492.37 0.0519 0.0056 Saturn 56988-08-24 16:34 G 22535736.01 22535736.19 22535736.38 0.0269 0.0178 Jupiter 56991-10-08 01:12 G 22536875.47 22536875.55 22536875.63 0.0511 0.0477 Jupiter 56997-04-03 10:19 G 22538879.77 22538879.93 22538880.11 0.0517 0.0363

# **58TH MILLENNIUM CE**

### This is a list of transits of Earth in the 58th millennium CE.

FROM MAX- C START MAX END SUNRAD DEPTH S

TRANSIT

TIME

Saturn 57004-02-23 21:36 G 22541396.19 22541396.40 22541396.63 0.0291 0.0126 Uranus 57004-04-23 18:14 G 22541456.05 22541456.26 22541456.48 0.0142 0.0079 Uranus 57005-04-28 17:31 G 22541825.97 22541826.23 22541826.49 0.0143 0.0010 Uranus 57006-05-03 17:02 G 22542195.99 22542196.21 22542196.45 0.0143 0.0060 Uranus 57007-05-08 16:48 G 22542566.12 22542566.20 22542566.33 0.0143 0.0130 Saturn 57018-09-01 22:48 G 22546700.24 22546700.45 22546700.68 0.0268 0.0119 Saturn 57034-03-03 01:55 G 22552361.46 22552361.58 22552361.73 0.0292 0.0244 Jupiter 57038-09-24 11:17 G 22554027.86 22554027.97 22554028.10 0.0504 0.0431 Mars 57039-01-26 02:24 G 22554151.42 22554151.60 22554151.78 0.1656 0.0384 Uranus 57043-10-21 23:02 G 22555881.44 22555881.46 22555881.53 0.0136 0.0134 Uranus 57044-10-25 08:38 G 22556250.67 22556250.86 22556251.09 0.0136 0.0076 Uranus 57045-10-29 17:31 G 22556619.99 22556620.23 22556620.49 0.0135 0.0018 Uranus 57046-11-03 02:10 G 22556989.35 22556989.59 22556989.83 0.0135 0.0041 Saturn 57047-08-27 15:07 G 22557286.92 22557287.13 22557287.35 0.0269 0.0129 Neptune 57047-09-28 01:55 G 22557318.42 22557318.58 22557318.79 0.0089 0.0062 Uranus 57047-11-07 10:05 G 22557358.75 22557358.92 22557359.09 0.0135 0.0097 Neptune 57048-09-29 13:26 G 22557685.84 22557686.06 22557686.32 0.0089 0.0032 Neptune 57049-10-02 01:12 G 22558053.29 22558053.55 22558053.80 0.0089 0.0002 57050-02-10 05:17 G 22558184.49 22558184.72 22558184.98 0.0066 0.0022 Jupiter 57050-09-29 02:38 G 22558415.39 22558415.61 22558415.84 0.0507 0.0143

Neptune 57050-10-04 12:14 G 22558420.78 22558421.01 22558421.26 0.0089 0.0029 Neptune 57051-10-06 23:31 G 22558788.31 22558788.48 22558788.69 0.0089 0.0059 Neptune 57052-10-08 11:02 G 22559155.96 22559155.96 22559155.98 0.0089 0.0089 Jupiter 57056-03-24 21:36 G 22560419.21 22560419.40 22560419.59 0.0522 0.0309 Jupiter 57062-10-03 17:46 G 22562803.02 22562803.24 22562803.46 0.0508 0.0146 Saturn 57063-02-25 00:29 G 22562947.29 22562947.52 22562947.77 0.0291 0.0063 Jupiter 57068-03-29 19:55 G 22564807.09 22564807.33 22564807.56 0.0520 0.0012 Jupiter 57074-10-08 05:02 G 22567190.59 22567190.71 22567190.84 0.0510 0.0427 Saturn 57077-09-02 21:36 G 22568251.22 22568251.40 22568251.61 0.0269 0.0169 Jupiter 57080-04-03 17:31 G 22569195.05 22569195.23 22569195.41 0.0518 0.0322 Uranus 57088-04-24 02:53 G 22572137.42 22572137.62 22572137.85 0.0143 0.0076 Uranus 57089-04-29 02:24 G 22572507.34 22572507.60 22572507.86 0.0143 0.0007 Uranus 57090-05-04 01:55 G 22572877.36 22572877.58 22572877.82 0.0143 0.0063 Uranus 57091-05-09 02:10 G 22573247.52 22573247.59 22573247.70 0.0143 0.0134 Saturn 57106-08-29 15:36 G 22578837.91 22578838.15 22578838.38 0.0269 0.0077 Jupiter 57121-09-24 20:38 G 22584343.28 22584343.36 22584343.45 0.0504 0.0464 Saturn 57122-02-27 06:29 G 22584498.53 22584498.77 22584499.02 0.0291 0.0007 Uranus 57127-10-23 10:34 G 22586562.88 22586562.94 22586563.03 0.0136 0.0129 Neptune 57128-03-25 21:36 G 22586717.32 22586717.40 22586717.53 0.0089 0.0081 Uranus 57128-10-26 20:10 G 22586932.13 22586932.34 22586932.55 0.0136 0.0071 Neptune 57129-03-28 09:36 G 22587084.71 22587084.90 22587085.14 0.0089 0.0051 Uranus 57129-10-31 04:48 G 22587301.45 22587301.70 22587301.96 0.0135 0.0013 Neptune 57130-03-30 22:05 G 22587452.17 22587452.42 22587452.68 0.0089 0.0020 Uranus 57130-11-04 13:12 G 22587670.82 22587671.05 22587671.29 0.0135 0.0044 Neptune 57131-04-02 10:05 G 22587819.67 22587819.92 22587820.18 0.0089 0.0010 Uranus 57131-11-08 20:38 G 22588040.22 22588040.36 22588040.55 0.0135 0.0102 Neptune 57132-04-03 21:36 G 22588187.19 22588187.40 22588187.65 0.0089 0.0041 Neptune 57133-04-06 09:36 G 22588554.77 22588554.90 22588555.08 0.0089 0.0071 Jupiter 57133-09-29 07:41 G 22588730.60 22588730.82 22588731.04 0.0505 0.0190 Saturn 57136-09-04 23:02 G 22589802.32 22589802.46 22589802.60 0.0269 0.0221

Pluto 57137-08-15 23:02 G 22590147.21 22590147.46 22590147.72 0.0078 0.0015 Jupiter 57139-03-26 00:43 G 22590734.37 22590734.53 22590734.71 0.0523 0.0363 Jupiter 57145-10-03 21:07 G 22593118.15 22593118.38 22593118.60 0.0507 0.0095 Saturn 57151-02-21 14:24 G 22595085.04 22595085.10 22595085.16 0.0290 0.0279 Jupiter 57151-03-31 00:43 G 22595122.30 22595122.53 22595122.77 0.0521 0.0038 Jupiter 57157-10-08 11:17 G 22597505.83 22597505.97 22597506.13 0.0510 0.0387 Jupiter 57163-04-04 23:46 G 22599510.30 22599510.49 22599510.69 0.0519 0.0282 Saturn 57165-08-30 18:14 G 22600389.01 22600389.26 22600389.51 0.0269 0.0020 Uranus 57171-04-21 13:12 G 22602449.00 22602449.05 22602449.09 0.0142 0.0140 Uranus 57172-04-25 11:31 G 22602818.77 22602818.98 22602819.21 0.0143 0.0072 Uranus 57173-04-30 11:02 G 22603188.70 22603188.96 22603189.21 0.0143 0.0004 Uranus 57174-05-05 10:48 G 22603558.73 22603558.95 22603559.18 0.0143 0.0066 Uranus 57175-05-10 10:48 G 22603928.90 22603928.95 22603929.05 0.0143 0.0136 Saturn 57181-02-28 16:05 G 22606049.94 22606050.17 22606050.41 0.0291 0.0083 Saturn 57194-08-25 20:38 G 22610976.28 22610976.36 22610976.47 0.0270 0.0248 Saturn 57210-02-23 02:10 G 22616636.42 22616636.59 22616636.77 0.0290 0.0201 Neptune 57211-09-28 11:31 G 22617218.88 22617218.98 22617219.13 0.0089 0.0077 Uranus 57211-10-23 21:07 G 22617244.31 22617244.38 22617244.51 0.0136 0.0125 Neptune 57212-09-29 23:02 G 22617586.25 22617586.46 22617586.69 0.0089 0.0047 Uranus 57212-10-27 06:58 G 22617613.58 22617613.79 22617614.02 0.0136 0.0067 Neptune 57213-10-02 10:19 G 22617953.68 22617953.93 22617954.19 0.0089 0.0017 Uranus 57213-10-31 15:50 G 22617982.91 22617983.16 22617983.41 0.0135 0.0009 Neptune 57214-10-04 21:36 G 22618321.16 22618321.40 22618321.66 0.0089 0.0014 Uranus 57214-11-05 00:00 G 22618352.28 22618352.50 22618352.75 0.0135 0.0049 Neptune 57215-10-07 08:38 G 22618688.66 22618688.86 22618689.10 0.0089 0.0044 Uranus 57215-11-09 08:10 G 22618721.69 22618721.84 22618722.00 0.0135 0.0105 Jupiter 57216-09-28 11:46 G 22619045.79 22619045.99 22619046.20 0.0505 0.0236 Neptune 57216-10-08 19:55 G 22619056.21 22619056.33 22619056.50 0.0089 0.0074 Jupiter 57222-03-25 05:17 G 22621049.58 22621049.72 22621049.87 0.0523 0.0410 Saturn 57224-08-31 23:46 G 22621940.25 22621940.49 22621940.74 0.0269 0.0042

Jupiter 57228-10-03 02:38 G 22623433.38 22623433.61 22623433.84 0.0507 0.0054 Jupiter 57234-03-30 02:24 G 22625437.37 22625437.60 22625437.83 0.0521 0.0092 Saturn 57240-03-02 04:48 G 22627601.51 22627601.70 22627601.91 0.0292 0.0164 Jupiter 57240-10-07 17:17 G 22627821.06 22627821.22 22627821.40 0.0509 0.0346 Mars 57244-01-26 02:53 G 22629026.50 22629026.62 22629026.75 0.1649 0.1213 Jupiter 57246-04-03 23:17 G 22629825.26 22629825.47 22629825.68 0.0519 0.0223 Saturn 57253-08-27 02:53 G 22632527.45 22632527.62 22632527.80 0.0270 0.0186 Uranus 57255-04-21 20:53 G 22633130.32 22633130.37 22633130.46 0.0142 0.0136 Uranus 57256-04-25 19:41 G 22633500.11 22633500.32 22633500.56 0.0142 0.0069 Uranus 57257-04-30 19:26 G 22633870.05 22633870.31 22633870.56 0.0143 0.0002 Uranus 57258-05-05 18:58 G 22634240.08 22634240.29 22634240.53 0.0143 0.0070 Uranus 57259-05-10 19:26 G 22634610.27 22634610.31 22634610.39 0.0143 0.0139 Saturn 57269-02-24 17:17 G 22638188.00 22638188.22 22638188.45 0.0290 0.0116 Saturn 57283-09-03 07:41 G 22643491.61 22643491.82 22643492.06 0.0269 0.0106 Neptune 57293-03-27 18:00 G 22646985.10 22646985.25 22646985.44 0.0089 0.0066 Neptune 57294-03-30 06:14 G 22647352.54 22647352.76 22647353.01 0.0089 0.0036 Neptune 57295-04-01 18:29 G 22647720.01 22647720.27 22647720.53 0.0089 0.0005 Uranus 57295-10-24 07:55 G 22647925.74 22647925.83 22647925.97 0.0136 0.0120 Pluto 57296-02-13 01:12 G 22648037.35 22648037.55 22648037.80 0.0066 0.0033 Neptune 57296-04-03 06:29 G 22648087.53 22648087.77 22648088.03 0.0089 0.0026 Uranus 57296-10-27 17:31 G 22648295.02 22648295.23 22648295.47 0.0136 0.0062 Neptune 57297-04-05 18:14 G 22648455.07 22648455.26 22648455.48 0.0089 0.0056 Uranus 57297-11-01 02:38 G 22648664.36 22648664.61 22648664.87 0.0135 0.0005 Neptune 57298-04-08 06:00 G 22648822.71 22648822.75 22648822.83 0.0089 0.0086 Uranus 57298-11-05 11:17 G 22649033.74 22649033.97 22649034.20 0.0135 0.0053 Saturn 57299-03-04 19:41 G 22649153.21 22649153.32 22649153.46 0.0292 0.0250 Jupiter 57299-09-28 16:48 G 22649361.02 22649361.20 22649361.40 0.0505 0.0281 Uranus 57299-11-09 18:58 G 22649403.16 22649403.29 22649403.45 0.0135 0.0110 Jupiter 57305-03-25 03:07 G 22651364.54 22651364.63 22651364.73 0.0524 0.0476 Jupiter 57311-10-04 05:31 G 22653748.50 22653748.73 22653748.96 0.0506 0.0003

Saturn 57312-08-29 11:31 G 22654078.76 22654078.98 22654079.20 0.0270 0.0120 Jupiter 57317-03-29 22:34 G 22655752.22 22655752.44 22655752.66 0.0522 0.0161 57323-01-29 06:29 G 22657883.64 22657883.77 22657883.90 0.1652 0.1169 Mars Jupiter 57323-10-08 18:00 G 22658136.06 22658136.25 22658136.44 0.0508 0.0289 Saturn 57328-02-28 09:36 G 22659739.65 22659739.90 22659740.14 0.0290 0.0029 Jupiter 57329-04-03 21:22 G 22660140.18 22660140.39 22660140.62 0.0520 0.0163 Uranus 57339-04-23 06:29 G 22663811.70 22663811.77 22663811.89 0.0142 0.0131 Uranus 57340-04-27 05:46 G 22664181.52 22664181.74 22664181.97 0.0142 0.0064 Jupiter 57341-04-08 20:38 G 22664528.28 22664528.36 22664528.45 0.0518 0.0480 Uranus 57341-05-02 05:02 G 22664551.46 22664551.71 22664551.97 0.0143 0.0005 Uranus 57342-05-07 05:02 G 22664921.50 22664921.71 22664921.93 0.0143 0.0074 Saturn 57342-09-05 18:00 G 22665043.07 22665043.25 22665043.44 0.0269 0.0174 Saturn 57371-08-31 21:22 G 22675630.15 22675630.39 22675630.63 0.0270 0.0053 Neptune 57376-09-30 07:41 G 22677486.65 22677486.82 22677487.02 0.0089 0.0062 Neptune 57377-10-02 19:12 G 22677854.07 22677854.30 22677854.55 0.0089 0.0032 Neptune 57378-10-05 06:43 G 22678221.52 22678221.78 22678222.04 0.0089 0.0002 Neptune 57379-10-07 17:46 G 22678589.01 22678589.24 22678589.49 0.0089 0.0029 Uranus 57379-10-25 18:14 G 22678607.15 22678607.26 22678607.41 0.0136 0.0115 Neptune 57380-10-09 04:48 G 22678956.53 22678956.70 22678956.91 0.0089 0.0059 Uranus 57380-10-29 04:05 G 22678976.45 22678976.67 22678976.91 0.0136 0.0057 Neptune 57381-10-11 16:19 G 22679324.18 22679324.18 22679324.21 0.0089 0.0089 Uranus 57381-11-02 13:12 G 22679345.80 22679346.05 22679346.30 0.0135 0.0001 Jupiter 57382-09-28 18:29 G 22679676.10 22679676.27 22679676.44 0.0504 0.0333 Uranus 57382-11-06 21:36 G 22679715.18 22679715.40 22679715.64 0.0135 0.0058 Pluto 57383-08-18 15:36 G 22679999.89 22680000.15 22680000.41 0.0078 0.0011 Uranus 57383-11-11 05:17 G 22680084.61 22680084.72 22680084.88 0.0135 0.0115 Saturn 57387-03-02 01:55 G 22681291.34 22681291.58 22681291.82 0.0291 0.0058 Jupiter 57394-10-03 04:05 G 22684063.44 22684063.67 22684063.90 0.0506 0.0057 Jupiter 57400-03-30 00:43 G 22686067.32 22686067.53 22686067.74 0.0523 0.0214 Saturn 57401-09-08 04:48 G 22686594.62 22686594.70 22686594.82 0.0269 0.0245

Jupiter 57406-10-08 18:29 G 22688451.07 22688451.27 22688451.48 0.0508 0.0236 57408-08-01 10:48 G 22689113.77 22689113.95 22689114.14 0.1876 0.0762 Mars Jupiter 57412-04-03 22:19 G 22690455.20 22690455.43 22690455.66 0.0520 0.0105 Saturn 57416-02-25 02:10 G 22691877.47 22691877.59 22691877.74 0.0290 0.0241 Uranus 57423-04-24 16:19 G 22694493.09 22694493.18 22694493.32 0.0142 0.0127 Jupiter 57424-04-08 18:14 G 22694843.12 22694843.26 22694843.40 0.0518 0.0418 Uranus 57424-04-28 15:36 G 22694862.92 22694863.15 22694863.39 0.0142 0.0058 Uranus 57425-05-03 15:07 G 22695232.87 22695233.13 22695233.38 0.0143 0.0010 Uranus 57426-05-08 14:53 G 22695602.92 22695603.12 22695603.34 0.0143 0.0079 Saturn 57430-09-03 07:26 G 22697181.57 22697181.81 22697182.06 0.0269 0.0018 Saturn 57446-03-04 17:31 G 22702843.03 22702843.23 22702843.45 0.0291 0.0145 Neptune 57457-03-29 02:10 G 22706885.51 22706885.59 22706885.72 0.0089 0.0081 Neptune 57458-03-31 14:10 G 22707252.90 22707253.09 22707253.32 0.0089 0.0051 Neptune 57459-04-03 02:53 G 22707620.37 22707620.62 22707620.87 0.0089 0.0020 Saturn 57459-08-29 11:31 G 22707768.83 22707768.98 22707769.14 0.0270 0.0208 Neptune 57460-04-04 14:53 G 22707987.86 22707988.12 22707988.38 0.0089 0.0010 Neptune 57461-04-07 02:24 G 22708355.39 22708355.60 22708355.85 0.0089 0.0041 Neptune 57462-04-09 14:24 G 22708722.96 22708723.10 22708723.27 0.0089 0.0071 Uranus 57463-10-27 05:31 G 22709288.60 22709288.73 22709288.89 0.0136 0.0110 Uranus 57464-10-30 15:22 G 22709657.91 22709658.14 22709658.37 0.0136 0.0052 Jupiter 57465-09-28 18:14 G 22709991.12 22709991.26 22709991.41 0.0503 0.0390 Uranus 57465-11-04 00:14 G 22710027.26 22710027.51 22710027.77 0.0135 0.0007 Uranus 57466-11-08 08:53 G 22710396.66 22710396.87 22710397.10 0.0135 0.0063 Uranus 57467-11-12 16:48 G 22710766.10 22710766.20 22710766.33 0.0135 0.0119 Saturn 57475-02-26 16:05 G 22713428.98 22713429.17 22713429.38 0.0290 0.0159 Jupiter 57477-10-03 08:24 G 22714378.63 22714378.85 22714379.08 0.0505 0.0104 Jupiter 57483-03-29 23:02 G 22716382.27 22716382.46 22716382.66 0.0523 0.0278 Saturn 57489-09-04 17:17 G 22718732.99 22718733.22 22718733.46 0.0269 0.0085 Jupiter 57489-10-07 22:34 G 22718766.23 22718766.44 22718766.66 0.0507 0.0190 Jupiter 57495-04-03 17:46 G 22720770.00 22720770.24 22720770.47 0.0521 0.0037

Jupiter 57501-10-13 11:31 G 22723153.92 22723153.98 22723154.07 0.0509 0.0479 Saturn 57505-03-07 06:14 G 22724394.61 22724394.76 22724394.92 0.0291 0.0226 Jupiter 57507-04-09 16:05 G 22725158.00 22725158.17 22725158.34 0.0519 0.0358 Uranus 57507-04-26 04:19 G 22725174.56 22725174.68 22725174.82 0.0142 0.0120 Uranus 57508-04-30 03:07 G 22725544.41 22725544.63 22725544.88 0.0142 0.0054 Uranus 57509-05-05 02:38 G 22725914.36 22725914.61 22725914.87 0.0143 0.0015 Uranus 57510-05-10 02:38 G 22726284.41 22726284.61 22726284.82 0.0143 0.0084 Saturn 57518-08-31 22:19 G 22729320.22 22729320.43 22729320.65 0.0270 0.0137 57528-01-30 07:41 G 22732758.64 22732758.82 22732759.00 0.1645 0.0404 Mars Saturn 57534-03-01 03:36 G 22734980.42 22734980.65 22734980.89 0.0291 0.0080 Neptune 57540-10-01 15:36 G 22737387.05 22737387.15 22737387.30 0.0089 0.0078 Neptune 57541-10-04 02:53 G 22737754.42 22737754.62 22737754.86 0.0089 0.0048 Pluto 57542-02-16 18:43 G 22737890.15 22737890.28 22737890.46 0.0066 0.0052 Neptune 57542-10-06 14:24 G 22738121.86 22738122.10 22738122.36 0.0089 0.0018 Pluto 57543-02-18 08:10 G 22738256.67 22738256.84 22738257.03 0.0066 0.0048 Neptune 57543-10-09 01:41 G 22738489.32 22738489.57 22738489.83 0.0089 0.0013 Neptune 57544-10-10 12:43 G 22738856.82 22738857.03 22738857.27 0.0089 0.0043 Neptune 57545-10-13 00:00 G 22739224.37 22739224.50 22739224.66 0.0089 0.0073 Uranus 57547-10-28 17:02 G 22739970.07 22739970.21 22739970.39 0.0136 0.0105 Saturn 57548-09-07 01:26 G 22740284.37 22740284.56 22740284.78 0.0269 0.0151 Jupiter 57548-09-29 00:29 G 22740306.40 22740306.52 22740306.64 0.0503 0.0431 Uranus 57548-11-01 03:07 G 22740339.40 22740339.63 22740339.87 0.0136 0.0047 Uranus 57549-11-05 12:14 G 22740708.76 22740709.01 22740709.26 0.0135 0.0011 Uranus 57550-11-09 20:53 G 22741078.15 22741078.37 22741078.59 0.0135 0.0067 Uranus 57551-11-14 04:48 G 22741447.61 22741447.70 22741447.80 0.0135 0.0123 Jupiter 57560-10-03 12:14 G 22744693.79 22744694.01 22744694.24 0.0505 0.0149 Jupiter 57566-03-29 21:07 G 22746697.21 22746697.38 22746697.56 0.0524 0.0342 Jupiter 57572-10-07 21:22 G 22749081.17 22749081.39 22749081.62 0.0506 0.0128 Saturn 57577-09-02 06:43 G 22750871.55 22750871.78 22750872.03 0.0270 0.0070 Jupiter 57578-04-03 23:02 G 22751085.23 22751085.46 22751085.70 0.0522 0.0010

Jupiter 57584-10-12 12:14 G 22753468.89 22753469.01 22753469.14 0.0509 0.0424 Jupiter 57590-04-08 21:36 G 22755473.21 22755473.40 22755473.59 0.0520 0.0313 Uranus 57591-04-26 14:38 G 22755855.98 22755856.11 22755856.27 0.0142 0.0116 Uranus 57592-04-30 13:41 G 22756225.83 22756226.07 22756226.31 0.0143 0.0049 Saturn 57593-03-02 11:46 G 22756531.74 22756531.99 22756532.23 0.0291 0.0008 Uranus 57593-05-05 12:58 G 22756595.79 22756596.04 22756596.30 0.0143 0.0020 Uranus 57594-05-10 13:12 G 22756965.85 22756966.05 22756966.25 0.0143 0.0088 Saturn 57607-09-09 07:55 G 22761835.69 22761835.83 22761835.98 0.0269 0.0213 Neptune 57622-03-31 22:05 G 22767153.26 22767153.42 22767153.60 0.0089 0.0066 Neptune 57623-04-03 09:50 G 22767520.69 22767520.91 22767521.16 0.0089 0.0036 Neptune 57624-04-04 22:05 G 22767888.17 22767888.42 22767888.68 0.0089 0.0006 Neptune 57625-04-07 10:05 G 22768255.68 22768255.92 22768256.17 0.0089 0.0025 Neptune 57626-04-09 21:36 G 22768623.23 22768623.40 22768623.63 0.0089 0.0056 Neptune 57627-04-12 09:50 G 22768990.87 22768990.91 22768991.00 0.0089 0.0086 Pluto 57629-08-21 04:48 G 22769852.51 22769852.70 22769852.94 0.0078 0.0045 Jupiter 57631-09-29 00:43 G 22770621.48 22770621.53 22770621.58 0.0502 0.0489 Uranus 57631-10-29 06:14 G 22770651.61 22770651.76 22770651.95 0.0136 0.0100 Uranus 57632-11-01 16:19 G 22771020.94 22771021.18 22771021.42 0.0136 0.0042 Uranus 57633-11-06 01:12 G 22771390.30 22771390.55 22771390.81 0.0135 0.0016 Uranus 57634-11-10 09:36 G 22771759.70 22771759.90 22771760.12 0.0135 0.0073 Uranus 57635-11-14 17:31 G 22772129.16 22772129.23 22772129.31 0.0135 0.0128 Saturn 57636-09-03 12:58 G 22772422.79 22772423.04 22772423.28 0.0270 0.0008 Jupiter 57643-10-03 14:10 G 22775008.88 22775009.09 22775009.31 0.0504 0.0203 Jupiter 57649-03-29 04:48 G 22777012.55 22777012.70 22777012.86 0.0524 0.0384 Saturn 57652-03-03 17:02 G 22778082.97 22778083.21 22778083.45 0.0291 0.0059 Jupiter 57655-10-08 05:17 G 22779396.49 22779396.72 22779396.95 0.0506 0.0091 Jupiter 57661-04-03 03:36 G 22781400.42 22781400.65 22781400.88 0.0522 0.0056 Saturn 57665-08-29 05:46 G 22783009.66 22783009.74 22783009.82 0.0271 0.0254 Jupiter 57667-10-12 21:07 G 22783784.24 22783784.38 22783784.53 0.0508 0.0390 Jupiter 57673-04-07 22:48 G 22785788.25 22785788.45 22785788.65 0.0520 0.0260

Uranus 57675-04-27 01:41 G 22786537.43 22786537.57 22786537.74 0.0142 0.0112 Uranus 57676-05-01 00:43 G 22786907.29 22786907.53 22786907.78 0.0143 0.0045 Uranus 57677-05-06 00:00 G 22787277.25 22787277.50 22787277.76 0.0143 0.0024 Uranus 57678-05-11 00:14 G 22787647.32 22787647.51 22787647.71 0.0143 0.0093 Saturn 57681-02-25 22:19 G 22788669.30 22788669.43 22788669.59 0.0290 0.0232 Mars 57692-08-01 15:22 G 22792843.98 22792844.14 22792844.30 0.1883 0.1129 Saturn 57695-09-05 16:05 G 22793973.93 22793974.17 22793974.42 0.0270 0.0053 Neptune 57705-10-04 10:19 G 22797654.78 22797654.93 22797655.13 0.0089 0.0064 Neptune 57706-10-06 21:50 G 22798022.18 22798022.41 22798022.66 0.0089 0.0034 Neptune 57707-10-09 09:22 G 22798389.63 22798389.89 22798390.15 0.0089 0.0003 Neptune 57708-10-10 20:24 G 22798757.11 22798757.35 22798757.60 0.0089 0.0027 Neptune 57709-10-13 07:41 G 22799124.63 22799124.82 22799125.02 0.0089 0.0057 Neptune 57710-10-15 18:43 G 22799492.25 22799492.28 22799492.34 0.0089 0.0087 Saturn 57711-03-06 18:58 G 22799634.08 22799634.29 22799634.52 0.0291 0.0121 Uranus 57715-10-30 19:41 G 22801333.16 22801333.32 22801333.52 0.0136 0.0094 Uranus 57716-11-03 05:46 G 22801702.50 22801702.74 22801702.98 0.0136 0.0036 Uranus 57717-11-07 14:38 G 22802071.86 22802072.11 22802072.36 0.0135 0.0021 Uranus 57718-11-11 22:34 G 22802441.25 22802441.44 22802441.66 0.0135 0.0078 Uranus 57719-11-16 06:29 G 22802810.74 22802810.77 22802810.82 0.0135 0.0133 Saturn 57724-08-31 07:12 G 22804560.65 22804560.80 22804560.98 0.0270 0.0199 Jupiter 57726-10-04 00:29 G 22805324.32 22805324.52 22805324.73 0.0504 0.0234 Jupiter 57732-03-29 07:26 G 22807327.69 22807327.81 22807327.94 0.0525 0.0437 Jupiter 57738-10-08 14:10 G 22809711.86 22809712.09 22809712.32 0.0506 0.0057 Saturn 57740-02-28 22:48 G 22810220.26 22810220.45 22810220.65 0.0290 0.0174 Jupiter 57744-04-03 07:12 G 22811715.57 22811715.80 22811716.03 0.0523 0.0106 Jupiter 57750-10-12 23:31 G 22814099.31 22814099.48 22814099.66 0.0507 0.0336 Saturn 57754-09-07 17:17 G 22815524.99 22815525.22 22815525.45 0.0270 0.0106 Jupiter 57756-04-08 08:24 G 22816103.64 22816103.85 22816104.06 0.0521 0.0226 Uranus 57759-04-28 11:17 G 22817218.80 22817218.97 22817219.14 0.0142 0.0108 Uranus 57760-05-02 09:50 G 22817588.67 22817588.91 22817589.16 0.0143 0.0041

Uranus 57761-05-07 09:07 G 22817958.63 22817958.88 22817959.13 0.0143 0.0027 Uranus 57762-05-12 08:53 G 22818328.70 22818328.87 22818329.07 0.0143 0.0096 Saturn 57770-03-07 19:55 G 22821185.14 22821185.33 22821185.52 0.0290 0.0179 Saturn 57783-09-02 06:58 G 22826111.59 22826111.79 22826112.00 0.0271 0.0147 Neptune 57786-04-01 04:48 G 22827053.63 22827053.70 22827053.82 0.0089 0.0082 Neptune 57787-04-03 16:48 G 22827421.01 22827421.20 22827421.43 0.0089 0.0052 Neptune 57788-04-05 04:48 G 22827788.46 22827788.70 22827788.96 0.0089 0.0022 Pluto 57789-02-19 22:34 G 22828109.21 22828109.44 22828109.70 0.0066 0.0022 Neptune 57789-04-07 17:02 G 22828155.95 22828156.21 22828156.47 0.0089 0.0009 Neptune 57790-04-10 04:34 G 22828523.48 22828523.69 22828523.94 0.0089 0.0040 Neptune 57791-04-12 16:34 G 22828891.05 22828891.19 22828891.37 0.0089 0.0070 Saturn 57799-03-01 21:36 G 22831771.18 22831771.40 22831771.62 0.0290 0.0120 Uranus 57799-10-31 09:22 G 22832014.71 22832014.89 22832015.10 0.0136 0.0088 Uranus 57800-11-04 19:26 G 22832384.06 22832384.31 22832384.55 0.0136 0.0030 Uranus 57801-11-09 03:50 G 22832753.42 22832753.66 22832753.92 0.0135 0.0028 Uranus 57802-11-13 12:14 G 22833122.82 22833123.01 22833123.22 0.0135 0.0083 Jupiter 57809-10-04 05:17 G 22835639.54 22835639.72 22835639.92 0.0503 0.0283 57812-02-02 12:58 G 22836490.86 22836491.04 22836491.22 0.1642 0.0410 Mars Saturn 57813-09-09 16:34 G 22837075.99 22837076.19 22837076.39 0.0270 0.0157 Jupiter 57815-03-30 16:19 G 22837643.09 22837643.18 22837643.28 0.0526 0.0479 Jupiter 57821-10-08 19:12 G 22840027.07 22840027.30 22840027.53 0.0505 0.0009 Jupiter 57827-04-04 18:00 G 22842031.03 22842031.25 22842031.48 0.0524 0.0140 Saturn 57829-03-09 19:41 G 22842736.18 22842736.32 22842736.47 0.0290 0.0235 Jupiter 57833-10-13 10:34 G 22844414.75 22844414.94 22844415.12 0.0507 0.0306 Jupiter 57839-04-09 17:46 G 22846419.02 22846419.24 22846419.46 0.0521 0.0191 Saturn 57842-09-04 05:17 G 22847662.50 22847662.72 22847662.96 0.0271 0.0098 Uranus 57843-04-29 21:50 G 22847900.25 22847900.41 22847900.61 0.0142 0.0103 Uranus 57844-05-03 20:53 G 22848270.13 22848270.37 22848270.62 0.0143 0.0035 Uranus 57845-05-08 19:55 G 22848640.09 22848640.33 22848640.59 0.0143 0.0033 Uranus 57846-05-13 19:55 G 22849010.15 22849010.33 22849010.52 0.0143 0.0101

Jupiter 57851-04-14 13:12 G 22850807.01 22850807.05 22850807.10 0.0519 0.0508 Saturn 57858-03-03 20:38 G 22853322.13 22853322.36 22853322.60 0.0290 0.0065 Neptune 57869-10-04 16:34 G 22857555.09 22857555.19 22857555.31 0.0089 0.0080 Neptune 57870-10-07 03:50 G 22857922.46 22857922.66 22857922.88 0.0089 0.0050 Neptune 57871-10-09 15:22 G 22858289.90 22858290.14 22858290.40 0.0089 0.0020 Saturn 57872-09-10 13:55 G 22858626.94 22858627.08 22858627.26 0.0270 0.0206 Neptune 57872-10-11 02:38 G 22858657.37 22858657.61 22858657.88 0.0089 0.0011 Neptune 57873-10-13 13:41 G 22859024.86 22859025.07 22859025.32 0.0089 0.0041 Neptune 57874-10-16 00:43 G 22859392.40 22859392.53 22859392.71 0.0089 0.0071 Pluto 57876-08-25 16:05 G 22860072.07 22860072.17 22860072.32 0.0078 0.0068 Uranus 57883-11-01 22:05 G 22862696.23 22862696.42 22862696.63 0.0136 0.0081 Uranus 57884-11-05 07:55 G 22863065.58 22863065.83 22863066.08 0.0136 0.0024 Uranus 57885-11-09 16:34 G 22863434.95 22863435.19 22863435.44 0.0135 0.0033 Uranus 57886-11-14 00:43 G 22863804.35 22863804.53 22863804.73 0.0135 0.0089 Jupiter 57892-10-03 16:05 G 22865954.99 22865955.17 22865955.36 0.0503 0.0313 Jupiter 57898-03-30 01:55 G 22867958.54 22867958.58 22867958.63 0.0526 0.0514 Saturn 57901-09-06 03:36 G 22869213.41 22869213.65 22869213.90 0.0271 0.0049 Jupiter 57904-10-09 06:58 G 22870342.56 22870342.79 22870343.03 0.0505 0.0021 Jupiter 57910-04-04 23:46 G 22872346.28 22872346.49 22872346.71 0.0524 0.0185 Jupiter 57916-10-13 21:22 G 22874730.20 22874730.39 22874730.58 0.0507 0.0277 Saturn 57917-03-05 20:24 G 22874873.10 22874873.35 22874873.59 0.0290 0.0008 Jupiter 57922-04-09 22:48 G 22876734.23 22876734.45 22876734.68 0.0522 0.0146 Uranus 57927-05-01 08:10 G 22878581.66 22878581.84 22878582.04 0.0142 0.0097 Uranus 57928-05-05 06:43 G 22878951.53 22878951.78 22878952.03 0.0143 0.0030 Uranus 57929-05-10 05:46 G 22879321.50 22879321.74 22879321.99 0.0143 0.0037 Uranus 57930-05-15 05:31 G 22879691.57 22879691.73 22879691.92 0.0143 0.0105 Saturn 57931-09-13 11:46 G 22880177.93 22880177.99 22880178.09 0.0270 0.0254 Jupiter 57934-04-14 21:50 G 22881122.32 22881122.41 22881122.51 0.0520 0.0473 Neptune 57951-04-04 23:17 G 22887321.33 22887321.47 22887321.66 0.0089 0.0068 Neptune 57952-04-06 11:46 G 22887688.75 22887688.99 22887689.22 0.0089 0.0037

Neptune 57953-04-08 23:46 G 22888056.23 22888056.49 22888056.74 0.0089 0.0007 Neptune 57954-04-11 11:17 G 22888423.73 22888423.97 22888424.23 0.0089 0.0024 Neptune 57955-04-13 23:02 G 22888791.27 22888791.46 22888791.68 0.0089 0.0054 Neptune 57956-04-15 11:02 G 22889158.89 22889158.96 22889159.05 0.0089 0.0084 Saturn 57960-09-07 01:55 G 22890764.34 22890764.58 22890764.83 0.0271 0.0004 Uranus 57966-10-30 00:14 G 22893008.48 22893008.51 22893008.58 0.0136 0.0133 Uranus 57967-11-03 10:34 G 22893377.75 22893377.94 22893378.16 0.0136 0.0076 Uranus 57968-11-06 20:24 G 22893747.11 22893747.35 22893747.61 0.0136 0.0019 Uranus 57969-11-11 05:02 G 22894116.48 22894116.71 22894116.96 0.0135 0.0039 Uranus 57970-11-15 13:26 G 22894485.89 22894486.06 22894486.25 0.0135 0.0094 Jupiter 57975-10-05 02:53 G 22896270.45 22896270.62 22896270.79 0.0502 0.0344 Saturn 57976-03-06 22:05 G 22896424.18 22896424.42 22896424.66 0.0289 0.0053 Jupiter 57987-10-09 13:12 G 22900657.82 22900658.05 22900658.28 0.0504 0.0064 Saturn 57989-09-02 01:12 G 22901351.43 22901351.55 22901351.68 0.0272 0.0234 Jupiter 57993-04-04 05:17 G 22902661.51 22902661.72 22902661.93 0.0525 0.0235 Jupiter 57999-10-14 02:10 G 22905045.39 22905045.59 22905045.80 0.0506 0.0229

# **59TH MILLENNIUM CE**

#### This is a list of transits of Earth in the 59th millennium CE.

FROM MAX- C START MAX END SUNRAD DEPTH S

TRANSIT

TIME

Saturn 58005-03-01 05:46 G 22907010.60 22907010.74 22907010.89 0.0287 0.0233

Jupiter 58005-04-09 06:29 G 22907049.54 22907049.77 22907050.00 0.0523 0.0105

Uranus 58011-05-01 20:53 G 22909263.18 22909263.37 22909263.58 0.0142 0.0091

Uranus 58012-05-05 19:26 G 22909633.07 22909633.31 22909633.57 0.0142 0.0025 Uranus 58013-05-10 18:29 G 22910003.04 22910003.27 22910003.52 0.0143 0.0044 Uranus 58014-05-15 18:29 G 22910373.11 22910373.27 22910373.43 0.0143 0.0111 58017-02-01 15:50 G 22911366.02 22911366.16 22911366.30 0.1636 0.1077 Mars Jupiter 58017-04-14 06:14 G 22911437.64 22911437.76 22911437.89 0.0520 0.0437 Saturn 58019-09-09 01:41 G 22912315.33 22912315.57 22912315.82 0.0271 0.0052 Neptune 58034-10-07 09:22 G 22917822.74 22917822.89 22917823.08 0.0089 0.0067 Pluto 58035-02-23 11:31 G 22917961.73 22917961.98 22917962.23 0.0066 0.0014 Saturn 58035-03-09 03:22 G 22917975.42 22917975.64 22917975.86 0.0289 0.0119 Neptune 58035-10-09 20:53 G 22918190.15 22918190.37 22918190.62 0.0089 0.0037 Neptune 58036-10-11 08:38 G 22918557.60 22918557.86 22918558.12 0.0089 0.0006 Neptune 58037-10-13 19:41 G 22918925.08 22918925.32 22918925.58 0.0089 0.0024 Neptune 58038-10-16 06:58 G 22919292.60 22919292.79 22919293.00 0.0089 0.0054 Neptune 58039-10-18 18:00 G 22919660.19 22919660.25 22919660.35 0.0089 0.0084 Saturn 58048-09-03 01:12 G 22922902.38 22922902.55 22922902.74 0.0272 0.0183 Uranus 58050-10-30 13:12 G 22923689.98 22923690.05 22923690.15 0.0136 0.0128 Uranus 58051-11-03 23:17 G 22924059.27 22924059.47 22924059.71 0.0136 0.0070 Uranus 58052-11-07 09:07 G 22924428.63 22924428.88 22924429.14 0.0136 0.0013 Uranus 58053-11-11 18:00 G 22924798.01 22924798.25 22924798.49 0.0135 0.0044 Uranus 58054-11-16 01:55 G 22925167.44 22925167.58 22925167.77 0.0135 0.0101 Jupiter 58058-10-04 08:10 G 22926585.70 22926585.84 22926585.99 0.0501 0.0390 Saturn 58064-03-02 13:12 G 22928561.86 22928562.05 22928562.26 0.0287 0.0163 Jupiter 58070-10-08 19:55 G 22930973.10 22930973.33 22930973.56 0.0503 0.0104 Jupiter 58076-04-03 12:00 G 22932976.80 22932977.00 22932977.20 0.0525 0.0277 Saturn 58078-09-10 03:36 G 22933866.43 22933866.65 22933866.88 0.0271 0.0107 Jupiter 58082-10-13 10:19 G 22935360.72 22935360.93 22935361.15 0.0506 0.0193 Jupiter 58088-04-08 09:50 G 22937364.68 22937364.91 22937365.15 0.0523 0.0055 Saturn 58094-03-10 11:02 G 22939526.79 22939526.96 22939527.15 0.0289 0.0191 Jupiter 58094-10-18 00:43 G 22939748.48 22939748.53 22939748.59 0.0507 0.0490 Uranus 58095-05-02 08:10 G 22939944.65 22939944.84 22939945.06 0.0142 0.0086

58096-02-04 17:31 G 22940223.10 22940223.23 22940223.36 0.1638 0.1196 Mars Uranus 58096-05-06 06:58 G 22940314.54 22940314.79 22940315.05 0.0142 0.0019 Uranus 58097-05-11 05:46 G 22940684.52 22940684.74 22940685.00 0.0143 0.0049 Uranus 58098-05-16 05:46 G 22941054.61 22941054.74 22941054.90 0.0143 0.0117 Jupiter 58100-04-14 07:41 G 22941752.66 22941752.82 22941752.98 0.0521 0.0382 Saturn 58107-09-06 03:36 G 22944453.44 22944453.65 22944453.88 0.0272 0.0127 Neptune 58115-04-05 05:17 G 22947221.65 22947221.72 22947221.81 0.0089 0.0084 Neptune 58116-04-06 17:02 G 22947589.02 22947589.21 22947589.43 0.0089 0.0054 Neptune 58117-04-09 05:02 G 22947956.47 22947956.71 22947956.97 0.0089 0.0024 Neptune 58118-04-11 17:02 G 22948323.96 22948324.21 22948324.47 0.0089 0.0007 Neptune 58119-04-14 04:48 G 22948691.47 22948691.70 22948691.94 0.0089 0.0037 Neptune 58120-04-15 16:19 G 22949059.03 22949059.18 22949059.37 0.0089 0.0068 Pluto 58122-08-28 23:31 G 22949924.22 22949924.48 22949924.74 0.0078 0.0006 Saturn 58123-03-05 23:46 G 22950113.26 22950113.49 22950113.73 0.0288 0.0088 Uranus 58134-11-01 03:07 G 22954371.53 22954371.63 22954371.75 0.0136 0.0122 Uranus 58135-11-05 13:12 G 22954740.84 22954741.05 22954741.28 0.0136 0.0064 Uranus 58136-11-08 22:48 G 22955110.20 22955110.45 22955110.71 0.0136 0.0008 Saturn 58137-09-12 08:10 G 22955417.65 22955417.84 22955418.04 0.0271 0.0167 Uranus 58137-11-13 07:26 G 22955479.59 22955479.81 22955480.06 0.0135 0.0050 Uranus 58138-11-17 15:50 G 22955849.02 22955849.16 22955849.33 0.0135 0.0105 Jupiter 58141-10-04 14:10 G 22956900.97 22956901.09 22956901.21 0.0501 0.0431 Saturn 58153-03-12 22:19 G 22961078.36 22961078.43 22961078.53 0.0290 0.0269 Jupiter 58153-10-09 03:07 G 22961288.41 22961288.63 22961288.85 0.0503 0.0143 Jupiter 58159-04-04 11:31 G 22963291.81 22963291.98 22963292.16 0.0526 0.0340 Jupiter 58165-10-13 14:38 G 22965675.89 22965676.11 22965676.34 0.0504 0.0145 Saturn 58166-09-07 08:38 G 22966004.63 22966004.86 22966005.10 0.0272 0.0067 Jupiter 58171-04-09 07:55 G 22967679.60 22967679.83 22967680.07 0.0524 0.0014 Jupiter 58177-10-18 02:53 G 22970063.51 22970063.62 22970063.74 0.0506 0.0437 Uranus 58179-05-03 21:36 G 22970626.19 22970626.40 22970626.62 0.0142 0.0080 Uranus 58180-05-07 20:10 G 22970996.09 22970996.34 22970996.60 0.0143 0.0013

Uranus 58181-05-12 19:12 G 22971366.07 22971366.30 22971366.55 0.0143 0.0055 Saturn 58182-03-07 12:58 G 22971664.80 22971665.04 22971665.29 0.0288 0.0008 Uranus 58182-05-17 18:58 G 22971736.17 22971736.29 22971736.44 0.0143 0.0122 Jupiter 58183-04-14 08:10 G 22972067.66 22972067.84 22972068.02 0.0522 0.0325 Saturn 58196-09-13 15:36 G 22976969.03 22976969.15 22976969.28 0.0271 0.0231 Neptune 58198-10-07 14:24 G 22977723.03 22977723.10 22977723.19 0.0088 0.0084 Neptune 58199-10-10 01:55 G 22978090.39 22978090.58 22978090.79 0.0089 0.0054 Neptune 58200-10-12 13:12 G 22978457.81 22978458.05 22978458.31 0.0089 0.0024 Neptune 58201-10-15 00:58 G 22978825.28 22978825.54 22978825.80 0.0089 0.0007 Neptune 58202-10-17 12:00 G 22979192.78 22979193.00 22979193.25 0.0089 0.0037 Neptune 58203-10-19 23:31 G 22979560.32 22979560.48 22979560.66 0.0089 0.0067 Uranus 58218-11-02 17:17 G 22985053.10 22985053.22 22985053.36 0.0136 0.0116 Uranus 58219-11-07 03:22 G 22985422.42 22985422.64 22985422.88 0.0136 0.0059 Uranus 58220-11-10 12:58 G 22985791.79 22985792.04 22985792.30 0.0136 0.0002 Uranus 58221-11-14 21:36 G 22986161.18 22986161.40 22986161.64 0.0135 0.0056 Uranus 58222-11-19 06:00 G 22986530.62 22986530.75 22986530.91 0.0135 0.0111 Jupiter 58224-10-04 19:12 G 22987216.23 22987216.30 22987216.37 0.0500 0.0476 Saturn 58225-09-09 16:19 G 22987555.94 22987556.18 22987556.43 0.0272 0.0004 Jupiter 58236-10-09 05:31 G 22991603.52 22991603.73 22991603.95 0.0502 0.0195 Saturn 58241-03-10 04:05 G 22993216.44 22993216.67 22993216.91 0.0288 0.0077 Jupiter 58242-04-04 08:38 G 22993606.72 22993606.86 22993607.01 0.0527 0.0410 Jupiter 58248-10-13 15:22 G 22995990.91 22995991.14 22995991.37 0.0504 0.0089 Jupiter 58254-04-09 10:48 G 22997994.72 22997994.95 22997995.18 0.0525 0.0064 Saturn 58254-09-04 14:38 G 22998143.00 22998143.11 22998143.23 0.0273 0.0241 Jupiter 58260-10-18 05:02 G 23000378.57 23000378.71 23000378.86 0.0506 0.0387 Uranus 58262-04-30 10:19 G 23000937.92 23000937.93 23000937.98 0.0142 0.0141 Uranus 58263-05-05 08:24 G 23001307.64 23001307.85 23001308.07 0.0142 0.0076 Uranus 58264-05-09 06:58 G 23001677.53 23001677.79 23001678.05 0.0142 0.0009 Uranus 58265-05-14 05:46 G 23002047.52 23002047.74 23002047.99 0.0143 0.0059 Jupiter 58266-04-14 08:53 G 23002382.67 23002382.87 23002383.07 0.0522 0.0268

Uranus 58266-05-19 05:46 G 23002417.64 23002417.74 23002417.87 0.0143 0.0126 Saturn 58270-03-04 07:26 G 23003802.66 23003802.81 23003802.98 0.0288 0.0215 Neptune 58280-04-06 22:05 G 23007489.29 23007489.42 23007489.60 0.0089 0.0071 Pluto 58281-02-25 22:05 G 23007814.29 23007814.42 23007814.57 0.0066 0.0055 Neptune 58281-04-09 10:34 G 23007856.72 23007856.94 23007857.18 0.0089 0.0040 Pluto 58282-02-27 11:02 G 23008180.78 23008180.96 23008181.16 0.0066 0.0044 Neptune 58282-04-11 22:34 G 23008224.18 23008224.44 23008224.70 0.0089 0.0010 Neptune 58283-04-14 10:19 G 23008591.68 23008591.93 23008592.19 0.0089 0.0021 Neptune 58284-04-15 22:05 G 23008959.22 23008959.42 23008959.64 0.0089 0.0051 Saturn 58284-09-11 01:55 G 23009107.34 23009107.58 23009107.82 0.0271 0.0066 Neptune 58285-04-18 10:05 G 23009326.82 23009326.92 23009327.03 0.0089 0.0081 Saturn 58300-03-12 19:26 G 23014768.12 23014768.31 23014768.52 0.0289 0.0162 Mars 58301-02-05 21:22 G 23015098.21 23015098.39 23015098.57 0.1633 0.0264 Uranus 58302-11-04 07:41 G 23015734.69 23015734.82 23015734.98 0.0136 0.0110 Uranus 58303-11-08 18:00 G 23016104.02 23016104.25 23016104.49 0.0136 0.0052 Uranus 58304-11-12 03:36 G 23016473.40 23016473.65 23016473.90 0.0136 0.0005 Uranus 58305-11-16 12:14 G 23016842.80 23016843.01 23016843.25 0.0135 0.0062 Uranus 58306-11-20 21:07 G 23017212.25 23017212.38 23017212.50 0.0135 0.0117 Saturn 58313-09-07 02:38 G 23019694.42 23019694.61 23019694.81 0.0272 0.0167 Jupiter 58319-10-10 06:14 G 23021918.57 23021918.76 23021918.97 0.0502 0.0251 Jupiter 58325-04-04 09:36 G 23023921.81 23023921.90 23023922.01 0.0527 0.0470 Saturn 58329-03-06 22:19 G 23025354.22 23025354.43 23025354.65 0.0288 0.0131 Jupiter 58331-10-14 19:41 G 23026306.09 23026306.32 23026306.55 0.0504 0.0042 Jupiter 58337-04-09 08:10 G 23028309.62 23028309.84 23028310.07 0.0525 0.0133 Mars 58339-08-10 03:07 G 23029162.43 23029162.63 23029162.83 0.1891 0.0321 Saturn 58343-09-14 12:14 G 23030658.81 23030659.01 23030659.24 0.0271 0.0137 Jupiter 58343-10-19 08:53 G 23030693.69 23030693.87 23030694.04 0.0505 0.0339 Uranus 58346-05-01 22:48 G 23031619.40 23031619.45 23031619.55 0.0142 0.0135 Uranus 58347-05-06 20:53 G 23031989.15 23031989.37 23031989.60 0.0142 0.0069 Uranus 58348-05-10 19:26 G 23032359.06 23032359.31 23032359.57 0.0142 0.0003

Jupiter 58349-04-14 03:22 G 23032697.42 23032697.64 23032697.86 0.0523 0.0194 Uranus 58349-05-15 18:43 G 23032729.05 23032729.28 23032729.51 0.0143 0.0064 Uranus 58350-05-20 18:29 G 23033099.18 23033099.27 23033099.37 0.0143 0.0131 Saturn 58359-03-15 10:34 G 23036319.82 23036319.94 23036320.07 0.0289 0.0247 Neptune 58363-10-11 06:43 G 23037990.64 23037990.78 23037990.94 0.0088 0.0071 Neptune 58364-10-12 18:00 G 23038358.03 23038358.25 23038358.49 0.0089 0.0041 Neptune 58365-10-15 05:31 G 23038725.47 23038725.73 23038725.99 0.0089 0.0011 Neptune 58366-10-17 16:48 G 23039092.96 23039093.20 23039093.46 0.0089 0.0019 Neptune 58367-10-20 03:50 G 23039460.47 23039460.66 23039460.89 0.0089 0.0050 Pluto 58368-08-31 00:58 G 23039776.50 23039776.54 23039776.64 0.0078 0.0076 Neptune 58368-10-21 15:07 G 23039828.04 23039828.13 23039828.26 0.0089 0.0080 Saturn 58372-09-08 15:07 G 23041245.90 23041246.13 23041246.36 0.0272 0.0092 Uranus 58386-11-04 21:36 G 23046416.24 23046416.40 23046416.57 0.0136 0.0103 Uranus 58387-11-09 07:55 G 23046785.60 23046785.83 23046786.07 0.0136 0.0045 Saturn 58388-03-08 11:46 G 23046905.75 23046905.99 23046906.23 0.0288 0.0050 Uranus 58388-11-12 17:31 G 23047154.98 23047155.23 23047155.48 0.0136 0.0011 Uranus 58389-11-17 02:24 G 23047524.39 23047524.60 23047524.83 0.0135 0.0068 Uranus 58390-11-21 10:48 G 23047893.87 23047893.95 23047894.07 0.0135 0.0123 Saturn 58402-09-15 23:17 G 23052210.32 23052210.47 23052210.64 0.0271 0.0207 Jupiter 58402-10-09 11:17 G 23052233.78 23052233.97 23052234.16 0.0501 0.0295 Jupiter 58414-10-13 22:19 G 23056621.20 23056621.43 23056621.67 0.0503 0.0010 Jupiter 58420-04-08 04:05 G 23058624.46 23058624.67 23058624.89 0.0526 0.0204 Jupiter 58426-10-18 06:43 G 23061008.59 23061008.78 23061008.98 0.0505 0.0275 Uranus 58430-05-02 10:05 G 23062300.83 23062300.92 23062301.04 0.0142 0.0129 Uranus 58431-05-07 07:55 G 23062670.61 23062670.83 23062671.07 0.0142 0.0064 Saturn 58431-09-11 02:53 G 23062797.38 23062797.62 23062797.87 0.0272 0.0019 Jupiter 58432-04-13 06:29 G 23063012.55 23063012.77 23063013.00 0.0524 0.0143 Uranus 58432-05-11 06:29 G 23063040.52 23063040.77 23063041.03 0.0142 0.0003 Uranus 58433-05-16 05:17 G 23063410.51 23063410.72 23063410.95 0.0143 0.0069 Uranus 58434-05-21 05:02 G 23063780.65 23063780.71 23063780.80 0.0143 0.0136

Neptune 58444-04-07 02:24 G 23067389.59 23067389.60 23067389.66 0.0089 0.0088 Jupiter 58444-04-18 05:17 G 23067400.64 23067400.72 23067400.82 0.0521 0.0476 Neptune 58445-04-09 14:24 G 23067756.93 23067757.10 23067757.32 0.0089 0.0058 Neptune 58446-04-12 02:53 G 23068124.38 23068124.62 23068124.87 0.0089 0.0027 Saturn 58447-03-11 00:00 G 23068457.26 23068457.50 23068457.74 0.0288 0.0029 Neptune 58447-04-14 14:53 G 23068491.87 23068492.12 23068492.38 0.0089 0.0004 Neptune 58448-04-16 02:53 G 23068859.39 23068859.62 23068859.86 0.0089 0.0034 Neptune 58449-04-18 14:10 G 23069226.94 23069227.09 23069227.29 0.0089 0.0065 Saturn 58460-09-04 21:22 G 23073384.34 23073384.39 23073384.44 0.0273 0.0266 Uranus 58470-11-05 10:19 G 23077097.76 23077097.93 23077098.12 0.0137 0.0097 Uranus 58471-11-09 20:53 G 23077467.13 23077467.37 23077467.61 0.0136 0.0040 Uranus 58472-11-13 06:29 G 23077836.53 23077836.77 23077837.03 0.0136 0.0018 Uranus 58473-11-17 15:50 G 23078205.96 23078206.16 23078206.38 0.0136 0.0074 Uranus 58474-11-22 00:14 G 23078575.46 23078575.51 23078575.61 0.0135 0.0129 Saturn 58476-03-04 13:12 G 23079043.94 23079044.05 23079044.19 0.0287 0.0245 Jupiter 58485-10-08 10:19 G 23082548.77 23082548.93 23082549.09 0.0500 0.0358 Saturn 58490-09-12 12:58 G 23084348.80 23084349.04 23084349.29 0.0272 0.0053 Jupiter 58497-10-12 22:48 G 23086936.22 23086936.45 23086936.68 0.0502 0.0067 Jupiter 58503-04-09 09:07 G 23088939.68 23088939.88 23088940.08 0.0526 0.0255 Saturn 58506-03-13 08:53 G 23090008.64 23090008.87 23090009.10 0.0289 0.0103 Jupiter 58509-10-18 12:43 G 23091323.82 23091324.03 23091324.24 0.0505 0.0232 Uranus 58514-05-03 23:31 G 23092982.37 23092982.48 23092982.63 0.0142 0.0122 Jupiter 58515-04-14 08:10 G 23093327.61 23093327.84 23093328.07 0.0524 0.0086 Uranus 58515-05-08 21:22 G 23093352.17 23093352.39 23093352.64 0.0142 0.0057 Uranus 58516-05-12 19:55 G 23093722.08 23093722.33 23093722.59 0.0142 0.0009 Uranus 58517-05-17 18:58 G 23094092.08 23094092.29 23094092.51 0.0143 0.0076 Uranus 58518-05-22 18:43 G 23094462.27 23094462.28 23094462.30 0.0143 0.0142 Saturn 58519-09-08 05:17 G 23094935.57 23094935.72 23094935.90 0.0272 0.0199 Jupiter 58527-04-19 03:22 G 23097715.50 23097715.64 23097715.79 0.0522 0.0413 Neptune 58527-10-11 11:46 G 23097890.98 23097890.99 23097891.05 0.0088 0.0088

58528-03-01 17:17 G 23098032.97 23098033.22 23098033.48 0.0066 0.0011 Pluto Neptune 58528-10-12 23:17 G 23098258.29 23098258.47 23098258.68 0.0088 0.0058 Neptune 58529-10-15 10:34 G 23098625.71 23098625.94 23098626.20 0.0089 0.0028 Neptune 58530-10-17 22:05 G 23098993.16 23098993.42 23098993.68 0.0089 0.0002 Neptune 58531-10-20 09:07 G 23099360.65 23099360.88 23099361.13 0.0089 0.0033 Neptune 58532-10-21 20:10 G 23099728.18 23099728.34 23099728.54 0.0089 0.0063 Saturn 58535-03-07 19:55 G 23100595.15 23100595.33 23100595.53 0.0288 0.0176 Saturn 58549-09-14 20:10 G 23105900.13 23105900.34 23105900.57 0.0271 0.0119 Uranus 58554-11-06 23:02 G 23107779.29 23107779.46 23107779.66 0.0137 0.0091 Uranus 58555-11-11 09:50 G 23108148.67 23108148.91 23108149.16 0.0136 0.0033 Uranus 58556-11-14 19:41 G 23108518.08 23108518.32 23108518.58 0.0136 0.0024 Uranus 58557-11-19 05:02 G 23108887.52 23108887.71 23108887.93 0.0136 0.0080 Uranus 58558-11-23 14:10 G 23109257.07 23109257.09 23109257.11 0.0135 0.0135 Saturn 58565-03-14 14:38 G 23111559.92 23111560.11 23111560.32 0.0289 0.0171 Jupiter 58568-10-08 17:31 G 23112864.10 23112864.23 23112864.37 0.0500 0.0399 Saturn 58578-09-09 11:02 G 23116486.75 23116486.96 23116487.18 0.0272 0.0135 Jupiter 58580-10-13 07:12 G 23117251.57 23117251.80 23117252.03 0.0502 0.0103 58585-02-08 02:38 G 23118830.44 23118830.61 23118830.79 0.1631 0.0544 Mars Jupiter 58586-04-08 08:38 G 23119254.68 23119254.86 23119255.05 0.0527 0.0319 Jupiter 58592-10-17 19:41 G 23121639.10 23121639.32 23121639.53 0.0504 0.0192 Saturn 58594-03-08 23:31 G 23122146.26 23122146.48 23122146.70 0.0288 0.0113 Jupiter 58598-04-13 08:53 G 23123642.64 23123642.87 23123643.10 0.0525 0.0028 Uranus 58598-05-04 12:29 G 23123663.89 23123664.02 23123664.19 0.0141 0.0116 Uranus 58599-05-09 10:19 G 23124033.70 23124033.93 23124034.18 0.0142 0.0051 Uranus 58600-05-14 08:38 G 23124403.61 23124403.86 23124404.12 0.0142 0.0015 Uranus 58601-05-19 07:12 G 23124773.61 23124773.80 23124774.03 0.0143 0.0082 Jupiter 58604-10-23 04:19 G 23126026.61 23126026.68 23126026.76 0.0506 0.0477 Saturn 58608-09-17 00:43 G 23127451.35 23127451.53 23127451.72 0.0271 0.0179 Neptune 58609-04-10 18:29 G 23127657.16 23127657.27 23127657.43 0.0089 0.0075 Neptune 58610-04-13 07:12 G 23128024.58 23128024.80 23128025.02 0.0089 0.0044 Jupiter 58610-04-19 10:34 G 23128030.78 23128030.94 23128031.11 0.0523 0.0372 Neptune 58611-04-15 19:12 G 23128392.05 23128392.30 23128392.56 0.0089 0.0014 Neptune 58612-04-17 07:12 G 23128759.55 23128759.80 23128760.06 0.0089 0.0017 Neptune 58613-04-19 19:12 G 23129127.08 23129127.30 23129127.52 0.0089 0.0047 Neptune 58614-04-22 06:43 G 23129494.68 23129494.78 23129494.93 0.0089 0.0078 Pluto 58615-09-05 02:53 G 23129995.36 23129995.62 23129995.88 0.0078 0.0001 Saturn 58624-03-16 18:29 G 23133111.13 23133111.27 23133111.41 0.0288 0.0235 Saturn 58637-09-11 13:55 G 23138037.85 23138038.08 23138038.32 0.0272 0.0077 Uranus 58638-11-08 11:46 G 23138460.81 23138460.99 23138461.20 0.0137 0.0086 Uranus 58639-11-12 22:34 G 23138830.20 23138830.44 23138830.70 0.0136 0.0028 Uranus 58640-11-16 08:53 G 23139199.62 23139199.87 23139200.12 0.0136 0.0029 Uranus 58641-11-20 18:14 G 23139569.08 23139569.26 23139569.47 0.0136 0.0085 Jupiter 58651-10-10 02:24 G 23143179.49 23143179.60 23143179.72 0.0500 0.0434 Saturn 58653-03-11 00:43 G 23143697.30 23143697.53 23143697.78 0.0288 0.0054 Jupiter 58663-10-14 10:19 G 23147566.72 23147566.93 23147567.16 0.0501 0.0157 Saturn 58667-09-19 02:24 G 23149002.50 23149002.60 23149002.74 0.0272 0.0236 Jupiter 58669-04-08 15:50 G 23149570.00 23149570.16 23149570.34 0.0528 0.0365 Jupiter 58675-10-18 23:31 G 23151954.25 23151954.48 23151954.70 0.0503 0.0140 Jupiter 58681-04-13 18:29 G 23153958.03 23153958.27 23153958.50 0.0525 0.0013 Uranus 58682-05-06 02:53 G 23154345.48 23154345.62 23154345.80 0.0141 0.0109 Uranus 58683-05-11 00:43 G 23154715.30 23154715.53 23154715.78 0.0142 0.0044 Uranus 58684-05-14 22:48 G 23155085.20 23155085.45 23155085.71 0.0142 0.0022 Uranus 58685-05-19 21:50 G 23155455.21 23155455.41 23155455.61 0.0143 0.0088 Jupiter 58687-10-23 13:55 G 23156341.98 23156342.08 23156342.19 0.0505 0.0444 Neptune 58692-10-13 04:34 G 23158158.57 23158158.69 23158158.84 0.0088 0.0075 Jupiter 58693-04-18 18:43 G 23158346.10 23158346.28 23158346.46 0.0523 0.0332 Neptune 58693-10-15 15:50 G 23158525.95 23158526.16 23158526.40 0.0088 0.0045 Neptune 58694-10-18 03:07 G 23158893.39 23158893.63 23158893.89 0.0088 0.0015 Neptune 58695-10-20 14:24 G 23159260.85 23159261.10 23159261.36 0.0089 0.0016 Saturn 58696-09-12 14:24 G 23159588.85 23159589.10 23159589.35 0.0272 0.0023

Neptune 58696-10-22 01:26 G 23159628.35 23159628.56 23159628.79 0.0089 0.0046 Neptune 58697-10-24 12:43 G 23159995.92 23159996.03 23159996.18 0.0089 0.0076 Saturn 58712-03-13 00:29 G 23165248.27 23165248.52 23165248.76 0.0288 0.0003 Uranus 58721-11-05 14:24 G 23168773.10 23168773.10 23168773.13 0.0137 0.0137 Uranus 58722-11-10 01:26 G 23169142.38 23169142.56 23169142.79 0.0137 0.0080 Uranus 58723-11-14 12:43 G 23169511.78 23169512.03 23169512.28 0.0136 0.0022 Uranus 58724-11-17 22:48 G 23169881.21 23169881.45 23169881.70 0.0136 0.0035 Saturn 58725-09-08 12:43 G 23170175.96 23170176.03 23170176.12 0.0274 0.0260 Uranus 58725-11-22 08:10 G 23170250.66 23170250.84 23170251.04 0.0136 0.0091 Jupiter 58734-10-10 08:10 G 23173494.79 23173494.84 23173494.91 0.0499 0.0481 Jupiter 58746-10-14 20:38 G 23177882.15 23177882.36 23177882.58 0.0501 0.0189 Jupiter 58752-04-09 01:12 G 23179885.40 23179885.55 23179885.70 0.0528 0.0402 Saturn 58755-09-15 12:58 G 23181139.80 23181140.04 23181140.29 0.0273 0.0028 Jupiter 58758-10-19 11:02 G 23182269.74 23182269.96 23182270.19 0.0503 0.0113 Jupiter 58764-04-13 23:17 G 23184273.24 23184273.47 23184273.71 0.0526 0.0060 Uranus 58766-05-07 16:05 G 23185027.00 23185027.17 23185027.35 0.0141 0.0103 Uranus 58767-05-12 13:26 G 23185396.82 23185397.06 23185397.31 0.0142 0.0039 Uranus 58768-05-16 11:17 G 23185766.73 23185766.97 23185767.23 0.0142 0.0027 Uranus 58769-05-21 10:05 G 23186136.73 23186136.92 23186137.12 0.0143 0.0093 Jupiter 58770-10-24 00:29 G 23186657.39 23186657.52 23186657.66 0.0505 0.0413 Saturn 58771-03-14 23:31 G 23186799.24 23186799.48 23186799.72 0.0288 0.0057 Neptune 58774-04-13 10:48 G 23187924.79 23187924.95 23187925.16 0.0089 0.0062 Pluto 58775-03-06 10:05 G 23188251.69 23188251.92 23188252.16 0.0066 0.0025 Neptune 58775-04-15 23:17 G 23188292.24 23188292.47 23188292.72 0.0089 0.0031 Neptune 58776-04-17 11:31 G 23188659.72 23188659.98 23188660.24 0.0089 0.0001 Jupiter 58776-04-18 23:02 G 23188661.27 23188661.46 23188661.66 0.0524 0.0285 Neptune 58777-04-19 23:31 G 23189027.25 23189027.48 23189027.73 0.0089 0.0030 Neptune 58778-04-22 11:17 G 23189394.80 23189394.97 23189395.18 0.0089 0.0061 Saturn 58784-09-09 10:34 G 23191726.80 23191726.94 23191727.11 0.0274 0.0211 58790-02-09 07:12 G 23193705.65 23193705.80 23193705.96 0.1627 0.0854 Mars

Saturn 58800-03-08 05:02 G 23197385.57 23197385.71 23197385.86 0.0286 0.0230 Uranus 58805-11-06 03:50 G 23199454.60 23199454.66 23199454.74 0.0137 0.0131 Uranus 58806-11-10 15:07 G 23199823.93 23199824.13 23199824.36 0.0137 0.0074 Uranus 58807-11-15 02:24 G 23200193.35 23200193.60 23200193.85 0.0136 0.0017 Uranus 58808-11-18 12:14 G 23200562.78 23200563.01 23200563.26 0.0136 0.0040 Uranus 58809-11-22 21:36 G 23200932.24 23200932.40 23200932.59 0.0136 0.0096 Saturn 58814-09-16 11:17 G 23202690.74 23202690.97 23202691.21 0.0273 0.0076 Jupiter 58829-10-14 08:10 G 23208197.63 23208197.84 23208198.05 0.0501 0.0218 Saturn 58830-03-15 23:17 G 23208350.25 23208350.47 23208350.70 0.0287 0.0113 Jupiter 58835-04-09 05:17 G 23210200.61 23210200.72 23210200.84 0.0528 0.0456 Jupiter 58841-10-18 17:46 G 23212585.01 23212585.24 23212585.47 0.0502 0.0068 Saturn 58843-09-11 08:10 G 23213277.65 23213277.84 23213278.05 0.0274 0.0164 Jupiter 58847-04-14 05:46 G 23214588.52 23214588.74 23214588.98 0.0527 0.0107 Uranus 58850-05-08 05:02 G 23215708.53 23215708.71 23215708.90 0.0141 0.0097 Uranus 58851-05-13 02:10 G 23216078.35 23216078.59 23216078.85 0.0142 0.0033 Uranus 58852-05-17 00:00 G 23216448.25 23216448.50 23216448.75 0.0142 0.0032 Uranus 58853-05-21 22:19 G 23216818.27 23216818.43 23216818.64 0.0143 0.0099 Jupiter 58853-10-23 06:29 G 23216972.61 23216972.77 23216972.93 0.0504 0.0366 Neptune 58857-10-15 22:34 G 23218426.25 23218426.44 23218426.63 0.0088 0.0061 Neptune 58858-10-18 09:36 G 23218793.66 23218793.90 23218794.15 0.0088 0.0031 Saturn 58859-03-10 06:58 G 23218936.60 23218936.79 23218936.99 0.0285 0.0171 Jupiter 58859-04-19 08:24 G 23218976.64 23218976.85 23218977.06 0.0525 0.0247 Neptune 58859-10-20 20:53 G 23219161.11 23219161.37 23219161.62 0.0089 0.0001 Neptune 58860-10-22 07:41 G 23219528.59 23219528.82 23219529.08 0.0089 0.0030 Neptune 58861-10-24 18:29 G 23219896.11 23219896.27 23219896.49 0.0089 0.0060 Pluto 58862-09-07 21:36 G 23220214.22 23220214.40 23220214.60 0.0078 0.0053 58869-02-11 08:38 G 23222562.77 23222562.86 23222562.96 0.1628 0.1371 Mars Saturn 58873-09-17 09:36 G 23224241.69 23224241.90 23224242.12 0.0273 0.0125 Saturn 58889-03-17 00:29 G 23229901.32 23229901.52 23229901.71 0.0287 0.0171 Uranus 58889-11-06 18:14 G 23230136.16 23230136.26 23230136.36 0.0137 0.0125

Uranus 58890-11-11 05:17 G 23230505.51 23230505.72 23230505.95 0.0137 0.0068 Uranus 58891-11-15 16:34 G 23230874.94 23230875.19 23230875.44 0.0136 0.0010 Uranus 58892-11-19 02:24 G 23231244.37 23231244.60 23231244.84 0.0136 0.0046 Uranus 58893-11-23 11:31 G 23231613.83 23231613.98 23231614.16 0.0136 0.0102 Saturn 58902-09-13 06:43 G 23234828.56 23234828.78 23234829.01 0.0274 0.0115 Jupiter 58912-10-14 14:53 G 23238512.93 23238513.12 23238513.33 0.0499 0.0261 Saturn 58918-03-12 10:48 G 23240487.72 23240487.95 23240488.17 0.0285 0.0110 Jupiter 58918-04-09 11:46 G 23240515.92 23240515.99 23240516.06 0.0530 0.0504 Jupiter 58924-10-19 02:38 G 23242900.38 23242900.61 23242900.84 0.0502 0.0033 Jupiter 58930-04-14 14:38 G 23244903.89 23244904.11 23244904.34 0.0527 0.0145 Saturn 58932-09-19 09:07 G 23245792.70 23245792.88 23245793.07 0.0273 0.0176 Uranus 58934-05-09 16:48 G 23246390.02 23246390.20 23246390.41 0.0141 0.0091 Uranus 58935-05-14 13:55 G 23246759.83 23246760.08 23246760.34 0.0142 0.0027 Uranus 58936-05-18 11:31 G 23247129.74 23247129.98 23247130.23 0.0142 0.0038 Jupiter 58936-10-23 16:34 G 23247288.02 23247288.19 23247288.37 0.0504 0.0336 Uranus 58937-05-23 09:50 G 23247499.75 23247499.91 23247500.10 0.0142 0.0103 Neptune 58938-04-13 15:22 G 23247825.05 23247825.14 23247825.28 0.0089 0.0079 Neptune 58939-04-16 03:07 G 23248192.44 23248192.63 23248192.87 0.0089 0.0049 Neptune 58940-04-17 15:36 G 23248559.90 23248560.15 23248560.41 0.0089 0.0018 Neptune 58941-04-20 03:36 G 23248927.40 23248927.65 23248927.92 0.0089 0.0013 Jupiter 58942-04-19 13:26 G 23249291.85 23249292.06 23249292.28 0.0525 0.0199 Neptune 58942-04-22 16:05 G 23249294.94 23249295.17 23249295.40 0.0089 0.0043 Neptune 58943-04-25 03:36 G 23249662.53 23249662.65 23249662.81 0.0089 0.0074 Saturn 58948-03-19 04:19 G 23251452.55 23251452.68 23251452.83 0.0287 0.0234 Saturn 58961-09-14 06:14 G 23256379.53 23256379.76 23256380.01 0.0274 0.0065 Uranus 58973-11-08 05:31 G 23260817.62 23260817.73 23260817.86 0.0137 0.0119 Uranus 58974-11-12 17:17 G 23261187.00 23261187.22 23261187.45 0.0137 0.0062 Uranus 58975-11-17 04:19 G 23261556.43 23261556.68 23261556.94 0.0136 0.0006 Uranus 58976-11-20 14:24 G 23261925.87 23261926.10 23261926.34 0.0136 0.0051 Saturn 58977-03-13 16:48 G 23262038.96 23262039.20 23262039.44 0.0285 0.0044

Uranus 58977-11-24 23:31 G 23262295.35 23262295.48 23262295.66 0.0136 0.0107

Mars 58986-08-15 13:12 G 23265480.96 23265481.05 23265481.14 0.1898 0.1703

Saturn 58991-09-21 10:48 G 23267343.83 23267343.95 23267344.09 0.0273 0.0231

Jupiter 58995-10-14 23:17 G 23268828.29 23268828.47 23268828.66 0.0499 0.0297

### **60TH MILLENNIUM CE**

#### This is a list of transits of Earth in the 60th millennium CE.

FROM MAX- C START MAX END SUNRAD DEPTH S

TRANSIT

TIME

Jupiter 59007-10-20 12:00 G 23273215.76 23273216.00 23273216.23 0.0501 0.0009 Jupiter 59013-04-14 16:19 G 23275218.96 23275219.18 23275219.39 0.0528 0.0204 Uranus 59018-05-11 05:02 G 23277071.51 23277071.71 23277071.92 0.0141 0.0085 Uranus 59019-05-16 02:10 G 23277441.34 23277441.59 23277441.84 0.0142 0.0021 Jupiter 59019-10-24 22:34 G 23277603.25 23277603.44 23277603.63 0.0503 0.0291 Uranus 59020-05-19 23:31 G 23277811.24 23277811.48 23277811.73 0.0142 0.0043 Saturn 59020-09-16 08:10 G 23277930.59 23277930.84 23277931.09 0.0274 0.0010 59021-03-08 07:41 G 23278103.71 23278103.82 23278103.99 0.0066 0.0055 Pluto Uranus 59021-05-24 21:50 G 23278181.26 23278181.41 23278181.58 0.0142 0.0109 Neptune 59021-10-17 05:17 G 23278326.59 23278326.72 23278326.84 0.0088 0.0077 59022-03-09 20:38 G 23278470.20 23278470.36 23278470.58 0.0066 0.0045 Neptune 59022-10-19 15:50 G 23278693.97 23278694.16 23278694.40 0.0088 0.0048 Neptune 59023-10-22 03:22 G 23279061.40 23279061.64 23279061.91 0.0088 0.0018 Neptune 59024-10-23 14:38 G 23279428.86 23279429.11 23279429.37 0.0088 0.0013 Jupiter 59025-04-19 14:10 G 23279606.86 23279607.09 23279607.31 0.0526 0.0139

Neptune 59025-10-26 01:26 G 23279796.36 23279796.56 23279796.81 0.0089 0.0044 Neptune 59026-10-28 12:29 G 23280163.91 23280164.02 23280164.19 0.0089 0.0074 Saturn 59036-03-16 02:10 G 23283590.34 23283590.59 23283590.83 0.0286 0.0029 Jupiter 59037-04-24 15:22 G 23283995.06 23283995.14 23283995.22 0.0524 0.0489 Saturn 59049-09-10 22:34 G 23288517.39 23288517.44 23288517.50 0.0275 0.0266 Uranus 59057-11-09 17:31 G 23291499.10 23291499.23 23291499.38 0.0137 0.0114 Uranus 59058-11-14 05:17 G 23291868.50 23291868.72 23291868.96 0.0137 0.0056 Uranus 59059-11-18 16:19 G 23292237.93 23292238.18 23292238.44 0.0137 0.0002 Uranus 59060-11-22 02:38 G 23292607.38 23292607.61 23292607.84 0.0136 0.0057 Uranus 59061-11-26 11:46 G 23292976.86 23292976.99 23292977.15 0.0136 0.0112 Saturn 59065-03-10 06:58 G 23294176.70 23294176.79 23294176.91 0.0285 0.0257 Mars 59074-02-12 14:24 G 23297437.92 23297438.10 23297438.29 0.1625 0.0027 Jupiter 59078-10-15 05:46 G 23299143.58 23299143.74 23299143.92 0.0498 0.0340 Saturn 59079-09-18 12:43 G 23299481.79 23299482.03 23299482.28 0.0274 0.0049 Jupiter 59090-10-19 16:19 G 23303530.94 23303531.18 23303531.41 0.0500 0.0049 Saturn 59095-03-18 13:26 G 23305141.84 23305142.06 23305142.29 0.0286 0.0105 Jupiter 59096-04-13 15:22 G 23305533.95 23305534.14 23305534.35 0.0529 0.0270 Uranus 59101-05-07 21:22 G 23307383.39 23307383.39 23307383.43 0.0141 0.0141 Uranus 59102-05-12 17:31 G 23307753.03 23307753.23 23307753.45 0.0141 0.0079 Jupiter 59102-10-25 01:55 G 23307918.38 23307918.58 23307918.79 0.0502 0.0242 Neptune 59103-04-17 08:53 G 23308092.71 23308092.87 23308093.06 0.0089 0.0065 Uranus 59103-05-17 14:24 G 23308122.85 23308123.10 23308123.36 0.0142 0.0015 Neptune 59104-04-18 20:53 G 23308460.15 23308460.37 23308460.62 0.0089 0.0035 Uranus 59104-05-21 11:46 G 23308492.75 23308492.99 23308493.23 0.0142 0.0049 Neptune 59105-04-21 09:07 G 23308827.63 23308827.88 23308828.14 0.0089 0.0005 Uranus 59105-05-26 09:50 G 23308862.77 23308862.91 23308863.08 0.0142 0.0114 Neptune 59106-04-23 20:53 G 23309195.14 23309195.37 23309195.63 0.0089 0.0027 Neptune 59107-04-26 08:53 G 23309562.69 23309562.87 23309563.08 0.0089 0.0057 Jupiter 59108-04-19 18:29 G 23309922.04 23309922.27 23309922.50 0.0527 0.0091 Neptune 59108-04-27 20:38 G 23309930.35 23309930.36 23309930.44 0.0089 0.0088 Saturn 59108-09-13 06:00 G 23310068.59 23310068.75 23310068.92 0.0275 0.0201 Jupiter 59120-04-24 17:17 G 23314310.10 23314310.22 23314310.36 0.0524 0.0434 Saturn 59124-03-12 18:58 G 23315728.12 23315728.29 23315728.49 0.0285 0.0181 Saturn 59138-09-20 19:41 G 23321033.10 23321033.32 23321033.55 0.0274 0.0113 Uranus 59141-11-11 03:36 G 23322180.51 23322180.65 23322180.82 0.0137 0.0109 Uranus 59142-11-15 15:22 G 23322549.92 23322550.14 23322550.39 0.0137 0.0052 Uranus 59143-11-20 02:38 G 23322919.36 23322919.61 23322919.87 0.0137 0.0005 Uranus 59144-11-23 12:29 G 23323288.81 23323289.02 23323289.26 0.0136 0.0061 Uranus 59145-11-27 22:05 G 23323658.31 23323658.42 23323658.57 0.0136 0.0116 Saturn 59154-03-21 02:53 G 23326693.45 23326693.62 23326693.82 0.0286 0.0187 Jupiter 59161-10-15 07:12 G 23329458.67 23329458.80 23329458.95 0.0498 0.0394 Saturn 59167-09-15 15:50 G 23331619.95 23331620.16 23331620.38 0.0274 0.0131 Jupiter 59173-10-19 18:58 G 23333846.06 23333846.29 23333846.52 0.0500 0.0101 Jupiter 59179-04-14 17:02 G 23335849.04 23335849.21 23335849.40 0.0529 0.0330 Saturn 59183-03-15 08:24 G 23337279.63 23337279.85 23337280.08 0.0286 0.0101 Uranus 59185-05-08 10:05 G 23338064.87 23338064.92 23338065.01 0.0141 0.0135 Jupiter 59185-10-24 07:12 G 23338233.59 23338233.80 23338234.02 0.0502 0.0197 Uranus 59186-05-13 06:00 G 23338434.54 23338434.75 23338434.98 0.0141 0.0073 Neptune 59186-10-19 23:46 G 23338594.32 23338594.49 23338594.68 0.0088 0.0063 Uranus 59187-05-18 02:53 G 23338804.37 23338804.62 23338804.88 0.0142 0.0010 Neptune 59187-10-22 11:02 G 23338961.73 23338961.96 23338962.21 0.0088 0.0033 Uranus 59188-05-22 00:14 G 23339174.28 23339174.51 23339174.75 0.0142 0.0055 Neptune 59188-10-23 22:19 G 23339329.18 23339329.43 23339329.69 0.0088 0.0003 Uranus 59189-05-26 22:05 G 23339544.31 23339544.42 23339544.58 0.0142 0.0121 Neptune 59189-10-26 09:22 G 23339696.65 23339696.89 23339697.14 0.0089 0.0028 Neptune 59190-10-28 20:10 G 23340064.17 23340064.34 23340064.56 0.0089 0.0058 Jupiter 59191-04-19 16:19 G 23340236.95 23340237.18 23340237.42 0.0527 0.0023 Neptune 59191-10-31 07:26 G 23340431.80 23340431.81 23340431.87 0.0089 0.0088 Saturn 59197-09-22 04:34 G 23342584.52 23342584.69 23342584.89 0.0273 0.0181 Jupiter 59197-10-28 19:26 G 23342621.28 23342621.31 23342621.35 0.0503 0.0497

Jupiter 59203-04-24 12:14 G 23344624.84 23344625.01 23344625.18 0.0525 0.0359 Saturn 59213-03-22 17:46 G 23348245.16 23348245.24 23348245.32 0.0287 0.0269 Uranus 59225-11-11 15:07 G 23352861.99 23352862.13 23352862.31 0.0137 0.0105 Saturn 59226-09-17 03:22 G 23353171.41 23353171.64 23353171.89 0.0274 0.0058 Uranus 59226-11-16 03:07 G 23353231.40 23353231.63 23353231.87 0.0137 0.0047 Uranus 59227-11-20 14:10 G 23353600.84 23353601.09 23353601.35 0.0137 0.0010 Uranus 59228-11-24 00:14 G 23353970.30 23353970.51 23353970.74 0.0136 0.0066 Uranus 59229-11-28 09:50 G 23354339.81 23354339.91 23354340.04 0.0136 0.0121 Saturn 59242-03-16 22:34 G 23358831.20 23358831.44 23358831.69 0.0286 0.0019 Jupiter 59244-10-14 12:14 G 23359773.91 23359774.01 23359774.12 0.0498 0.0441 Saturn 59256-09-23 15:07 G 23364136.04 23364136.13 23364136.23 0.0273 0.0251 Jupiter 59256-10-18 23:46 G 23364161.26 23364161.49 23364161.71 0.0499 0.0146 Jupiter 59262-04-13 10:19 G 23366163.79 23366163.93 23366164.07 0.0530 0.0413 Neptune 59267-04-16 14:24 G 23367993.03 23367993.10 23367993.22 0.0089 0.0082 Pluto 59268-03-10 16:34 G 23368322.02 23368322.19 23368322.40 0.0066 0.0044 Neptune 59268-04-18 02:53 G 23368360.42 23368360.62 23368360.84 0.0089 0.0051 Jupiter 59268-10-23 10:05 G 23368548.70 23368548.92 23368549.15 0.0501 0.0146 Pluto 59269-03-12 05:17 G 23368688.62 23368688.72 23368688.89 0.0066 0.0056 Neptune 59269-04-20 14:38 G 23368727.87 23368728.11 23368728.37 0.0089 0.0021 Uranus 59269-05-08 22:34 G 23368746.36 23368746.44 23368746.56 0.0141 0.0129 Neptune 59270-04-23 02:53 G 23369095.36 23369095.62 23369095.88 0.0089 0.0010 Uranus 59270-05-13 18:29 G 23369116.06 23369116.27 23369116.51 0.0141 0.0067 59270-08-16 11:02 G 23369210.77 23369210.96 23369211.15 0.1902 0.0737 Mars Saturn 59271-03-11 18:14 G 23369418.23 23369418.26 23369418.33 0.0285 0.0278 Neptune 59271-04-25 14:24 G 23369462.89 23369463.10 23369463.35 0.0089 0.0041 Uranus 59271-05-18 15:36 G 23369485.89 23369486.15 23369486.40 0.0142 0.0004 Neptune 59272-04-27 02:38 G 23369830.47 23369830.61 23369830.77 0.0089 0.0071 Uranus 59272-05-22 12:43 G 23369855.81 23369856.03 23369856.27 0.0142 0.0061 Uranus 59273-05-27 11:02 G 23370225.85 23370225.96 23370226.09 0.0142 0.0125 Jupiter 59274-04-18 11:31 G 23370551.75 23370551.98 23370552.21 0.0528 0.0055

59279-02-12 21:07 G 23372313.27 23372313.38 23372313.49 0.1621 0.1303 Mars Jupiter 59280-10-27 18:00 G 23372936.14 23372936.25 23372936.37 0.0503 0.0434 Saturn 59285-09-18 16:05 G 23374722.93 23374723.17 23374723.42 0.0274 0.0019 Jupiter 59286-04-23 14:24 G 23374939.91 23374940.10 23374940.29 0.0526 0.0304 Saturn 59301-03-19 12:00 G 23380382.77 23380383.00 23380383.24 0.0286 0.0063 Uranus 59309-11-13 01:41 G 23383543.42 23383543.57 23383543.76 0.0137 0.0101 Uranus 59310-11-17 13:41 G 23383912.83 23383913.07 23383913.31 0.0137 0.0043 Uranus 59311-11-22 00:43 G 23384282.28 23384282.53 23384282.79 0.0137 0.0014 Uranus 59312-11-25 10:48 G 23384651.74 23384651.95 23384652.18 0.0136 0.0070 Uranus 59313-11-29 20:38 G 23385021.27 23385021.36 23385021.47 0.0136 0.0124 Saturn 59314-09-14 09:22 G 23385309.77 23385309.89 23385310.03 0.0275 0.0233 Jupiter 59327-10-15 16:05 G 23390089.13 23390089.17 23390089.21 0.0497 0.0489 Saturn 59330-03-14 06:29 G 23390969.61 23390969.77 23390969.95 0.0285 0.0200 Jupiter 59339-10-19 22:34 G 23394476.23 23394476.44 23394476.65 0.0499 0.0211 Saturn 59344-09-21 04:19 G 23396274.45 23396274.68 23396274.91 0.0274 0.0094 Jupiter 59345-04-13 12:29 G 23396478.92 23396479.02 23396479.13 0.0530 0.0474 Neptune 59350-10-20 07:12 G 23398494.71 23398494.80 23398494.95 0.0088 0.0079 Neptune 59351-10-22 18:43 G 23398862.09 23398862.28 23398862.52 0.0088 0.0049 Jupiter 59351-10-24 10:05 G 23398863.69 23398863.92 23398864.15 0.0501 0.0085 Neptune 59352-10-24 06:14 G 23399229.52 23399229.76 23399230.03 0.0088 0.0019 Uranus 59353-05-10 10:19 G 23399427.83 23399427.93 23399428.07 0.0141 0.0124 Neptune 59353-10-26 17:46 G 23399596.99 23399597.24 23399597.50 0.0088 0.0012 Uranus 59354-05-15 06:00 G 23399797.54 23399797.75 23399798.00 0.0141 0.0062 Neptune 59354-10-29 04:48 G 23399964.50 23399964.70 23399964.95 0.0089 0.0043 Uranus 59355-05-20 03:07 G 23400167.38 23400167.63 23400167.89 0.0142 0.0002 Pluto 59355-09-13 15:36 G 23400284.12 23400284.15 23400284.24 0.0079 0.0077 Neptune 59355-10-31 15:36 G 23400332.03 23400332.15 23400332.33 0.0089 0.0073 Uranus 59356-05-24 00:14 G 23400537.30 23400537.51 23400537.75 0.0142 0.0066 Jupiter 59357-04-18 14:24 G 23400866.87 23400867.10 23400867.33 0.0528 0.0113 Uranus 59357-05-28 22:19 G 23400907.35 23400907.43 23400907.56 0.0142 0.0131

59358-02-15 22:19 G 23401170.27 23401170.43 23401170.58 0.1623 0.0890 Mars Saturn 59360-03-20 23:46 G 23401934.29 23401934.49 23401934.71 0.0286 0.0141 Jupiter 59363-10-28 22:48 G 23403251.31 23403251.45 23403251.60 0.0503 0.0387 Jupiter 59369-04-23 14:10 G 23405254.88 23405255.09 23405255.30 0.0526 0.0240 Saturn 59373-09-15 20:10 G 23406861.15 23406861.34 23406861.55 0.0274 0.0160 Saturn 59389-03-15 16:05 G 23412520.96 23412521.17 23412521.40 0.0285 0.0126 Uranus 59393-11-13 13:55 G 23414224.91 23414225.08 23414225.28 0.0137 0.0095 Uranus 59394-11-18 01:55 G 23414594.34 23414594.58 23414594.82 0.0137 0.0038 Uranus 59395-11-22 12:43 G 23414963.78 23414964.03 23414964.28 0.0137 0.0018 Uranus 59396-11-25 22:48 G 23415333.25 23415333.45 23415333.68 0.0136 0.0074 Uranus 59397-11-30 08:38 G 23415702.80 23415702.86 23415702.96 0.0136 0.0129 Saturn 59403-09-24 15:22 G 23417825.94 23417826.14 23417826.33 0.0273 0.0167 Saturn 59419-03-24 09:22 G 23423485.74 23423485.89 23423486.06 0.0286 0.0216 Jupiter 59422-10-20 04:05 G 23424791.47 23424791.67 23424791.87 0.0499 0.0256 Neptune 59432-04-19 09:50 G 23428260.75 23428260.91 23428261.09 0.0089 0.0067 Saturn 59432-09-18 05:31 G 23428412.50 23428412.73 23428412.96 0.0274 0.0090 Neptune 59433-04-21 21:36 G 23428628.18 23428628.40 23428628.65 0.0089 0.0037 Neptune 59434-04-24 09:50 G 23428995.66 23428995.91 23428996.17 0.0089 0.0006 Jupiter 59434-10-24 16:48 G 23429178.97 23429179.20 23429179.43 0.0500 0.0044 Neptune 59435-04-26 21:50 G 23429363.16 23429363.41 23429363.66 0.0089 0.0024 Neptune 59436-04-28 09:36 G 23429730.71 23429730.90 23429731.11 0.0089 0.0055 Neptune 59437-04-30 21:36 G 23430098.33 23430098.40 23430098.47 0.0089 0.0085 Uranus 59437-05-11 21:22 G 23430109.28 23430109.39 23430109.55 0.0141 0.0119 Uranus 59438-05-16 17:17 G 23430479.00 23430479.22 23430479.47 0.0141 0.0058 Uranus 59439-05-21 14:24 G 23430848.85 23430849.10 23430849.36 0.0141 0.0007 Jupiter 59440-04-18 11:02 G 23431181.75 23431181.96 23431182.18 0.0529 0.0187 Uranus 59440-05-25 11:31 G 23431218.77 23431218.98 23431219.22 0.0142 0.0071 Uranus 59441-05-30 09:50 G 23431588.84 23431588.91 23431589.00 0.0142 0.0134 Jupiter 59446-10-29 04:05 G 23433566.50 23433566.67 23433566.84 0.0502 0.0342 Saturn 59448-03-17 23:31 G 23434072.25 23434072.48 23434072.72 0.0286 0.0056

Jupiter 59452-04-23 11:46 G 23435569.77 23435569.99 23435570.21 0.0527 0.0171 Saturn 59462-09-25 23:31 G 23439377.37 23439377.48 23439377.62 0.0273 0.0236 Uranus 59477-11-15 00:14 G 23444906.32 23444906.51 23444906.70 0.0137 0.0091 Saturn 59478-03-25 16:19 G 23445037.15 23445037.18 23445037.21 0.0287 0.0284 Uranus 59478-11-19 11:46 G 23445275.75 23445275.99 23445276.24 0.0137 0.0034 Uranus 59479-11-23 23:02 G 23445645.21 23445645.46 23445645.71 0.0137 0.0023 Uranus 59480-11-27 09:22 G 23446014.69 23446014.89 23446015.10 0.0136 0.0079 Uranus 59481-12-01 19:12 G 23446384.27 23446384.30 23446384.37 0.0136 0.0133 Saturn 59491-09-20 12:43 G 23449963.78 23449964.03 23449964.28 0.0274 0.0024 Jupiter 59505-10-20 11:17 G 23455106.78 23455106.97 23455107.16 0.0498 0.0297 Saturn 59507-03-21 03:50 G 23455623.42 23455623.66 23455623.91 0.0286 0.0009 Pluto 59515-03-15 20:24 G 23458540.20 23458540.35 23458540.54 0.0066 0.0050 Neptune 59515-10-24 03:07 G 23458762.47 23458762.63 23458762.83 0.0088 0.0064 Pluto 59516-03-16 08:53 G 23458906.74 23458906.87 23458907.08 0.0066 0.0050 Neptune 59516-10-25 14:38 G 23459129.88 23459130.11 23459130.36 0.0088 0.0033 Jupiter 59517-10-24 18:29 G 23459494.03 23459494.27 23459494.50 0.0499 0.0016 Neptune 59517-10-28 02:24 G 23459497.35 23459497.60 23459497.86 0.0088 0.0003 Neptune 59518-10-30 13:26 G 23459864.83 23459865.06 23459865.32 0.0088 0.0027 Neptune 59519-11-02 00:29 G 23460232.35 23460232.52 23460232.74 0.0089 0.0058 Saturn 59520-09-15 11:46 G 23460550.91 23460550.99 23460551.07 0.0276 0.0260 Neptune 59520-11-03 11:46 G 23460599.98 23460599.99 23460600.05 0.0089 0.0088 Uranus 59521-05-13 07:55 G 23460790.70 23460790.83 23460791.00 0.0141 0.0114 Uranus 59522-05-18 04:05 G 23461160.43 23461160.67 23461160.91 0.0141 0.0051 Jupiter 59523-04-19 16:19 G 23461496.97 23461497.18 23461497.38 0.0530 0.0240 Uranus 59523-05-23 00:58 G 23461530.28 23461530.54 23461530.79 0.0141 0.0012 Uranus 59524-05-26 22:05 G 23461900.21 23461900.42 23461900.64 0.0142 0.0075 Uranus 59525-05-31 19:55 G 23462270.30 23462270.33 23462270.40 0.0142 0.0139 Jupiter 59529-10-29 06:29 G 23463881.58 23463881.77 23463881.96 0.0501 0.0286 Jupiter 59535-04-24 19:26 G 23465885.08 23465885.31 23465885.53 0.0527 0.0127 Saturn 59536-03-14 09:50 G 23466209.86 23466209.91 23466209.97 0.0284 0.0275

Jupiter 59547-04-29 19:55 G 23470273.25 23470273.33 23470273.42 0.0525 0.0483 Saturn 59550-09-22 16:48 G 23471514.96 23471515.20 23471515.45 0.0274 0.0037 Uranus 59561-11-16 10:19 G 23475587.74 23475587.93 23475588.14 0.0137 0.0086 Uranus 59562-11-20 22:19 G 23475957.19 23475957.43 23475957.68 0.0137 0.0029 Mars 59563-02-17 05:02 G 23476045.53 23476045.71 23476045.89 0.1620 0.0415 Uranus 59563-11-25 09:36 G 23476326.66 23476326.90 23476327.15 0.0137 0.0028 Uranus 59564-11-28 19:55 G 23476696.15 23476696.33 23476696.55 0.0136 0.0083 Saturn 59566-03-22 05:46 G 23477174.50 23477174.74 23477174.98 0.0286 0.0068 Saturn 59579-09-17 14:53 G 23482101.96 23482102.12 23482102.30 0.0276 0.0201 Jupiter 59588-10-19 15:36 G 23485421.99 23485422.15 23485422.32 0.0497 0.0349 Saturn 59595-03-16 12:14 G 23487760.86 23487761.01 23487761.17 0.0284 0.0216 Neptune 59596-04-19 17:02 G 23488161.14 23488161.21 23488161.33 0.0089 0.0083 Neptune 59597-04-22 05:17 G 23488528.53 23488528.72 23488528.94 0.0089 0.0052 Neptune 59598-04-24 17:17 G 23488895.98 23488896.22 23488896.48 0.0089 0.0022 Neptune 59599-04-27 05:31 G 23489263.48 23489263.73 23489263.99 0.0089 0.0009 Neptune 59600-04-28 17:02 G 23489631.00 23489631.21 23489631.46 0.0089 0.0040 Jupiter 59600-10-24 03:22 G 23489809.41 23489809.64 23489809.88 0.0499 0.0052 Neptune 59601-05-01 05:02 G 23489998.57 23489998.71 23489998.89 0.0089 0.0070 Uranus 59605-05-13 18:43 G 23491472.14 23491472.28 23491472.46 0.0141 0.0108 Jupiter 59606-04-18 23:46 G 23491812.29 23491812.49 23491812.68 0.0530 0.0284 Uranus 59606-05-18 14:53 G 23491841.89 23491842.12 23491842.37 0.0141 0.0046 Uranus 59607-05-23 11:46 G 23492211.74 23492211.99 23492212.25 0.0141 0.0017 Uranus 59608-05-27 08:38 G 23492581.67 23492581.86 23492582.09 0.0142 0.0081 Saturn 59609-09-23 18:29 G 23493066.04 23493066.27 23493066.50 0.0274 0.0093 Jupiter 59612-10-28 16:48 G 23494197.00 23494197.20 23494197.41 0.0501 0.0255 Jupiter 59618-04-23 22:19 G 23496200.20 23496200.43 23496200.66 0.0528 0.0071 Saturn 59625-03-23 06:14 G 23498725.55 23498725.76 23498725.99 0.0286 0.0126 Jupiter 59630-04-28 22:34 G 23500588.31 23500588.44 23500588.58 0.0526 0.0428 Saturn 59638-09-18 15:22 G 23503652.94 23503653.14 23503653.36 0.0276 0.0148 Uranus 59645-11-16 18:43 G 23506269.09 23506269.28 23506269.49 0.0137 0.0082

Uranus 59646-11-21 06:43 G 23506638.53 23506638.78 23506639.03 0.0137 0.0025 Uranus 59647-11-25 18:00 G 23507008.01 23507008.25 23507008.51 0.0137 0.0032 Uranus 59648-11-29 05:02 G 23507377.52 23507377.71 23507377.91 0.0136 0.0087 Saturn 59654-03-17 13:26 G 23509311.87 23509312.06 23509312.27 0.0284 0.0159 Saturn 59668-09-24 18:00 G 23514617.05 23514617.25 23514617.47 0.0274 0.0147 Jupiter 59671-10-20 02:38 G 23515737.46 23515737.61 23515737.76 0.0497 0.0379 Neptune 59679-10-23 12:58 G 23518662.93 23518663.04 23518663.17 0.0088 0.0078 Neptune 59680-10-25 00:29 G 23519030.31 23519030.52 23519030.74 0.0088 0.0048 Neptune 59681-10-27 11:46 G 23519397.74 23519397.99 23519398.24 0.0088 0.0018 Neptune 59682-10-29 23:02 G 23519765.21 23519765.46 23519765.72 0.0088 0.0013 Jupiter 59683-10-24 14:10 G 23520124.86 23520125.09 23520125.32 0.0499 0.0083 Neptune 59683-11-01 10:05 G 23520132.71 23520132.92 23520133.16 0.0088 0.0043 Saturn 59684-03-24 06:00 G 23520276.57 23520276.75 23520276.94 0.0286 0.0180 Neptune 59684-11-02 21:22 G 23520500.26 23520500.39 23520500.56 0.0089 0.0073 Jupiter 59689-04-18 02:53 G 23522127.44 23522127.62 23522127.80 0.0530 0.0342 Uranus 59689-05-14 06:00 G 23522153.58 23522153.75 23522153.93 0.0141 0.0102 Uranus 59690-05-19 01:55 G 23522523.34 23522523.58 23522523.83 0.0141 0.0040 Uranus 59691-05-23 22:19 G 23522893.19 23522893.43 23522893.69 0.0141 0.0023 Uranus 59692-05-27 19:26 G 23523263.12 23523263.31 23523263.53 0.0142 0.0086 Jupiter 59695-10-28 22:34 G 23524512.24 23524512.44 23524512.66 0.0500 0.0207 Saturn 59697-09-19 14:24 G 23525203.87 23525204.10 23525204.33 0.0276 0.0097 Jupiter 59701-04-24 04:34 G 23526515.46 23526515.69 23526515.93 0.0529 0.0025 Saturn 59713-03-19 14:38 G 23530862.89 23530863.11 23530863.35 0.0284 0.0102 Jupiter 59713-04-29 08:10 G 23530903.68 23530903.84 23530903.99 0.0527 0.0391 Saturn 59727-09-27 16:48 G 23536168.03 23536168.20 23536168.38 0.0274 0.0196 Uranus 59728-11-13 15:07 G 23536581.09 23536581.13 23536581.19 0.0138 0.0135 Uranus 59729-11-18 04:05 G 23536950.47 23536950.67 23536950.88 0.0137 0.0078 Uranus 59730-11-22 16:05 G 23537319.93 23537320.17 23537320.43 0.0137 0.0021 Uranus 59731-11-27 03:36 G 23537689.41 23537689.65 23537689.90 0.0137 0.0036 Uranus 59732-11-30 14:24 G 23538058.92 23538059.10 23538059.30 0.0136 0.0091

Saturn 59743-03-27 05:46 G 23541827.62 23541827.74 23541827.89 0.0286 0.0236 Jupiter 59754-10-20 10:48 G 23546052.83 23546052.95 23546053.07 0.0496 0.0420 Saturn 59756-09-21 12:14 G 23546754.76 23546755.01 23546755.25 0.0276 0.0049 Neptune 59761-04-22 13:41 G 23548428.91 23548429.07 23548429.24 0.0089 0.0067 Pluto 59762-03-17 21:36 G 23548758.35 23548758.40 23548758.49 0.0065 0.0063 Neptune 59762-04-25 01:41 G 23548796.35 23548796.57 23548796.82 0.0089 0.0037 Pluto 59763-03-19 10:48 G 23549124.74 23549124.95 23549125.17 0.0066 0.0036 Neptune 59763-04-27 13:55 G 23549163.82 23549164.08 23549164.33 0.0089 0.0006 Neptune 59764-04-29 01:26 G 23549531.33 23549531.56 23549531.83 0.0089 0.0025 Neptune 59765-05-01 13:26 G 23549898.87 23549899.06 23549899.27 0.0089 0.0055 Neptune 59766-05-04 01:41 G 23550266.50 23550266.57 23550266.64 0.0089 0.0085 Jupiter 59766-10-24 21:22 G 23550440.17 23550440.39 23550440.62 0.0498 0.0126 Saturn 59772-03-20 16:34 G 23552413.95 23552414.19 23552414.43 0.0283 0.0044 Jupiter 59772-04-18 10:19 G 23552442.78 23552442.93 23552443.10 0.0531 0.0388 Uranus 59773-05-15 17:02 G 23552835.04 23552835.21 23552835.41 0.0141 0.0097 Uranus 59774-05-20 13:12 G 23553204.81 23553205.05 23553205.30 0.0141 0.0035 Uranus 59775-05-25 09:36 G 23553574.66 23553574.90 23553575.16 0.0141 0.0028 Uranus 59776-05-29 06:29 G 23553944.59 23553944.77 23553944.98 0.0142 0.0091 Jupiter 59778-10-29 08:38 G 23554827.65 23554827.86 23554828.08 0.0500 0.0175 Jupiter 59784-04-23 14:24 G 23556830.87 23556831.10 23556831.33 0.0529 0.0014 Saturn 59786-09-28 15:07 G 23557719.04 23557719.13 23557719.26 0.0274 0.0246 Jupiter 59790-11-02 22:05 G 23559215.36 23559215.42 23559215.48 0.0502 0.0483 Jupiter 59796-04-28 13:41 G 23561218.90 23561219.07 23561219.25 0.0527 0.0344 Uranus 59812-11-14 23:31 G 23567262.43 23567262.48 23567262.57 0.0138 0.0132 Uranus 59813-11-19 12:29 G 23567631.82 23567632.02 23567632.25 0.0137 0.0075 Uranus 59814-11-24 00:43 G 23568001.29 23568001.53 23568001.79 0.0137 0.0018 Saturn 59815-09-24 10:05 G 23568305.67 23568305.92 23568306.16 0.0276 0.0005 Uranus 59815-11-28 12:14 G 23568370.78 23568371.01 23568371.26 0.0137 0.0039 Uranus 59816-12-01 23:17 G 23568740.29 23568740.47 23568740.66 0.0136 0.0094 Saturn 59831-03-23 19:55 G 23573965.09 23573965.33 23573965.57 0.0283 0.0017

Jupiter 59837-10-20 19:55 G 23576368.24 23576368.33 23576368.42 0.0496 0.0455 Saturn 59844-09-17 16:48 G 23578892.17 23578892.20 23578892.25 0.0277 0.0273 Neptune 59844-10-26 09:36 G 23578930.74 23578930.90 23578931.11 0.0088 0.0063 Neptune 59845-10-28 21:07 G 23579298.16 23579298.38 23579298.64 0.0088 0.0033 Neptune 59846-10-31 08:38 G 23579665.61 23579665.86 23579666.12 0.0088 0.0002 Mars 59847-02-20 12:58 G 23579777.86 23579778.04 23579778.22 0.1619 0.0467 Neptune 59847-11-02 19:41 G 23580033.09 23580033.32 23580033.58 0.0088 0.0029 Neptune 59848-11-04 06:58 G 23580400.62 23580400.79 23580401.01 0.0089 0.0059 Jupiter 59849-10-25 07:41 G 23580755.59 23580755.82 23580756.04 0.0498 0.0158 Neptune 59849-11-06 18:29 G 23580768.27 23580768.27 23580768.29 0.0089 0.0089 Pluto 59850-09-21 17:17 G 23581087.04 23581087.22 23581087.44 0.0078 0.0050 Jupiter 59855-04-19 16:05 G 23582758.05 23582758.17 23582758.31 0.0531 0.0438 Uranus 59857-05-17 03:36 G 23583516.48 23583516.65 23583516.86 0.0141 0.0093 Uranus 59858-05-21 23:46 G 23583886.25 23583886.49 23583886.75 0.0141 0.0031 Uranus 59859-05-26 20:10 G 23584256.09 23584256.34 23584256.59 0.0141 0.0031 Saturn 59860-03-17 02:10 G 23584551.52 23584551.59 23584551.69 0.0283 0.0264 Uranus 59860-05-30 16:48 G 23584626.03 23584626.20 23584626.41 0.0142 0.0095 Jupiter 59861-10-29 19:26 G 23585143.09 23585143.31 23585143.54 0.0500 0.0143 Jupiter 59867-04-24 17:17 G 23587145.99 23587146.22 23587146.45 0.0530 0.0071 Jupiter 59873-11-03 05:17 G 23589530.62 23589530.72 23589530.84 0.0501 0.0441 Saturn 59874-09-25 09:07 G 23589856.64 23589856.88 23589857.12 0.0276 0.0049 Jupiter 59879-04-29 16:34 G 23591534.00 23591534.19 23591534.39 0.0528 0.0288 Saturn 59890-03-25 01:12 G 23595516.32 23595516.55 23595516.78 0.0284 0.0081 Uranus 59896-11-15 09:36 G 23597943.83 23597943.90 23597944.02 0.0138 0.0128 Uranus 59897-11-19 22:48 G 23598313.24 23598313.45 23598313.67 0.0137 0.0071 Uranus 59898-11-24 11:02 G 23598682.71 23598682.96 23598683.22 0.0137 0.0014 Uranus 59899-11-28 22:34 G 23599052.20 23599052.44 23599052.69 0.0137 0.0042 Uranus 59900-12-03 09:22 G 23599421.72 23599421.89 23599422.07 0.0136 0.0097 Saturn 59903-09-20 18:14 G 23600443.12 23600443.26 23600443.42 0.0277 0.0219 59917-08-23 17:17 G 23605529.02 23605529.22 23605529.42 0.1906 0.0376 Mars

Saturn 59919-03-20 07:41 G 23606102.66 23606102.82 23606103.00 0.0283 0.0200 Jupiter 59920-10-21 05:46 G 23606683.71 23606683.74 23606683.78 0.0496 0.0489 Neptune 59925-04-23 22:19 G 23608329.35 23608329.43 23608329.55 0.0089 0.0082 Neptune 59926-04-26 10:48 G 23608696.74 23608696.95 23608697.16 0.0089 0.0051 Neptune 59927-04-28 22:48 G 23609064.21 23609064.45 23609064.71 0.0089 0.0021 Neptune 59928-04-30 10:48 G 23609431.70 23609431.95 23609432.21 0.0089 0.0010 Neptune 59929-05-02 22:34 G 23609799.23 23609799.44 23609799.69 0.0089 0.0041 Neptune 59930-05-05 10:48 G 23610166.81 23610166.95 23610167.12 0.0089 0.0071 Jupiter 59932-10-25 15:36 G 23611070.94 23611071.15 23611071.37 0.0497 0.0197 Saturn 59933-09-27 10:05 G 23611407.70 23611407.92 23611408.16 0.0276 0.0102 Jupiter 59938-04-19 15:07 G 23613073.07 23613073.13 23613073.20 0.0533 0.0508 Uranus 59941-05-18 14:10 G 23614197.90 23614198.09 23614198.29 0.0141 0.0088 Uranus 59942-05-23 09:50 G 23614567.66 23614567.91 23614568.17 0.0141 0.0027 Uranus 59943-05-28 06:14 G 23614937.51 23614937.76 23614938.01 0.0141 0.0036 Uranus 59944-06-01 03:07 G 23615307.46 23615307.63 23615307.82 0.0142 0.0098 Jupiter 59944-10-30 01:41 G 23615458.35 23615458.57 23615458.80 0.0498 0.0101 Saturn 59949-03-27 08:38 G 23617067.67 23617067.86 23617068.08 0.0284 0.0150 Jupiter 59950-04-24 19:12 G 23617461.07 23617461.30 23617461.52 0.0531 0.0130 Jupiter 59956-11-03 11:17 G 23619845.84 23619845.97 23619846.12 0.0500 0.0399 Jupiter 59962-04-29 23:02 G 23621849.26 23621849.46 23621849.67 0.0528 0.0244 Saturn 59962-09-21 22:05 G 23621994.23 23621994.42 23621994.63 0.0277 0.0160 Saturn 59978-03-21 15:36 G 23627653.94 23627654.15 23627654.37 0.0283 0.0132 Uranus 59980-11-16 19:12 G 23628625.21 23628625.30 23628625.43 0.0138 0.0124 Uranus 59981-11-21 08:24 G 23628994.63 23628994.85 23628995.07 0.0137 0.0067 Uranus 59982-11-25 20:38 G 23629364.11 23629364.36 23629364.61 0.0137 0.0011 Uranus 59983-11-30 07:55 G 23629733.59 23629733.83 23629734.07 0.0137 0.0045 Uranus 59984-12-03 18:14 G 23630103.11 23630103.26 23630103.45 0.0136 0.0101 Saturn 59992-09-28 14:10 G 23632958.89 23632959.09 23632959.30 0.0275 0.0160

# 61ST MILLENNIUM CE

### This is a list of transits of Earth in the 61st millennium CE.

FROM MAX- C START MAX END SUNRAD DEPTH S

TIME

Saturn 60008-03-28 18:43 G 23638619.15 23638619.28 23638619.45 0.0284 0.0223 Neptune 60008-10-26 19:55 G 23638831.23 23638831.33 23638831.49 0.0088 0.0077 Neptune 60009-10-29 07:26 G 23639198.61 23639198.81 23639199.05 0.0088 0.0046 60010-03-22 07:12 G 23639342.55 23639342.80 23639343.06 0.0066 0.0008 Neptune 60010-10-31 18:58 G 23639566.04 23639566.29 23639566.55 0.0088 0.0016 Neptune 60011-11-03 06:14 G 23639933.52 23639933.76 23639934.03 0.0088 0.0015 Neptune 60012-11-04 17:02 G 23640301.01 23640301.21 23640301.46 0.0089 0.0045 Neptune 60013-11-07 04:19 G 23640668.57 23640668.68 23640668.85 0.0089 0.0075 Jupiter 60015-10-25 19:41 G 23641386.12 23641386.32 23641386.53 0.0496 0.0245 60021-09-23 04:48 G 23643545.48 23643545.70 23643545.94 0.0276 0.0096 Uranus 60025-05-18 23:17 G 23644879.28 23644879.47 23644879.69 0.0141 0.0084 Uranus 60026-05-23 18:58 G 23645249.05 23645249.29 23645249.55 0.0141 0.0023 Uranus 60027-05-28 15:07 G 23645618.89 23645619.13 23645619.38 0.0141 0.0039 Jupiter 60027-10-30 06:43 G 23645773.55 23645773.78 23645774.02 0.0498 0.0056 Uranus 60028-06-01 11:46 G 23645988.84 23645988.99 23645989.19 0.0142 0.0102 Jupiter 60033-04-23 22:05 G 23647776.20 23647776.42 23647776.64 0.0531 0.0188 Saturn 60037-03-23 02:10 G 23649205.36 23649205.59 23649205.83 0.0283 0.0059 Jupiter 60039-11-03 18:29 G 23650161.11 23650161.27 23650161.44 0.0500 0.0358 Jupiter 60045-04-28 22:19 G 23652164.21 23652164.43 23652164.65 0.0529 0.0177 Saturn 60051-09-30 20:24 G 23654510.21 23654510.35 23654510.50 0.0275 0.0222

60052-02-20 19:26 G 23654653.15 23654653.31 23654653.47 0.1616 0.0843 Mars Uranus 60064-11-17 05:02 G 23659306.60 23659306.71 23659306.85 0.0138 0.0119 Uranus 60065-11-21 18:00 G 23659676.03 23659676.25 23659676.48 0.0137 0.0062 Uranus 60066-11-26 06:14 G 23660045.51 23660045.76 23660046.02 0.0137 0.0007 Uranus 60067-11-30 17:31 G 23660415.00 23660415.23 23660415.47 0.0137 0.0049 Uranus 60068-12-04 04:05 G 23660784.52 23660784.67 23660784.84 0.0136 0.0104 Saturn 60080-09-24 14:53 G 23665096.87 23665097.12 23665097.37 0.0276 0.0025 Neptune 60090-04-25 19:41 G 23668597.16 23668597.32 23668597.51 0.0089 0.0066 Neptune 60091-04-28 07:26 G 23668964.60 23668964.81 23668965.07 0.0089 0.0036 Neptune 60092-04-29 19:55 G 23669332.08 23669332.33 23669332.59 0.0089 0.0005 Neptune 60093-05-02 07:55 G 23669699.60 23669699.83 23669700.09 0.0089 0.0026 Neptune 60094-05-04 19:41 G 23670067.14 23670067.32 23670067.54 0.0089 0.0057 Neptune 60095-05-07 07:41 G 23670434.80 23670434.82 23670434.90 0.0089 0.0087 Saturn 60096-03-24 14:24 G 23670756.86 23670757.10 23670757.34 0.0284 0.0019 Pluto 60097-09-23 08:53 G 23671304.61 23671304.87 23671305.13 0.0078 0.0002 Jupiter 60098-10-25 01:41 G 23671701.38 23671701.57 23671701.76 0.0496 0.0289 Uranus 60108-05-15 13:26 G 23675191.05 23675191.06 23675191.11 0.0140 0.0139 Uranus 60109-05-20 08:10 G 23675560.65 23675560.84 23675561.07 0.0141 0.0080 Uranus 60110-05-25 03:50 G 23675930.42 23675930.66 23675930.92 0.0141 0.0019 Jupiter 60110-10-30 12:29 G 23676088.79 23676089.02 23676089.26 0.0498 0.0012 Uranus 60111-05-30 00:00 G 23676300.27 23676300.50 23676300.75 0.0141 0.0044 Uranus 60112-06-02 21:22 G 23676670.22 23676670.39 23676670.56 0.0142 0.0105 Jupiter 60116-04-23 15:36 G 23678090.96 23678091.15 23678091.35 0.0532 0.0272 Jupiter 60122-11-03 22:19 G 23680476.25 23680476.43 23680476.61 0.0499 0.0309 Saturn 60125-03-20 13:12 G 23681343.92 23681344.05 23681344.19 0.0283 0.0234 Jupiter 60128-04-28 17:46 G 23682479.02 23682479.24 23682479.47 0.0530 0.0102 60131-02-23 19:55 G 23683510.23 23683510.33 23683510.44 0.1617 0.1321 Mars Saturn 60139-09-28 02:24 G 23686648.36 23686648.60 23686648.85 0.0276 0.0049 Jupiter 60140-05-03 21:36 G 23686867.30 23686867.40 23686867.50 0.0528 0.0473 Uranus 60148-11-18 13:26 G 23689987.93 23689988.06 23689988.20 0.0138 0.0115

Uranus 60149-11-23 02:10 G 23690357.37 23690357.59 23690357.83 0.0137 0.0059 Uranus 60150-11-27 14:38 G 23690726.85 23690727.11 23690727.36 0.0137 0.0003 Uranus 60151-12-02 01:26 G 23691096.34 23691096.56 23691096.81 0.0137 0.0053 Uranus 60152-12-05 12:00 G 23691465.87 23691466.00 23691466.18 0.0136 0.0108 Saturn 60155-03-28 03:07 G 23692308.41 23692308.63 23692308.86 0.0284 0.0098 Saturn 60168-09-21 18:00 G 23697235.10 23697235.25 23697235.42 0.0277 0.0208 Neptune 60173-10-29 18:14 G 23699099.08 23699099.26 23699099.46 0.0088 0.0060 Neptune 60174-11-01 05:46 G 23699466.50 23699466.74 23699466.99 0.0088 0.0030 Neptune 60175-11-03 17:02 G 23699833.96 23699834.21 23699834.47 0.0088 0.0001 Neptune 60176-11-05 04:19 G 23700201.45 23700201.68 23700201.93 0.0088 0.0031 Neptune 60177-11-07 15:07 G 23700568.97 23700569.13 23700569.34 0.0089 0.0061 Jupiter 60181-10-25 05:46 G 23702016.57 23702016.74 23702016.91 0.0495 0.0337 Saturn 60184-03-22 01:26 G 23702895.36 23702895.56 23702895.76 0.0283 0.0156 Uranus 60192-05-15 22:34 G 23705872.39 23705872.44 23705872.53 0.0140 0.0135 Uranus 60193-05-20 17:31 G 23706242.02 23706242.23 23706242.45 0.0141 0.0075 Jupiter 60193-10-29 12:00 G 23706403.77 23706404.00 23706404.24 0.0497 0.0052 Uranus 60194-05-25 13:12 G 23706611.79 23706612.05 23706612.30 0.0141 0.0014 Uranus 60195-05-30 08:53 G 23706981.64 23706981.87 23706982.12 0.0141 0.0048 Uranus 60196-06-03 05:46 G 23707351.60 23707351.74 23707351.92 0.0142 0.0110 Saturn 60198-09-29 15:07 G 23708199.92 23708200.13 23708200.36 0.0276 0.0126 Jupiter 60199-04-23 17:17 G 23708406.04 23708406.22 23708406.40 0.0532 0.0335 Jupiter 60205-11-03 22:48 G 23710791.24 23710791.45 23710791.65 0.0499 0.0249 Jupiter 60211-04-29 19:55 G 23712794.10 23712794.33 23712794.56 0.0530 0.0040 Saturn 60214-03-30 16:19 G 23713860.00 23713860.18 23713860.38 0.0284 0.0178 Jupiter 60223-05-04 19:55 G 23717182.19 23717182.33 23717182.49 0.0528 0.0404 Saturn 60227-09-25 06:00 G 23718786.54 23718786.75 23718786.98 0.0277 0.0133 Uranus 60232-11-19 21:50 G 23720669.27 23720669.41 23720669.56 0.0138 0.0111 Uranus 60233-11-24 10:19 G 23721038.71 23721038.93 23721039.17 0.0137 0.0055 Uranus 60234-11-28 22:48 G 23721408.20 23721408.45 23721408.70 0.0137 0.0001 Uranus 60235-12-03 09:50 G 23721777.69 23721777.91 23721778.15 0.0137 0.0056

Uranus 60236-12-06 20:24 G 23722147.22 23722147.35 23722147.51 0.0136 0.0111 Saturn 60243-03-25 12:58 G 23724446.81 23724447.04 23724447.28 0.0283 0.0079 Neptune 60254-04-27 05:46 G 23728497.65 23728497.74 23728497.87 0.0089 0.0080 Neptune 60255-04-29 17:31 G 23728865.04 23728865.23 23728865.47 0.0089 0.0050 Neptune 60256-05-01 06:00 G 23729232.50 23729232.75 23729233.01 0.0089 0.0019 Pluto 60257-03-25 01:41 G 23729560.34 23729560.57 23729560.81 0.0065 0.0027 Neptune 60257-05-03 17:46 G 23729599.99 23729600.24 23729600.51 0.0089 0.0012 Saturn 60257-10-02 04:05 G 23729751.50 23729751.67 23729751.84 0.0275 0.0202 Neptune 60258-05-06 05:31 G 23729967.53 23729967.73 23729967.98 0.0089 0.0043 Neptune 60259-05-08 17:31 G 23730335.11 23730335.23 23730335.40 0.0089 0.0073 Jupiter 60264-10-25 06:14 G 23732331.63 23732331.76 23732331.90 0.0495 0.0399 Saturn 60273-04-01 04:19 G 23735411.58 23735411.68 23735411.79 0.0284 0.0256 Uranus 60276-05-17 07:55 G 23736553.76 23736553.83 23736553.95 0.0140 0.0130 Jupiter 60276-10-29 16:34 G 23736718.96 23736719.19 23736719.42 0.0497 0.0101 Uranus 60277-05-22 02:38 G 23736923.40 23736923.61 23736923.85 0.0141 0.0071 Uranus 60278-05-26 22:19 G 23737293.18 23737293.43 23737293.69 0.0141 0.0010 Uranus 60279-05-31 18:29 G 23737663.03 23737663.27 23737663.51 0.0141 0.0052 Uranus 60280-06-04 15:07 G 23738033.00 23738033.13 23738033.30 0.0142 0.0114 Jupiter 60282-04-23 16:48 G 23738721.05 23738721.20 23738721.35 0.0532 0.0404 Saturn 60286-09-26 18:00 G 23740338.01 23740338.25 23740338.49 0.0276 0.0057 Jupiter 60288-11-03 04:19 G 23741106.47 23741106.68 23741106.90 0.0498 0.0206 Jupiter 60294-04-28 14:10 G 23743108.86 23743109.09 23743109.32 0.0531 0.0044 Saturn 60302-03-27 23:17 G 23745998.22 23745998.47 23745998.71 0.0284 0.0005 Jupiter 60306-05-04 15:07 G 23747496.95 23747497.13 23747497.32 0.0529 0.0326 Uranus 60316-11-21 05:02 G 23751350.58 23751350.71 23751350.89 0.0138 0.0109 Uranus 60317-11-25 18:00 G 23751720.03 23751720.25 23751720.50 0.0137 0.0053 Uranus 60318-11-30 06:29 G 23752089.52 23752089.77 23752090.02 0.0137 0.0004 Uranus 60319-12-04 17:31 G 23752459.01 23752459.23 23752459.47 0.0137 0.0059 Uranus 60320-12-08 04:19 G 23752828.55 23752828.68 23752828.83 0.0136 0.0113 Saturn 60331-03-22 08:24 G 23756584.82 23756584.85 23756584.88 0.0282 0.0279

60336-02-25 03:07 G 23758385.44 23758385.63 23758385.81 0.1616 0.0046 Mars Neptune 60337-10-31 04:48 G 23758999.57 23758999.70 23758999.85 0.0088 0.0074 Neptune 60338-11-02 16:05 G 23759366.96 23759367.17 23759367.41 0.0088 0.0044 Neptune 60339-11-05 03:50 G 23759734.41 23759734.66 23759734.92 0.0088 0.0013 Neptune 60340-11-06 14:53 G 23760101.87 23760102.12 23760102.38 0.0088 0.0017 Neptune 60341-11-09 02:10 G 23760469.38 23760469.59 23760469.82 0.0089 0.0047 Neptune 60342-11-11 13:26 G 23760836.95 23760837.06 23760837.20 0.0089 0.0077 Pluto 60344-09-26 18:43 G 23761522.22 23761522.28 23761522.40 0.0079 0.0074 Saturn 60345-09-29 03:50 G 23761889.42 23761889.66 23761889.91 0.0276 0.0016 Jupiter 60347-10-26 12:29 G 23762646.93 23762647.02 23762647.13 0.0495 0.0442 Jupiter 60359-10-30 22:19 G 23767034.20 23767034.43 23767034.65 0.0496 0.0146 Uranus 60360-05-18 17:17 G 23767235.14 23767235.22 23767235.35 0.0140 0.0127 Saturn 60361-03-29 06:43 G 23767549.54 23767549.78 23767550.02 0.0284 0.0066 Uranus 60361-05-23 12:00 G 23767604.79 23767605.00 23767605.24 0.0141 0.0067 Uranus 60362-05-28 07:55 G 23767974.57 23767974.83 23767975.08 0.0141 0.0006 Uranus 60363-06-02 03:50 G 23768344.43 23768344.66 23768344.90 0.0141 0.0056 Uranus 60364-06-06 00:43 G 23768714.41 23768714.53 23768714.69 0.0142 0.0118 Jupiter 60365-04-23 12:29 G 23769035.93 23769036.02 23769036.12 0.0533 0.0486 Jupiter 60371-11-04 04:34 G 23771421.47 23771421.69 23771421.92 0.0498 0.0141 Saturn 60374-09-24 02:24 G 23772476.47 23772476.60 23772476.76 0.0277 0.0224 Jupiter 60377-04-28 17:02 G 23773423.98 23773424.21 23773424.44 0.0532 0.0104 Jupiter 60383-11-08 15:36 G 23775809.05 23775809.15 23775809.26 0.0499 0.0445 Jupiter 60389-05-03 20:38 G 23777812.17 23777812.36 23777812.56 0.0529 0.0275 Saturn 60390-03-23 15:50 G 23778136.00 23778136.16 23778136.32 0.0282 0.0211 Uranus 60400-11-21 14:10 G 23782031.94 23782032.09 23782032.26 0.0138 0.0105 Uranus 60401-11-26 02:53 G 23782401.39 23782401.62 23782401.86 0.0137 0.0049 Uranus 60402-11-30 15:07 G 23782770.88 23782771.13 23782771.38 0.0137 0.0007 Uranus 60403-12-05 02:10 G 23783140.37 23783140.59 23783140.83 0.0137 0.0062 Saturn 60404-09-30 11:46 G 23783440.75 23783440.99 23783441.23 0.0276 0.0083 Uranus 60404-12-08 12:58 G 23783509.92 23783510.04 23783510.18 0.0136 0.0116

Neptune 60419-04-30 04:19 G 23788765.50 23788765.68 23788765.86 0.0089 0.0063 Saturn 60420-03-30 12:00 G 23789100.79 23789101.00 23789101.22 0.0284 0.0132 Neptune 60420-05-01 15:50 G 23789132.94 23789133.16 23789133.41 0.0089 0.0033 Neptune 60421-05-04 04:05 G 23789500.42 23789500.67 23789500.93 0.0089 0.0002 Neptune 60422-05-06 15:50 G 23789867.92 23789868.16 23789868.41 0.0089 0.0028 Neptune 60423-05-09 03:36 G 23790235.48 23790235.65 23790235.86 0.0089 0.0059 Saturn 60433-09-25 09:22 G 23794027.70 23794027.89 23794028.10 0.0277 0.0157 Jupiter 60442-10-30 00:58 G 23797349.33 23797349.54 23797349.76 0.0495 0.0203 Uranus 60444-05-19 02:38 G 23797916.50 23797916.61 23797916.74 0.0140 0.0122 Uranus 60445-05-23 21:22 G 23798286.17 23798286.39 23798286.63 0.0141 0.0063 Uranus 60446-05-28 17:02 G 23798655.96 23798656.21 23798656.47 0.0141 0.0003 Uranus 60447-06-02 13:12 G 23799025.83 23799026.05 23799026.29 0.0141 0.0059 Uranus 60448-06-06 10:19 G 23799395.81 23799395.93 23799396.08 0.0142 0.0121 Saturn 60449-03-24 20:53 G 23799687.17 23799687.37 23799687.59 0.0282 0.0146 Jupiter 60454-11-03 12:00 G 23801736.77 23801737.00 23801737.23 0.0497 0.0100 Jupiter 60460-04-27 22:19 G 23803739.20 23803739.43 23803739.65 0.0532 0.0156 Saturn 60463-10-02 16:48 G 23804991.99 23804992.20 23804992.41 0.0276 0.0146 Jupiter 60466-11-08 00:29 G 23806124.39 23806124.52 23806124.66 0.0499 0.0410 Jupiter 60472-05-02 20:53 G 23808127.16 23808127.37 23808127.58 0.0530 0.0209 Saturn 60479-04-01 14:38 G 23810651.94 23810652.11 23810652.30 0.0284 0.0193 Uranus 60484-11-21 23:17 G 23812713.31 23812713.47 23812713.65 0.0138 0.0102 Uranus 60485-11-26 12:00 G 23813082.76 23813083.00 23813083.24 0.0137 0.0046 Uranus 60486-12-01 00:00 G 23813452.25 23813452.50 23813452.75 0.0137 0.0010 Uranus 60487-12-05 10:48 G 23813821.74 23813821.95 23813822.19 0.0137 0.0065 Uranus 60488-12-08 21:36 G 23814191.30 23814191.40 23814191.54 0.0136 0.0119 Saturn 60492-09-26 13:41 G 23815578.84 23815579.07 23815579.31 0.0277 0.0096 Neptune 60501-10-31 15:07 G 23818900.12 23818900.13 23818900.20 0.0088 0.0088 Neptune 60502-11-03 02:53 G 23819267.45 23819267.62 23819267.84 0.0088 0.0058 Neptune 60503-11-05 14:24 G 23819634.87 23819635.10 23819635.36 0.0088 0.0027 Neptune 60504-11-07 02:10 G 23820002.34 23820002.59 23820002.85 0.0088 0.0003

60505-03-29 03:50 G 23820144.44 23820144.66 23820144.92 0.0066 0.0024 Pluto Neptune 60505-11-09 13:12 G 23820369.83 23820370.05 23820370.31 0.0088 0.0034 Neptune 60506-11-12 00:29 G 23820737.36 23820737.52 23820737.72 0.0089 0.0064 Saturn 60508-03-27 00:14 G 23821238.29 23821238.51 23821238.75 0.0282 0.0085 Saturn 60522-10-04 19:12 G 23826543.15 23826543.30 23826543.48 0.0276 0.0204 Jupiter 60525-10-30 10:48 G 23827664.75 23827664.95 23827665.16 0.0495 0.0237 Uranus 60528-05-20 11:02 G 23828597.85 23828597.96 23828598.12 0.0140 0.0120 Uranus 60529-05-25 06:00 G 23828967.53 23828967.75 23828967.99 0.0141 0.0060 Uranus 60530-05-30 01:55 G 23829337.33 23829337.58 23829337.84 0.0141 0.0002 Uranus 60531-06-03 22:05 G 23829707.20 23829707.42 23829707.66 0.0141 0.0063 Uranus 60532-06-07 19:26 G 23830077.19 23830077.31 23830077.44 0.0142 0.0124 Jupiter 60537-11-03 21:36 G 23832052.17 23832052.40 23832052.63 0.0497 0.0064 Saturn 60538-04-03 16:05 G 23832203.06 23832203.17 23832203.28 0.0284 0.0250 60541-02-24 10:34 G 23833260.82 23833260.94 23833261.06 0.1614 0.1235 Mars Jupiter 60543-04-28 23:17 G 23834054.26 23834054.47 23834054.68 0.0532 0.0222 Jupiter 60549-11-08 05:02 G 23836439.55 23836439.71 23836439.87 0.0498 0.0358 Saturn 60551-09-29 15:07 G 23837129.88 23837130.13 23837130.37 0.0277 0.0041 Jupiter 60555-05-04 02:10 G 23838442.37 23838442.59 23838442.82 0.0531 0.0157 Mars 60564-08-28 18:58 G 23841847.14 23841847.29 23841847.45 0.1909 0.1225 Saturn 60567-03-29 02:10 G 23842789.35 23842789.59 23842789.83 0.0282 0.0027 Uranus 60568-11-23 08:38 G 23843394.70 23843394.86 23843395.05 0.0138 0.0098 Uranus 60569-11-27 21:22 G 23843764.16 23843764.39 23843764.64 0.0137 0.0042 Uranus 60570-12-02 09:22 G 23844133.65 23844133.89 23844134.15 0.0137 0.0014 Uranus 60571-12-06 20:38 G 23844503.15 23844503.36 23844503.59 0.0137 0.0068 Uranus 60572-12-10 07:41 G 23844872.71 23844872.82 23844872.94 0.0136 0.0122 Saturn 60581-10-05 19:55 G 23848094.26 23848094.33 23848094.43 0.0276 0.0258 Neptune 60583-04-30 14:24 G 23848666.00 23848666.10 23848666.25 0.0089 0.0077 Neptune 60584-05-02 02:24 G 23849033.40 23849033.60 23849033.84 0.0089 0.0047 Neptune 60585-05-04 14:24 G 23849400.85 23849401.10 23849401.36 0.0089 0.0016 Neptune 60586-05-07 02:24 G 23849768.35 23849768.60 23849768.86 0.0089 0.0014

Neptune 60587-05-09 13:55 G 23850135.87 23850136.08 23850136.32 0.0089 0.0045 Neptune 60588-05-11 01:26 G 23850503.45 23850503.56 23850503.72 0.0089 0.0076 Pluto 60592-09-30 05:02 G 23852106.46 23852106.71 23852106.98 0.0078 0.0014 Jupiter 60608-10-30 18:00 G 23857980.06 23857980.25 23857980.44 0.0494 0.0281 Saturn 60610-10-01 14:24 G 23858680.85 23858681.10 23858681.35 0.0277 0.0010 Uranus 60612-05-21 19:55 G 23859279.18 23859279.33 23859279.47 0.0140 0.0115 Uranus 60613-05-26 14:24 G 23859648.88 23859649.10 23859649.34 0.0141 0.0056 Uranus 60614-05-31 10:19 G 23860018.68 23860018.93 23860019.19 0.0141 0.0006 Uranus 60615-06-05 06:29 G 23860388.56 23860388.77 23860389.01 0.0141 0.0067 Uranus 60616-06-09 04:05 G 23860758.56 23860758.67 23860758.78 0.0142 0.0127 60620-02-28 10:48 G 23862117.79 23862117.95 23862118.10 0.1615 0.0888 Mars Jupiter 60620-11-04 04:19 G 23862367.44 23862367.68 23862367.91 0.0496 0.0021 Saturn 60626-03-31 03:50 G 23864340.42 23864340.66 23864340.90 0.0282 0.0029 Jupiter 60626-04-29 06:58 G 23864369.59 23864369.79 23864370.00 0.0533 0.0268 Jupiter 60632-11-08 15:07 G 23866754.95 23866755.13 23866755.30 0.0498 0.0325 Jupiter 60638-05-04 11:31 G 23868757.76 23868757.98 23868758.21 0.0531 0.0119 Saturn 60639-09-25 17:02 G 23869267.17 23869267.21 23869267.28 0.0279 0.0272 Jupiter 60650-05-09 11:31 G 23873145.90 23873145.98 23873146.07 0.0529 0.0488 Uranus 60652-11-24 17:31 G 23874076.06 23874076.23 23874076.43 0.0138 0.0094 Uranus 60653-11-29 06:29 G 23874445.53 23874445.77 23874446.01 0.0137 0.0038 Uranus 60654-12-03 18:43 G 23874815.03 23874815.28 23874815.53 0.0137 0.0017 Saturn 60655-03-25 12:29 G 23874926.91 23874927.02 23874927.14 0.0281 0.0245 Uranus 60655-12-08 05:46 G 23875184.54 23875184.74 23875184.96 0.0137 0.0072 Uranus 60656-12-11 16:34 G 23875554.11 23875554.19 23875554.30 0.0136 0.0126 Neptune 60666-11-03 13:26 G 23879167.92 23879168.06 23879168.22 0.0088 0.0071 Neptune 60667-11-06 00:58 G 23879535.32 23879535.54 23879535.78 0.0088 0.0041 Neptune 60668-11-07 12:43 G 23879902.78 23879903.03 23879903.29 0.0088 0.0011 Saturn 60669-10-02 12:43 G 23880231.79 23880232.03 23880232.28 0.0277 0.0059 Neptune 60669-11-10 00:14 G 23880270.26 23880270.51 23880270.76 0.0088 0.0020 Neptune 60670-11-12 11:31 G 23880637.78 23880637.98 23880638.20 0.0088 0.0050

Neptune 60671-11-14 23:02 G 23881005.35 23881005.46 23881005.57 0.0089 0.0080 Saturn 60685-04-01 05:31 G 23885891.50 23885891.73 23885891.96 0.0282 0.0086 Jupiter 60691-10-31 03:50 G 23888295.48 23888295.66 23888295.84 0.0494 0.0314 Uranus 60696-05-22 04:05 G 23889960.52 23889960.67 23889960.83 0.0140 0.0111 Uranus 60697-05-26 22:48 G 23890330.23 23890330.45 23890330.70 0.0141 0.0052 Uranus 60698-05-31 18:58 G 23890700.04 23890700.29 23890700.55 0.0141 0.0009 Saturn 60698-09-26 16:19 G 23890818.03 23890818.18 23890818.33 0.0279 0.0221 Uranus 60699-06-05 15:22 G 23891069.92 23891070.14 23891070.36 0.0141 0.0070 Uranus 60700-06-10 12:14 G 23891439.93 23891440.01 23891440.12 0.0142 0.0131 Jupiter 60703-11-05 15:07 G 23892682.90 23892683.13 23892683.37 0.0496 0.0011 Jupiter 60709-04-29 12:58 G 23894684.86 23894685.04 23894685.23 0.0533 0.0319 Saturn 60714-03-27 13:41 G 23896477.90 23896478.07 23896478.26 0.0281 0.0190 Jupiter 60715-11-10 02:10 G 23897070.41 23897070.59 23897070.78 0.0498 0.0295 Jupiter 60721-05-04 14:53 G 23899072.89 23899073.12 23899073.35 0.0532 0.0061 Saturn 60728-10-04 10:34 G 23901782.72 23901782.94 23901783.18 0.0277 0.0107 Jupiter 60733-05-09 15:22 G 23903461.01 23903461.14 23903461.28 0.0530 0.0435 Uranus 60736-11-26 02:24 G 23904757.41 23904757.60 23904757.80 0.0138 0.0089 Uranus 60737-11-30 15:22 G 23905126.89 23905127.14 23905127.38 0.0137 0.0034 Uranus 60738-12-05 03:22 G 23905496.39 23905496.64 23905496.89 0.0137 0.0022 Uranus 60739-12-09 14:38 G 23905865.91 23905866.11 23905866.33 0.0137 0.0076 Uranus 60740-12-13 01:41 G 23906235.51 23906235.57 23906235.66 0.0136 0.0129 Saturn 60744-04-03 08:10 G 23907442.63 23907442.84 23907443.05 0.0282 0.0144 Neptune 60748-05-03 12:58 G 23908933.86 23908934.04 23908934.24 0.0089 0.0060 Neptune 60749-05-06 00:58 G 23909301.31 23909301.54 23909301.79 0.0089 0.0030 Neptune 60750-05-08 12:58 G 23909668.79 23909669.04 23909669.30 0.0089 0.0002 Neptune 60751-05-11 00:43 G 23910036.29 23910036.53 23910036.78 0.0089 0.0031 Pluto 60752-03-31 16:34 G 23910361.97 23910362.19 23910362.42 0.0065 0.0032 Neptune 60752-05-12 12:14 G 23910403.85 23910404.01 23910404.22 0.0089 0.0062 Saturn 60757-09-28 15:50 G 23912368.97 23912369.16 23912369.36 0.0279 0.0170 Saturn 60773-03-28 16:05 G 23918028.96 23918029.17 23918029.39 0.0281 0.0132

Jupiter 60774-10-31 14:53 G 23918610.96 23918611.12 23918611.30 0.0494 0.0346 Uranus 60780-05-23 12:29 G 23920641.87 23920642.02 23920642.20 0.0140 0.0106 Uranus 60781-05-28 07:55 G 23921011.59 23921011.83 23921012.07 0.0141 0.0047 Uranus 60782-06-02 03:36 G 23921381.40 23921381.65 23921381.91 0.0141 0.0013 Uranus 60783-06-06 23:31 G 23921751.28 23921751.48 23921751.71 0.0141 0.0075 Uranus 60784-06-10 20:38 G 23922121.30 23922121.36 23922121.45 0.0142 0.0135 Jupiter 60786-11-05 00:00 G 23922998.27 23922998.50 23922998.73 0.0495 0.0048 Saturn 60787-10-06 09:36 G 23923333.70 23923333.90 23923334.11 0.0277 0.0156 Jupiter 60792-04-28 13:41 G 23924999.92 23925000.07 23925000.24 0.0535 0.0386 Jupiter 60798-11-09 10:05 G 23927385.72 23927385.92 23927386.12 0.0497 0.0254 Saturn 60803-04-05 12:58 G 23928993.87 23928994.04 23928994.20 0.0282 0.0206 Jupiter 60804-05-03 18:58 G 23929388.06 23929388.29 23929388.52 0.0533 0.0008 Jupiter 60816-05-08 23:46 G 23933776.33 23933776.49 23933776.64 0.0530 0.0396 Saturn 60816-09-29 16:34 G 23933919.98 23933920.19 23933920.43 0.0278 0.0117 Uranus 60820-11-26 10:34 G 23935438.76 23935438.94 23935439.15 0.0138 0.0086 Uranus 60821-11-30 23:17 G 23935808.24 23935808.47 23935808.73 0.0137 0.0031 Uranus 60822-12-05 11:46 G 23936177.75 23936177.99 23936178.24 0.0137 0.0025 Uranus 60823-12-09 23:02 G 23936547.27 23936547.46 23936547.68 0.0137 0.0080 Uranus 60824-12-13 10:05 G 23936916.88 23936916.92 23936917.00 0.0136 0.0133 60825-02-27 18:14 G 23936993.08 23936993.26 23936993.45 0.1614 0.0356 Mars Neptune 60830-11-04 00:14 G 23939068.46 23939068.51 23939068.60 0.0088 0.0085 Neptune 60831-11-06 11:46 G 23939435.80 23939435.99 23939436.21 0.0088 0.0055 Saturn 60832-03-29 20:38 G 23939580.13 23939580.36 23939580.60 0.0281 0.0071 Neptune 60832-11-07 23:17 G 23939803.23 23939803.47 23939803.73 0.0088 0.0024 Neptune 60833-11-10 11:02 G 23940170.70 23940170.96 23940171.22 0.0088 0.0006 Neptune 60834-11-12 21:50 G 23940538.20 23940538.41 23940538.67 0.0088 0.0037 Neptune 60835-11-15 09:22 G 23940905.75 23940905.89 23940906.09 0.0089 0.0067 Saturn 60846-10-07 10:05 G 23944884.77 23944884.92 23944885.10 0.0277 0.0209 60848-08-29 13:12 G 23945576.93 23945577.05 23945577.17 0.1910 0.1524 Mars Jupiter 60857-10-30 23:17 G 23948926.33 23948926.47 23948926.62 0.0493 0.0382

Saturn 60862-04-06 19:12 G 23950545.24 23950545.30 23950545.37 0.0282 0.0271 Uranus 60864-05-23 21:36 G 23951323.24 23951323.40 23951323.59 0.0140 0.0102 Uranus 60865-05-28 16:48 G 23951692.97 23951693.20 23951693.45 0.0141 0.0043 Uranus 60866-06-02 12:43 G 23952062.78 23952063.03 23952063.28 0.0141 0.0017 Uranus 60867-06-07 08:53 G 23952432.66 23952432.87 23952433.09 0.0141 0.0078 Uranus 60868-06-11 05:31 G 23952802.70 23952802.73 23952802.80 0.0142 0.0139 Jupiter 60869-11-04 06:43 G 23953313.55 23953313.78 23953314.02 0.0495 0.0090 Jupiter 60875-04-28 20:53 G 23955315.23 23955315.37 23955315.50 0.0535 0.0432 Saturn 60875-10-01 20:10 G 23955471.10 23955471.34 23955471.59 0.0278 0.0058 Jupiter 60881-11-08 17:31 G 23957701.02 23957701.23 23957701.44 0.0497 0.0215 Jupiter 60887-05-03 23:31 G 23959703.25 23959703.48 23959703.72 0.0533 0.0048 Saturn 60891-04-01 03:50 G 23961131.42 23961131.66 23961131.90 0.0281 0.0004 Jupiter 60899-05-09 00:58 G 23964091.36 23964091.54 23964091.72 0.0531 0.0333 Uranus 60903-11-24 06:00 G 23965750.73 23965750.75 23965750.77 0.0138 0.0137 Uranus 60904-11-27 19:26 G 23966120.12 23966120.31 23966120.52 0.0138 0.0082 Saturn 60905-10-09 13:26 G 23966435.99 23966436.06 23966436.13 0.0277 0.0265 Uranus 60905-12-02 08:24 G 23966489.61 23966489.85 23966490.11 0.0137 0.0027 Uranus 60906-12-06 20:38 G 23966859.12 23966859.36 23966859.62 0.0137 0.0029 Uranus 60907-12-11 08:10 G 23967228.65 23967228.84 23967229.05 0.0137 0.0083 Uranus 60908-12-14 19:12 G 23967598.29 23967598.30 23967598.34 0.0136 0.0136 Neptune 60912-05-03 23:17 G 23968834.33 23968834.47 23968834.61 0.0089 0.0074 Neptune 60913-05-06 11:02 G 23969201.75 23969201.96 23969202.20 0.0089 0.0044 Neptune 60914-05-08 23:02 G 23969569.21 23969569.46 23969569.72 0.0089 0.0013 Neptune 60915-05-11 11:02 G 23969936.71 23969936.96 23969937.21 0.0089 0.0017 Neptune 60916-05-12 22:19 G 23970304.23 23970304.43 23970304.66 0.0089 0.0048 Neptune 60917-05-15 10:34 G 23970671.83 23970671.94 23970672.07 0.0089 0.0078 Saturn 60920-03-27 03:07 G 23971718.53 23971718.63 23971718.73 0.0280 0.0254 Saturn 60934-10-04 02:10 G 23977022.35 23977022.59 23977022.84 0.0278 0.0008 Jupiter 60940-10-31 05:02 G 23979241.60 23979241.71 23979241.82 0.0493 0.0428 Uranus 60948-05-25 06:58 G 23982004.63 23982004.79 23982004.99 0.0140 0.0098

Uranus 60949-05-30 02:24 G 23982374.35 23982374.60 23982374.84 0.0141 0.0039 Saturn 60950-04-03 12:43 G 23982682.80 23982683.03 23982683.27 0.0282 0.0066 Uranus 60950-06-03 21:50 G 23982744.17 23982744.41 23982744.67 0.0141 0.0021 Uranus 60951-06-08 18:00 G 23983114.05 23983114.25 23983114.47 0.0141 0.0081 Jupiter 60952-11-04 14:38 G 23983628.89 23983629.11 23983629.34 0.0495 0.0130 Jupiter 60958-04-28 20:38 G 23985630.29 23985630.36 23985630.44 0.0535 0.0502 Saturn 60963-09-28 14:53 G 23987609.04 23987609.12 23987609.22 0.0279 0.0257 Jupiter 60964-11-09 00:43 G 23988016.32 23988016.53 23988016.75 0.0496 0.0176 Jupiter 60970-05-03 18:43 G 23990018.06 23990018.28 23990018.51 0.0534 0.0129 Jupiter 60976-11-13 10:05 G 23992403.87 23992403.92 23992403.99 0.0497 0.0478 Saturn 60979-03-29 12:43 G 23993269.86 23993270.03 23993270.23 0.0281 0.0183 Jupiter 60982-05-08 22:05 G 23994406.22 23994406.42 23994406.63 0.0532 0.0260 Uranus 60987-11-24 15:07 G 23996432.09 23996432.13 23996432.21 0.0138 0.0134 Uranus 60988-11-28 04:48 G 23996801.51 23996801.70 23996801.93 0.0138 0.0079 Uranus 60989-12-02 17:46 G 23997171.00 23997171.24 23997171.50 0.0137 0.0023 Uranus 60990-12-07 06:00 G 23997540.51 23997540.75 23997541.01 0.0137 0.0032 Uranus 60991-12-11 17:31 G 23997910.04 23997910.23 23997910.44 0.0137 0.0086 Saturn 60993-10-05 11:17 G 23998573.73 23998573.97 23998574.21 0.0278 0.0075 Neptune 60995-11-06 22:05 G 23999336.28 23999336.42 23999336.61 0.0088 0.0068 Neptune 60996-11-08 09:36 G 23999703.69 23999703.90 23999704.15 0.0088 0.0039 Neptune 60997-11-10 21:07 G 24000071.13 24000071.38 24000071.65 0.0088 0.0009 Neptune 60998-11-13 08:38 G 24000438.62 24000438.86 24000439.12 0.0088 0.0023 Neptune 60999-11-15 19:55 G 24000806.14 24000806.33 24000806.56 0.0088 0.0053 Pluto 61000-04-04 12:58 G 24000945.78 24000946.04 24000946.30 0.0065 0.0002 Neptune 61000-11-18 07:26 G 24001173.74 24001173.81 24001173.92 0.0089 0.0083

## 62ND MILLENNIUM CE

#### This is a list of transits of Earth in the 62nd millennium CE.

FROM MAX- C START MAX END SUNRAD DEPTH S

TRANSIT

TIME

Saturn 61009-04-05 23:46 G 24004234.28 24004234.49 24004234.70 0.0282 0.0140 Saturn 61022-10-01 00:00 G 24009160.32 24009160.50 24009160.69 0.0279 0.0188 Jupiter 61023-11-01 11:46 G 24009556.93 24009556.99 24009557.06 0.0492 0.0470 Mars 61030-03-01 03:07 G 24011868.60 24011868.63 24011868.67 0.1614 0.1574 Uranus 61032-05-26 16:05 G 24012685.99 24012686.17 24012686.37 0.0140 0.0095 Uranus 61033-05-31 11:02 G 24013055.72 24013055.96 24013056.22 0.0141 0.0036 Uranus 61034-06-05 06:43 G 24013425.53 24013425.78 24013426.03 0.0141 0.0024 Uranus 61035-06-10 02:53 G 24013795.43 24013795.62 24013795.83 0.0141 0.0084 Jupiter 61035-11-05 20:10 G 24013944.12 24013944.34 24013944.56 0.0494 0.0174 Saturn 61038-04-01 00:14 G 24014821.29 24014821.51 24014821.73 0.0281 0.0108 Jupiter 61047-11-10 02:24 G 24018331.37 24018331.60 24018331.82 0.0495 0.0117 Saturn 61052-10-07 22:19 G 24020125.23 24020125.43 24020125.64 0.0278 0.0149 Jupiter 61053-05-03 21:07 G 24020333.17 24020333.38 24020333.60 0.0534 0.0190 Jupiter 61059-11-14 12:14 G 24022718.89 24022719.01 24022719.13 0.0497 0.0423 Jupiter 61065-05-09 00:29 G 24024721.31 24024721.52 24024721.74 0.0532 0.0199 Saturn 61068-04-07 11:31 G 24025785.84 24025785.98 24025786.15 0.0282 0.0217 Uranus 61071-11-26 01:41 G 24027113.50 24027113.57 24027113.67 0.0138 0.0129 Uranus 61072-11-29 15:22 G 24027482.93 24027483.14 24027483.36 0.0138 0.0074 Uranus 61073-12-04 04:05 G 24027852.43 24027852.67 24027852.93 0.0137 0.0020 Uranus 61074-12-08 16:19 G 24028221.94 24028222.18 24028222.43 0.0137 0.0036 Uranus 61075-12-13 03:50 G 24028591.47 24028591.66 24028591.85 0.0137 0.0089 Neptune 61076-05-04 09:22 G 24028734.87 24028734.89 24028734.92 0.0089 0.0088

Neptune 61077-05-06 20:53 G 24029102.20 24029102.37 24029102.59 0.0089 0.0058 Neptune 61078-05-09 09:22 G 24029469.65 24029469.89 24029470.14 0.0089 0.0027 Neptune 61079-05-11 21:07 G 24029837.13 24029837.38 24029837.64 0.0089 0.0004 Neptune 61080-05-13 08:53 G 24030204.65 24030204.87 24030205.12 0.0089 0.0034 Neptune 61081-05-15 21:07 G 24030572.20 24030572.38 24030572.55 0.0089 0.0064 Saturn 61081-10-02 11:17 G 24030711.76 24030711.97 24030712.21 0.0278 0.0115 61087-10-07 06:43 G 24032907.58 24032907.78 24032908.02 0.0079 0.0041 Pluto Saturn 61097-04-02 11:46 G 24036372.75 24036372.99 24036373.24 0.0281 0.0032 61109-03-04 02:53 G 24040725.45 24040725.62 24040725.80 0.1614 0.0551 Mars Saturn 61111-10-11 10:48 G 24041676.82 24041676.95 24041677.10 0.0277 0.0225 Uranus 61116-05-28 00:58 G 24043367.35 24043367.54 24043367.74 0.0140 0.0091 Uranus 61117-06-01 19:55 G 24043737.08 24043737.33 24043737.58 0.0141 0.0032 Uranus 61118-06-06 15:36 G 24044106.89 24044107.15 24044107.40 0.0141 0.0028 Jupiter 61118-11-05 21:22 G 24044259.18 24044259.39 24044259.59 0.0493 0.0235 Uranus 61119-06-11 11:31 G 24044476.79 24044476.98 24044477.19 0.0141 0.0088 Jupiter 61130-11-10 06:58 G 24048646.56 24048646.79 24048647.02 0.0495 0.0068 Jupiter 61136-05-03 19:55 G 24050648.13 24050648.33 24050648.54 0.0534 0.0264 Saturn 61140-10-04 23:46 G 24052263.25 24052263.49 24052263.74 0.0278 0.0038 Jupiter 61142-11-14 17:46 G 24053034.10 24053034.24 24053034.40 0.0497 0.0379 Jupiter 61148-05-08 17:31 G 24055036.00 24055036.23 24055036.46 0.0533 0.0110 Uranus 61155-11-27 12:14 G 24057794.91 24057795.01 24057795.13 0.0138 0.0124 Saturn 61156-04-04 22:48 G 24057924.21 24057924.45 24057924.69 0.0282 0.0044 Uranus 61156-12-01 01:41 G 24058164.36 24058164.57 24058164.80 0.0138 0.0070 Uranus 61157-12-05 14:38 G 24058533.86 24058534.11 24058534.37 0.0137 0.0014 Uranus 61158-12-10 02:24 G 24058903.37 24058903.60 24058903.86 0.0137 0.0040 Neptune 61159-11-08 09:07 G 24059236.78 24059236.88 24059236.97 0.0088 0.0082 Uranus 61159-12-14 13:55 G 24059272.90 24059273.08 24059273.27 0.0137 0.0093 Jupiter 61160-05-13 19:12 G 24059424.22 24059424.30 24059424.39 0.0531 0.0493 Neptune 61160-11-09 19:41 G 24059604.13 24059604.32 24059604.55 0.0088 0.0053 Neptune 61161-11-12 07:26 G 24059971.57 24059971.81 24059972.07 0.0088 0.0022

Neptune 61162-11-14 18:58 G 24060339.04 24060339.29 24060339.55 0.0088 0.0008 Neptune 61163-11-17 06:00 G 24060706.54 24060706.75 24060707.00 0.0088 0.0039 Neptune 61164-11-18 17:17 G 24061074.08 24061074.22 24061074.41 0.0088 0.0069 Saturn 61185-03-30 11:02 G 24068510.82 24068510.96 24068511.10 0.0280 0.0225 Saturn 61199-10-07 11:46 G 24073814.75 24073814.99 24073815.24 0.0278 0.0038 Uranus 61200-05-28 09:22 G 24074048.69 24074048.89 24074049.09 0.0140 0.0087 Uranus 61201-06-02 04:05 G 24074418.43 24074418.67 24074418.93 0.0141 0.0028 Jupiter 61201-11-05 02:53 G 24074574.43 24074574.62 24074574.82 0.0493 0.0280 Uranus 61202-06-06 23:31 G 24074788.23 24074788.48 24074788.73 0.0141 0.0031 Uranus 61203-06-11 19:55 G 24075158.14 24075158.33 24075158.53 0.0142 0.0091 Jupiter 61213-11-09 11:46 G 24078961.76 24078961.99 24078962.23 0.0495 0.0020 Saturn 61215-04-07 08:53 G 24079475.65 24079475.87 24079476.09 0.0282 0.0118 Jupiter 61219-05-03 13:41 G 24080962.90 24080963.07 24080963.24 0.0535 0.0354 Jupiter 61225-11-13 17:17 G 24083349.04 24083349.22 24083349.41 0.0496 0.0312 Saturn 61228-10-01 09:07 G 24084401.72 24084401.88 24084402.06 0.0279 0.0204 Jupiter 61231-05-08 18:58 G 24085351.05 24085351.29 24085351.52 0.0534 0.0045 Uranus 61239-11-27 22:34 G 24088476.32 24088476.44 24088476.57 0.0138 0.0119 Uranus 61240-12-01 11:46 G 24088845.78 24088845.99 24088846.23 0.0138 0.0065 Neptune 61241-05-07 06:43 G 24089002.64 24089002.78 24089002.94 0.0089 0.0072 Uranus 61241-12-06 00:58 G 24089215.29 24089215.54 24089215.79 0.0137 0.0010 Neptune 61242-05-09 18:14 G 24089370.05 24089370.26 24089370.50 0.0089 0.0042 Uranus 61242-12-10 12:29 G 24089584.80 24089585.02 24089585.28 0.0137 0.0045 Neptune 61243-05-12 06:43 G 24089737.52 24089737.78 24089738.04 0.0089 0.0011 Jupiter 61243-05-13 22:48 G 24089739.33 24089739.45 24089739.59 0.0531 0.0435 Uranus 61243-12-14 23:31 G 24089954.33 24089954.48 24089954.68 0.0137 0.0098 Saturn 61244-03-31 20:24 G 24090062.16 24090062.35 24090062.56 0.0280 0.0153 Neptune 61244-05-13 18:29 G 24090105.03 24090105.27 24090105.53 0.0089 0.0020 Neptune 61245-05-16 06:29 G 24090472.56 24090472.77 24090472.99 0.0089 0.0050 Neptune 61246-05-18 17:46 G 24090840.16 24090840.24 24090840.38 0.0089 0.0081 Pluto 61248-04-07 06:29 G 24091529.54 24091529.77 24091530.03 0.0066 0.0020

Saturn 61258-10-08 23:02 G 24095366.24 24095366.46 24095366.69 0.0278 0.0112 Saturn 61274-04-08 16:48 G 24101027.03 24101027.20 24101027.39 0.0282 0.0188 Uranus 61283-05-25 00:00 G 24104360.49 24104360.50 24104360.53 0.0140 0.0139 Uranus 61284-05-28 17:46 G 24104730.05 24104730.24 24104730.46 0.0140 0.0083 Jupiter 61284-11-04 04:05 G 24104889.51 24104889.67 24104889.84 0.0492 0.0343 Uranus 61285-06-02 12:43 G 24105099.78 24105100.03 24105100.29 0.0141 0.0024 Uranus 61286-06-07 08:10 G 24105469.60 24105469.84 24105470.09 0.0141 0.0035 Uranus 61287-06-12 04:05 G 24105839.50 24105839.67 24105839.88 0.0141 0.0096 Saturn 61287-10-03 20:24 G 24105953.14 24105953.35 24105953.58 0.0279 0.0130 Jupiter 61296-11-08 13:12 G 24109276.82 24109277.05 24109277.28 0.0494 0.0042 Jupiter 61302-05-03 18:00 G 24111278.10 24111278.25 24111278.39 0.0536 0.0414 Saturn 61303-04-04 04:48 G 24111613.47 24111613.70 24111613.94 0.0280 0.0083 Jupiter 61308-11-13 23:17 G 24113664.27 24113664.47 24113664.67 0.0496 0.0266 61314-03-04 12:00 G 24115600.83 24115601.00 24115601.17 0.1614 0.0670 Mars Jupiter 61314-05-08 21:36 G 24115666.17 24115666.40 24115666.63 0.0534 0.0018 Saturn 61317-10-11 07:55 G 24116917.65 24116917.83 24116918.02 0.0278 0.0182 Uranus 61323-11-29 08:24 G 24119157.71 24119157.85 24119157.99 0.0138 0.0114 Neptune 61324-11-10 05:46 G 24119504.59 24119504.74 24119504.93 0.0088 0.0066 Uranus 61324-12-02 21:36 G 24119527.18 24119527.40 24119527.63 0.0138 0.0060 Neptune 61325-11-12 17:46 G 24119872.00 24119872.24 24119872.47 0.0088 0.0036 Uranus 61325-12-07 10:34 G 24119896.68 24119896.94 24119897.19 0.0137 0.0005 Jupiter 61326-05-13 20:10 G 24120054.17 24120054.34 24120054.51 0.0532 0.0358 Neptune 61326-11-15 05:02 G 24120239.46 24120239.71 24120239.97 0.0088 0.0006 Uranus 61326-12-11 22:05 G 24120266.20 24120266.42 24120266.67 0.0137 0.0049 Neptune 61327-11-17 16:19 G 24120606.94 24120607.18 24120607.44 0.0088 0.0024 Uranus 61327-12-16 09:22 G 24120635.74 24120635.89 24120636.07 0.0137 0.0102 Neptune 61328-11-19 03:22 G 24120974.46 24120974.64 24120974.86 0.0088 0.0055 Neptune 61329-11-21 14:38 G 24121342.06 24121342.11 24121342.21 0.0089 0.0085 Saturn 61333-04-10 22:34 G 24122578.35 24122578.44 24122578.55 0.0282 0.0255 Pluto 61335-10-11 01:26 G 24123491.31 24123491.56 24123491.82 0.0078 0.0012

Saturn 61346-10-06 05:02 G 24127504.47 24127504.71 24127504.95 0.0279 0.0060 Saturn 61362-04-05 10:48 G 24133164.71 24133164.95 24133165.19 0.0280 0.0017 Uranus 61367-05-26 08:24 G 24135041.80 24135041.85 24135041.93 0.0140 0.0135 Jupiter 61367-11-05 11:02 G 24135204.82 24135204.96 24135205.11 0.0492 0.0386 Uranus 61368-05-30 02:10 G 24135411.40 24135411.59 24135411.82 0.0140 0.0079 Uranus 61369-06-03 21:22 G 24135781.14 24135781.39 24135781.64 0.0141 0.0020 Uranus 61370-06-08 16:34 G 24136150.95 24136151.19 24136151.44 0.0141 0.0040 Uranus 61371-06-13 12:43 G 24136520.87 24136521.03 24136521.23 0.0141 0.0100 Saturn 61376-10-12 14:10 G 24138468.99 24138469.09 24138469.21 0.0278 0.0248 Jupiter 61379-11-09 21:22 G 24139592.16 24139592.39 24139592.63 0.0494 0.0081 Jupiter 61385-05-02 17:31 G 24141593.14 24141593.23 24141593.33 0.0536 0.0487 Saturn 61391-03-31 02:38 G 24143751.58 24143751.61 24143751.67 0.0280 0.0275 Jupiter 61391-11-14 07:12 G 24143979.59 24143979.80 24143980.01 0.0495 0.0225 61393-03-06 11:46 G 24144457.92 24144457.99 24144458.07 0.1614 0.1459 Mars Jupiter 61397-05-07 19:55 G 24145981.10 24145981.33 24145981.56 0.0534 0.0094 Neptune 61405-05-08 15:50 G 24148903.13 24148903.16 24148903.24 0.0089 0.0087 Saturn 61405-10-08 09:50 G 24149055.67 24149055.91 24149056.16 0.0279 0.0006 Neptune 61406-05-11 04:05 G 24149270.48 24149270.67 24149270.88 0.0089 0.0056 Neptune 61407-05-13 15:50 G 24149637.92 24149638.16 24149638.42 0.0089 0.0026 Uranus 61407-11-30 17:46 G 24149839.11 24149839.24 24149839.41 0.0138 0.0110 Neptune 61408-05-15 03:50 G 24150005.41 24150005.66 24150005.92 0.0089 0.0005 Uranus 61408-12-04 07:41 G 24150208.59 24150208.82 24150209.05 0.0138 0.0055 Jupiter 61409-05-13 23:46 G 24150369.31 24150369.49 24150369.69 0.0533 0.0300 Neptune 61409-05-17 15:22 G 24150372.93 24150373.14 24150373.40 0.0089 0.0036 Uranus 61409-12-08 20:24 G 24150578.10 24150578.35 24150578.60 0.0137 0.0001 Neptune 61410-05-20 03:22 G 24150740.48 24150740.64 24150740.83 0.0089 0.0066 Uranus 61410-12-13 08:10 G 24150947.61 24150947.84 24150948.08 0.0137 0.0053 Uranus 61411-12-17 19:12 G 24151317.16 24151317.30 24151317.47 0.0137 0.0106 Saturn 61421-04-07 15:07 G 24154715.89 24154716.13 24154716.37 0.0280 0.0045 Saturn 61450-04-02 04:34 G 24165302.55 24165302.69 24165302.86 0.0280 0.0218

Jupiter 61450-11-05 20:24 G 24165520.24 24165520.35 24165520.47 0.0492 0.0424 Uranus 61451-05-27 18:00 G 24165723.19 24165723.25 24165723.36 0.0140 0.0131 Uranus 61452-05-31 12:14 G 24166092.80 24166093.01 24166093.24 0.0140 0.0074 Uranus 61453-06-05 06:58 G 24166462.54 24166462.79 24166463.05 0.0141 0.0016 Uranus 61454-06-10 02:24 G 24166832.37 24166832.60 24166832.85 0.0141 0.0044 Uranus 61455-06-14 22:48 G 24167202.29 24167202.45 24167202.64 0.0141 0.0104 Jupiter 61462-11-10 03:07 G 24169907.40 24169907.63 24169907.85 0.0493 0.0130 Saturn 61464-10-09 12:14 G 24170606.78 24170607.01 24170607.26 0.0279 0.0060 Jupiter 61474-11-14 12:43 G 24174294.81 24174295.03 24174295.25 0.0494 0.0176 Saturn 61480-04-08 18:00 G 24176267.03 24176267.25 24176267.48 0.0280 0.0104 Jupiter 61480-05-08 02:53 G 24176296.40 24176296.62 24176296.84 0.0535 0.0143 Jupiter 61486-11-18 22:48 G 24178682.41 24178682.45 24178682.50 0.0496 0.0486 Neptune 61488-11-10 14:38 G 24179405.03 24179405.11 24179405.24 0.0088 0.0081 Neptune 61489-11-13 02:24 G 24179772.40 24179772.60 24179772.83 0.0088 0.0051 Neptune 61490-11-15 14:10 G 24180139.84 24180140.09 24180140.35 0.0088 0.0020 Neptune 61491-11-18 01:26 G 24180507.31 24180507.56 24180507.82 0.0088 0.0010 Uranus 61491-12-01 03:50 G 24180520.52 24180520.66 24180520.84 0.0138 0.0106 Jupiter 61492-05-13 07:55 G 24180684.63 24180684.83 24180685.03 0.0533 0.0256 Neptune 61492-11-19 12:43 G 24180874.81 24180875.03 24180875.27 0.0088 0.0040 Uranus 61492-12-04 17:46 G 24180890.00 24180890.24 24180890.47 0.0138 0.0051 Saturn 61493-10-03 13:55 G 24181192.93 24181193.08 24181193.22 0.0280 0.0225 Neptune 61493-11-22 00:00 G 24181242.36 24181242.50 24181242.67 0.0088 0.0070 Uranus 61493-12-09 06:29 G 24181259.52 24181259.77 24181260.03 0.0137 0.0003 Uranus 61494-12-13 18:00 G 24181629.03 24181629.25 24181629.49 0.0137 0.0057 Mars 61495-09-05 17:17 G 24181895.02 24181895.22 24181895.42 0.1909 0.0523 Uranus 61495-12-18 05:17 G 24181998.59 24181998.72 24181998.89 0.0137 0.0110 Pluto 61496-04-10 20:38 G 24182113.14 24182113.36 24182113.60 0.0066 0.0029 Saturn 61509-04-04 06:00 G 24186853.55 24186853.75 24186853.94 0.0280 0.0162 Saturn 61523-10-12 12:29 G 24192157.79 24192158.02 24192158.25 0.0279 0.0112 Jupiter 61533-11-06 04:05 G 24195835.61 24195835.67 24195835.75 0.0491 0.0465

Uranus 61535-05-29 03:22 G 24196404.55 24196404.64 24196404.76 0.0140 0.0127 Uranus 61536-06-01 21:07 G 24196774.18 24196774.38 24196774.62 0.0140 0.0071 Uranus 61537-06-06 16:19 G 24197143.93 24197144.18 24197144.44 0.0141 0.0012 Uranus 61538-06-11 12:00 G 24197513.76 24197514.00 24197514.24 0.0141 0.0048 Saturn 61539-04-11 19:55 G 24197818.13 24197818.33 24197818.53 0.0280 0.0160 Uranus 61539-06-16 08:10 G 24197883.70 24197883.84 24197884.03 0.0141 0.0108 Jupiter 61545-11-10 12:43 G 24200222.81 24200223.03 24200223.25 0.0493 0.0165 Saturn 61552-10-05 13:26 G 24202743.88 24202744.06 24202744.26 0.0280 0.0173 Jupiter 61557-11-14 23:17 G 24204610.25 24204610.47 24204610.70 0.0494 0.0146 Jupiter 61563-05-09 07:55 G 24206611.62 24206611.83 24206612.05 0.0535 0.0199 Saturn 61568-04-05 06:29 G 24208404.55 24208404.77 24208405.00 0.0280 0.0109 Jupiter 61569-11-19 09:36 G 24208997.82 24208997.90 24208998.00 0.0496 0.0455 Neptune 61570-05-11 12:43 G 24209170.90 24209171.03 24209171.21 0.0089 0.0071 Neptune 61571-05-14 00:58 G 24209538.32 24209538.54 24209538.77 0.0089 0.0040 Neptune 61572-05-15 12:43 G 24209905.78 24209906.03 24209906.29 0.0089 0.0010 Neptune 61573-05-18 00:14 G 24210273.27 24210273.51 24210273.77 0.0089 0.0021 Neptune 61574-05-20 12:00 G 24210640.81 24210641.00 24210641.23 0.0089 0.0052 Jupiter 61575-05-14 10:34 G 24210999.73 24210999.94 24211000.16 0.0533 0.0195 Neptune 61575-05-23 00:00 G 24211008.42 24211008.50 24211008.62 0.0089 0.0082 Uranus 61575-12-02 15:22 G 24211201.98 24211202.14 24211202.32 0.0138 0.0101 Uranus 61576-12-06 04:48 G 24211571.47 24211571.70 24211571.94 0.0138 0.0047 Uranus 61577-12-10 17:31 G 24211940.98 24211941.23 24211941.49 0.0137 0.0008 Uranus 61578-12-15 05:17 G 24212310.50 24212310.72 24212310.96 0.0137 0.0061 Uranus 61579-12-19 16:34 G 24212680.06 24212680.19 24212680.34 0.0137 0.0114 Saturn 61582-10-13 11:02 G 24213708.76 24213708.96 24213709.17 0.0279 0.0161 Pluto 61583-10-14 16:19 G 24214074.92 24214075.18 24214075.44 0.0078 0.0003 61598-03-07 20:10 G 24219333.16 24219333.34 24219333.52 0.1615 0.0221 Mars Saturn 61598-04-12 21:50 G 24219369.26 24219369.41 24219369.56 0.0280 0.0216 Saturn 61611-10-07 12:43 G 24224294.81 24224295.03 24224295.25 0.0280 0.0122 Uranus 61619-05-29 13:55 G 24227085.96 24227086.08 24227086.20 0.0140 0.0123

Uranus 61620-06-02 07:41 G 24227455.60 24227455.82 24227456.05 0.0140 0.0065 Uranus 61621-06-07 02:38 G 24227825.36 24227825.61 24227825.87 0.0141 0.0008 Uranus 61622-06-11 22:19 G 24228195.20 24228195.43 24228195.67 0.0141 0.0052 Uranus 61623-06-16 18:43 G 24228565.14 24228565.28 24228565.45 0.0141 0.0112 Saturn 61627-04-07 07:26 G 24229955.58 24229955.81 24229956.06 0.0280 0.0055 Jupiter 61628-11-10 00:00 G 24230538.29 24230538.50 24230538.72 0.0493 0.0196 Jupiter 61640-11-14 08:24 G 24234925.62 24234925.85 24234926.08 0.0493 0.0108 Saturn 61641-10-14 09:07 G 24235259.73 24235259.88 24235260.05 0.0279 0.0209 Jupiter 61646-05-08 09:36 G 24236926.71 24236926.90 24236927.11 0.0536 0.0265 Jupiter 61652-11-18 18:14 G 24239313.13 24239313.26 24239313.38 0.0495 0.0415 Neptune 61653-11-13 10:48 G 24239672.80 24239672.95 24239673.15 0.0088 0.0066 Neptune 61654-11-15 22:19 G 24240040.21 24240040.43 24240040.69 0.0088 0.0036 Neptune 61655-11-18 10:19 G 24240407.67 24240407.93 24240408.19 0.0088 0.0005 Neptune 61656-11-19 21:22 G 24240775.16 24240775.39 24240775.65 0.0088 0.0026 Saturn 61657-04-13 23:46 G 24240920.45 24240920.49 24240920.56 0.0280 0.0273 Neptune 61657-11-22 09:07 G 24241142.68 24241142.88 24241143.08 0.0088 0.0055 Jupiter 61658-05-13 15:50 G 24241314.94 24241315.16 24241315.38 0.0535 0.0144 Neptune 61658-11-24 20:24 G 24241510.28 24241510.35 24241510.42 0.0089 0.0085 Uranus 61659-12-03 02:53 G 24241883.45 24241883.62 24241883.82 0.0138 0.0096 Uranus 61660-12-06 16:19 G 24242252.95 24242253.18 24242253.43 0.0138 0.0042 Uranus 61661-12-11 05:17 G 24242622.47 24242622.72 24242622.98 0.0137 0.0013 Uranus 61662-12-15 16:48 G 24242991.99 24242992.20 24242992.44 0.0137 0.0066 Uranus 61663-12-20 04:05 G 24243361.57 24243361.67 24243361.82 0.0137 0.0119 Saturn 61670-10-08 12:29 G 24245845.78 24245846.02 24245846.26 0.0280 0.0071 Saturn 61686-04-08 09:36 G 24251506.66 24251506.90 24251507.15 0.0280 0.0003 Saturn 61700-10-16 07:26 G 24256810.74 24256810.81 24256810.92 0.0279 0.0258 Uranus 61703-05-30 22:48 G 24257767.32 24257767.45 24257767.59 0.0140 0.0118 Uranus 61704-06-03 16:34 G 24258136.97 24258137.19 24258137.43 0.0140 0.0062 Uranus 61705-06-08 12:00 G 24258506.74 24258507.00 24258507.25 0.0141 0.0003 Uranus 61706-06-13 07:41 G 24258876.59 24258876.82 24258877.06 0.0141 0.0056

Uranus 61707-06-18 04:19 G 24259246.53 24259246.68 24259246.83 0.0142 0.0115 Jupiter 61711-11-11 09:22 G 24260853.69 24260853.89 24260854.10 0.0492 0.0230 Saturn 61715-04-04 07:26 G 24262093.72 24262093.81 24262093.94 0.0278 0.0249 Jupiter 61723-11-15 17:02 G 24265240.98 24265241.21 24265241.44 0.0493 0.0071 Jupiter 61729-05-08 18:00 G 24267242.07 24267242.25 24267242.45 0.0537 0.0308 Saturn 61729-10-10 13:26 G 24267396.81 24267397.06 24267397.31 0.0280 0.0017 Neptune 61734-05-11 21:07 G 24269071.35 24269071.38 24269071.48 0.0089 0.0086 Neptune 61735-05-14 09:22 G 24269438.70 24269438.89 24269439.11 0.0089 0.0055 Jupiter 61735-11-20 03:07 G 24269628.49 24269628.63 24269628.78 0.0495 0.0381 Neptune 61736-05-15 20:53 G 24269806.14 24269806.37 24269806.63 0.0089 0.0025 Neptune 61737-05-18 08:53 G 24270173.62 24270173.87 24270174.13 0.0089 0.0006 Neptune 61738-05-20 20:38 G 24270541.13 24270541.36 24270541.60 0.0089 0.0036 Neptune 61739-05-23 07:55 G 24270908.69 24270908.83 24270909.02 0.0089 0.0067 Jupiter 61741-05-13 21:50 G 24271630.18 24271630.41 24271630.64 0.0535 0.0092 Uranus 61743-12-04 15:07 G 24272564.95 24272565.13 24272565.34 0.0138 0.0090 Pluto 61744-04-14 07:41 G 24272696.61 24272696.82 24272697.06 0.0065 0.0030 Uranus 61744-12-08 04:48 G 24272934.46 24272934.70 24272934.95 0.0138 0.0036 Saturn 61745-04-10 13:12 G 24273057.81 24273058.05 24273058.28 0.0280 0.0060 Uranus 61745-12-12 17:31 G 24273303.98 24273304.23 24273304.48 0.0137 0.0018 Uranus 61746-12-17 05:17 G 24273673.52 24273673.72 24273673.95 0.0137 0.0072 Uranus 61747-12-21 16:48 G 24274043.11 24274043.20 24274043.32 0.0137 0.0124 Jupiter 61753-05-19 00:14 G 24276018.41 24276018.51 24276018.60 0.0533 0.0484 Saturn 61774-04-05 12:43 G 24283644.86 24283645.03 24283645.22 0.0278 0.0187 Uranus 61787-05-31 08:53 G 24288448.74 24288448.87 24288449.04 0.0140 0.0113 Uranus 61788-06-04 03:22 G 24288818.41 24288818.64 24288818.88 0.0140 0.0056 Saturn 61788-10-11 16:19 G 24288947.93 24288948.18 24288948.42 0.0280 0.0040 Uranus 61789-06-08 22:34 G 24289188.18 24289188.44 24289188.69 0.0141 0.0002 Uranus 61790-06-13 18:00 G 24289558.03 24289558.25 24289558.49 0.0141 0.0061 Uranus 61791-06-18 14:38 G 24289927.98 24289928.11 24289928.25 0.0142 0.0120 Jupiter 61794-11-10 17:17 G 24291169.03 24291169.22 24291169.42 0.0491 0.0270

61803-03-09 03:50 G 24294208.52 24294208.66 24294208.80 0.1616 0.1017 Mars Saturn 61804-04-12 18:58 G 24294609.08 24294609.29 24294609.52 0.0280 0.0124 Jupiter 61806-11-16 02:24 G 24295556.37 24295556.60 24295556.84 0.0493 0.0036 Jupiter 61812-05-08 19:41 G 24297557.16 24297557.32 24297557.49 0.0537 0.0374 Saturn 61817-10-07 02:10 G 24299534.45 24299534.59 24299534.73 0.0281 0.0230 Neptune 61817-11-14 18:00 G 24299573.17 24299573.25 24299573.37 0.0088 0.0081 Neptune 61818-11-17 05:46 G 24299940.55 24299940.74 24299940.97 0.0088 0.0051 Jupiter 61818-11-20 12:00 G 24299943.84 24299944.00 24299944.17 0.0494 0.0345 Neptune 61819-11-19 17:31 G 24300307.99 24300308.23 24300308.49 0.0088 0.0021 Neptune 61820-11-21 05:31 G 24300675.47 24300675.73 24300675.98 0.0088 0.0010 Neptune 61821-11-23 16:48 G 24301042.97 24301043.20 24301043.43 0.0088 0.0040 Neptune 61822-11-26 04:05 G 24301410.52 24301410.67 24301410.84 0.0088 0.0070 Jupiter 61824-05-13 18:43 G 24301945.05 24301945.28 24301945.52 0.0536 0.0019 Uranus 61827-12-06 02:38 G 24303246.43 24303246.61 24303246.83 0.0138 0.0084 Uranus 61828-12-09 16:19 G 24303615.94 24303616.18 24303616.43 0.0138 0.0030 Uranus 61829-12-14 05:17 G 24303985.48 24303985.72 24303985.98 0.0137 0.0024 Uranus 61830-12-18 17:17 G 24304355.02 24304355.22 24304355.44 0.0137 0.0077 Pluto 61831-10-18 00:29 G 24304658.26 24304658.52 24304658.78 0.0078 0.0007 Uranus 61831-12-23 04:34 G 24304724.63 24304724.69 24304724.79 0.0137 0.0130 Saturn 61833-04-07 19:26 G 24305196.10 24305196.31 24305196.54 0.0279 0.0123 Jupiter 61836-05-18 23:17 G 24306333.33 24306333.47 24306333.62 0.0534 0.0417 Saturn 61847-10-14 21:50 G 24310499.19 24310499.41 24310499.65 0.0280 0.0104 Saturn 61863-04-15 02:53 G 24316160.45 24316160.62 24316160.81 0.0280 0.0191 Uranus 61871-06-01 18:14 G 24319130.12 24319130.26 24319130.44 0.0140 0.0108 Uranus 61872-06-05 12:29 G 24319499.80 24319500.02 24319500.27 0.0140 0.0051 Uranus 61873-06-10 07:55 G 24319869.57 24319869.83 24319870.08 0.0141 0.0007 Uranus 61874-06-15 03:22 G 24320239.42 24320239.64 24320239.87 0.0141 0.0065 Uranus 61875-06-19 23:17 G 24320609.38 24320609.47 24320609.62 0.0142 0.0125 Saturn 61876-10-08 07:55 G 24321085.64 24321085.83 24321086.04 0.0280 0.0167 Jupiter 61877-11-11 01:41 G 24321484.39 24321484.57 24321484.75 0.0491 0.0307

61882-03-11 04:05 G 24323065.53 24323065.67 24323065.80 0.1615 0.1098 Mars Jupiter 61889-11-15 09:50 G 24325871.67 24325871.91 24325872.14 0.0492 0.0008 Saturn 61892-04-09 04:34 G 24326747.45 24326747.69 24326747.93 0.0279 0.0053 Jupiter 61895-05-08 15:36 G 24327872.04 24327872.15 24327872.28 0.0538 0.0457 Neptune 61899-05-14 17:17 G 24329339.08 24329339.22 24329339.40 0.0089 0.0070 Neptune 61900-05-17 05:02 G 24329706.50 24329706.71 24329706.96 0.0089 0.0040 Neptune 61901-05-19 17:02 G 24330073.96 24330074.21 24330074.47 0.0089 0.0009 Jupiter 61901-11-20 15:50 G 24330258.98 24330259.16 24330259.35 0.0494 0.0292 Neptune 61902-05-22 04:48 G 24330441.46 24330441.70 24330441.96 0.0089 0.0021 Neptune 61903-05-24 16:05 G 24330808.98 24330809.17 24330809.40 0.0089 0.0052 Neptune 61904-05-26 03:50 G 24331176.58 24331176.66 24331176.78 0.0089 0.0082 Saturn 61906-10-17 06:00 G 24332050.56 24332050.75 24332050.95 0.0279 0.0171 Jupiter 61907-05-14 22:48 G 24332260.22 24332260.45 24332260.68 0.0536 0.0044 Uranus 61910-12-03 00:14 G 24333558.45 24333558.51 24333558.59 0.0138 0.0133 Uranus 61911-12-07 14:38 G 24333927.91 24333928.11 24333928.33 0.0138 0.0078 Uranus 61912-12-11 04:34 G 24334297.44 24334297.69 24334297.94 0.0138 0.0024 Uranus 61913-12-15 17:17 G 24334666.98 24334667.22 24334667.47 0.0137 0.0030 Uranus 61914-12-20 05:17 G 24335036.53 24335036.72 24335036.94 0.0137 0.0083 Uranus 61915-12-24 16:48 G 24335406.18 24335406.20 24335406.27 0.0137 0.0135 Jupiter 61919-05-20 03:07 G 24336648.46 24336648.63 24336648.80 0.0534 0.0359 Saturn 61922-04-17 12:29 G 24337711.95 24337712.02 24337712.12 0.0280 0.0263 Saturn 61935-10-11 16:48 G 24342636.97 24342637.20 24342637.44 0.0280 0.0097 Saturn 61951-04-12 14:24 G 24348298.86 24348299.10 24348299.35 0.0280 0.0020 Uranus 61955-06-03 06:00 G 24349811.59 24349811.75 24349811.93 0.0140 0.0102 Uranus 61956-06-07 00:14 G 24350181.27 24350181.51 24350181.75 0.0140 0.0045 Uranus 61957-06-11 19:12 G 24350551.05 24350551.30 24350551.56 0.0141 0.0012 Uranus 61958-06-16 14:24 G 24350920.89 24350921.10 24350921.33 0.0141 0.0071 Uranus 61959-06-21 10:34 G 24351290.86 24351290.94 24351291.07 0.0141 0.0130 Jupiter 61960-11-11 04:19 G 24351799.53 24351799.68 24351799.84 0.0490 0.0364 Saturn 61965-10-18 16:48 G 24353602.10 24353602.20 24353602.33 0.0279 0.0244

Jupiter 61972-11-15 12:29 G 24356186.79 24356187.02 24356187.26 0.0492 0.0062 Jupiter 61978-05-08 18:43 G 24358187.23 24358187.28 24358187.34 0.0538 0.0520 Saturn 61980-04-06 03:50 G 24358885.56 24358885.66 24358885.79 0.0278 0.0244 Neptune 61982-11-17 12:14 G 24359840.87 24359841.01 24359841.21 0.0088 0.0067 Neptune 61983-11-20 00:00 G 24360208.29 24360208.50 24360208.76 0.0088 0.0037 Jupiter 61984-11-19 21:50 G 24360574.21 24360574.41 24360574.61 0.0494 0.0247 Neptune 61984-11-21 12:00 G 24360575.74 24360576.00 24360576.26 0.0088 0.0006 Neptune 61985-11-23 23:02 G 24360943.23 24360943.46 24360943.73 0.0088 0.0025 Neptune 61986-11-26 11:02 G 24361310.76 24361310.96 24361311.16 0.0088 0.0054 Neptune 61987-11-28 21:50 G 24361678.36 24361678.41 24361678.52 0.0088 0.0085 Jupiter 61990-05-13 22:05 G 24362575.20 24362575.42 24362575.65 0.0536 0.0117 61992-04-17 16:48 G 24363279.97 24363280.20 24363280.45 0.0065 0.0023 Saturn 61994-10-13 03:22 G 24364188.40 24364188.64 24364188.89 0.0280 0.0024 Uranus 61994-12-03 11:31 G 24364239.90 24364239.98 24364240.10 0.0138 0.0128 Uranus 61995-12-08 02:24 G 24364609.40 24364609.60 24364609.83 0.0138 0.0073 Uranus 61996-12-11 16:05 G 24364978.93 24364979.17 24364979.43 0.0138 0.0019 Uranus 61997-12-16 05:17 G 24365348.48 24365348.72 24365348.97 0.0137 0.0035 Uranus 61998-12-20 17:17 G 24365718.04 24365718.22 24365718.43 0.0137 0.0088

# 63RD MILLENNIUM CE

### This is a list of transits of Earth in the 63rd millennium CE.

FROM MAX- C START MAX END SUNRAD DEPTH S

TRANSIT

TIME

Jupiter 62002-05-18 19:55 G 24366963.13 24366963.33 24366963.54 0.0535 0.0269

Saturn 62010-04-14 01:12 G 24369850.33 24369850.55 24369850.78 0.0280 0.0093 Saturn 62023-10-07 20:53 G 24374775.33 24374775.37 24374775.43 0.0281 0.0274 Saturn 62039-04-08 15:07 G 24380436.94 24380437.13 24380437.32 0.0279 0.0170 Uranus 62039-06-03 16:34 G 24380493.02 24380493.19 24380493.38 0.0140 0.0097 Uranus 62040-06-07 10:48 G 24380862.71 24380862.95 24380863.19 0.0140 0.0041 Uranus 62041-06-12 05:31 G 24381232.48 24381232.73 24381232.99 0.0141 0.0017 Uranus 62042-06-17 00:43 G 24381602.33 24381602.53 24381602.76 0.0141 0.0075 Uranus 62043-06-21 20:53 G 24381972.31 24381972.37 24381972.47 0.0141 0.0134 Jupiter 62043-11-11 09:07 G 24382114.77 24382114.88 24382115.01 0.0490 0.0414 Saturn 62053-10-14 15:22 G 24385739.90 24385740.14 24385740.39 0.0280 0.0053 Jupiter 62055-11-15 18:43 G 24386502.05 24386502.28 24386502.51 0.0492 0.0106 Neptune 62063-05-15 00:14 G 24389239.47 24389239.51 24389239.60 0.0089 0.0086 Neptune 62064-05-16 12:14 G 24389606.82 24389607.01 24389607.22 0.0089 0.0055 Neptune 62065-05-19 00:00 G 24389974.26 24389974.50 24389974.76 0.0089 0.0025 Neptune 62066-05-21 11:46 G 24390341.74 24390341.99 24390342.26 0.0089 0.0006 Neptune 62067-05-23 23:17 G 24390709.25 24390709.47 24390709.72 0.0089 0.0036 Jupiter 62067-11-20 02:38 G 24390889.40 24390889.61 24390889.83 0.0493 0.0199 Neptune 62068-05-25 10:48 G 24391076.81 24391076.95 24391077.14 0.0089 0.0067 Saturn 62069-04-15 11:46 G 24391401.81 24391401.99 24391402.20 0.0280 0.0169 Jupiter 62073-05-12 14:38 G 24392889.90 24392890.11 24392890.33 0.0537 0.0212 Uranus 62078-12-04 00:43 G 24394921.42 24394921.53 24394921.65 0.0138 0.0122 Pluto 62079-10-20 06:43 G 24395241.54 24395241.78 24395242.04 0.0079 0.0023 Uranus 62079-12-08 15:07 G 24395290.92 24395291.13 24395291.36 0.0138 0.0067 Uranus 62080-12-12 05:02 G 24395660.46 24395660.71 24395660.97 0.0138 0.0013 Uranus 62081-12-16 18:14 G 24396030.02 24396030.26 24396030.50 0.0137 0.0040 Saturn 62082-10-09 10:34 G 24396326.77 24396326.94 24396327.13 0.0281 0.0195 Uranus 62082-12-21 06:14 G 24396399.58 24396399.76 24396399.95 0.0137 0.0093 Jupiter 62085-05-17 20:53 G 24397278.16 24397278.37 24397278.59 0.0535 0.0199 62087-03-11 11:02 G 24397940.78 24397940.96 24397941.15 0.1617 0.0161 Mars Saturn 62098-04-10 02:10 G 24401988.36 24401988.59 24401988.82 0.0279 0.0096

Saturn 62112-10-17 03:36 G 24407291.44 24407291.65 24407291.88 0.0279 0.0130 Uranus 62123-06-05 04:48 G 24411174.53 24411174.70 24411174.91 0.0140 0.0092 Uranus 62124-06-08 23:02 G 24411544.22 24411544.46 24411544.71 0.0140 0.0035 Uranus 62125-06-13 17:46 G 24411913.99 24411914.24 24411914.50 0.0141 0.0022 Uranus 62126-06-18 12:58 G 24412283.84 24412284.04 24412284.26 0.0141 0.0080 Jupiter 62126-11-11 14:24 G 24412430.03 24412430.10 24412430.18 0.0490 0.0462 Uranus 62127-06-23 08:53 G 24412653.84 24412653.87 24412653.95 0.0142 0.0139 Saturn 62128-04-17 21:36 G 24412953.29 24412953.40 24412953.53 0.0280 0.0241 Jupiter 62138-11-15 19:12 G 24416817.08 24416817.30 24416817.52 0.0491 0.0171 Saturn 62141-10-12 00:00 G 24417878.28 24417878.50 24417878.73 0.0280 0.0116 62142-09-11 19:12 G 24418213.09 24418213.30 24418213.50 0.1907 0.0354 Mars Neptune 62146-11-17 18:14 G 24419741.20 24419741.26 24419741.39 0.0088 0.0083 Neptune 62147-11-20 06:00 G 24420108.56 24420108.75 24420108.98 0.0088 0.0053 Neptune 62148-11-21 17:46 G 24420476.00 24420476.24 24420476.50 0.0088 0.0022 Neptune 62149-11-24 05:17 G 24420843.47 24420843.72 24420843.99 0.0088 0.0009 Jupiter 62150-11-20 03:36 G 24421204.43 24421204.65 24421204.88 0.0492 0.0135 Neptune 62150-11-26 16:34 G 24421210.98 24421211.19 24421211.45 0.0088 0.0039 Neptune 62151-11-29 04:05 G 24421578.54 24421578.67 24421578.86 0.0088 0.0069 Jupiter 62156-05-12 17:46 G 24423205.04 24423205.24 24423205.44 0.0537 0.0277 Saturn 62157-04-12 12:00 G 24423539.76 24423540.00 24423540.24 0.0279 0.0024 Jupiter 62162-11-24 12:43 G 24425591.94 24425592.03 24425592.14 0.0494 0.0446 Uranus 62162-12-05 13:41 G 24425602.95 24425603.07 24425603.22 0.0138 0.0116 Uranus 62163-12-10 04:34 G 24425972.47 24425972.69 24425972.92 0.0138 0.0061 Uranus 62164-12-13 18:14 G 24426342.01 24426342.26 24426342.52 0.0138 0.0007 Uranus 62165-12-18 07:12 G 24426711.57 24426711.80 24426712.05 0.0137 0.0046 Uranus 62166-12-22 19:12 G 24427081.14 24427081.30 24427081.49 0.0137 0.0098 Jupiter 62168-05-17 21:36 G 24427593.18 24427593.40 24427593.63 0.0536 0.0131 Saturn 62171-10-19 15:36 G 24428842.99 24428843.15 24428843.32 0.0279 0.0204 Jupiter 62180-05-22 20:24 G 24431981.30 24431981.35 24431981.40 0.0534 0.0518 Saturn 62186-04-07 10:05 G 24434126.86 24434126.92 24434126.99 0.0279 0.0268

Saturn 62200-10-14 11:46 G 24439429.74 24439429.99 24439430.23 0.0280 0.0040 Uranus 62207-06-06 15:50 G 24441855.97 24441856.16 24441856.36 0.0140 0.0087 Uranus 62208-06-10 09:36 G 24442225.66 24442225.90 24442226.16 0.0140 0.0031 Uranus 62209-06-15 04:05 G 24442595.43 24442595.67 24442595.93 0.0141 0.0027 Uranus 62210-06-19 23:17 G 24442965.28 24442965.47 24442965.69 0.0141 0.0084 Saturn 62216-04-14 20:38 G 24445091.12 24445091.36 24445091.60 0.0279 0.0046 Jupiter 62221-11-16 00:29 G 24447132.32 24447132.52 24447132.74 0.0491 0.0219 Neptune 62228-05-17 18:43 G 24449507.15 24449507.28 24449507.45 0.0089 0.0071 Neptune 62229-05-20 06:29 G 24449874.56 24449874.77 24449875.02 0.0089 0.0041 Neptune 62230-05-22 18:43 G 24450242.02 24450242.28 24450242.53 0.0089 0.0010 Saturn 62230-10-22 01:26 G 24450394.53 24450394.56 24450394.60 0.0279 0.0276 Neptune 62231-05-25 06:14 G 24450609.52 24450609.76 24450610.02 0.0089 0.0020 Neptune 62232-05-26 17:31 G 24450977.04 24450977.23 24450977.47 0.0089 0.0051 Neptune 62233-05-29 05:17 G 24451344.64 24451344.72 24451344.85 0.0089 0.0081 Jupiter 62233-11-20 10:19 G 24451519.70 24451519.93 24451520.17 0.0492 0.0092 Jupiter 62239-05-13 14:24 G 24453519.93 24453520.10 24453520.27 0.0537 0.0362 Pluto 62240-04-20 23:31 G 24453863.24 24453863.48 24453863.75 0.0065 0.0010 Saturn 62245-04-09 16:19 G 24455678.01 24455678.18 24455678.34 0.0279 0.0203 Jupiter 62245-11-24 18:58 G 24455907.16 24455907.29 24455907.43 0.0494 0.0401 Uranus 62246-12-07 03:36 G 24456284.52 24456284.65 24456284.82 0.0138 0.0110 Uranus 62247-12-11 18:29 G 24456654.04 24456654.27 24456654.51 0.0138 0.0055 Uranus 62248-12-15 08:24 G 24457023.59 24457023.85 24457024.10 0.0138 0.0002 Uranus 62249-12-19 21:22 G 24457393.16 24457393.39 24457393.63 0.0137 0.0052 Uranus 62250-12-24 08:53 G 24457762.73 24457762.87 24457763.06 0.0137 0.0104 Jupiter 62251-05-18 17:17 G 24457907.99 24457908.22 24457908.45 0.0536 0.0044 Saturn 62259-10-16 21:07 G 24460981.14 24460981.38 24460981.63 0.0280 0.0031 Jupiter 62263-05-23 21:50 G 24462296.30 24462296.41 24462296.54 0.0535 0.0452 Saturn 62275-04-17 03:22 G 24466642.42 24466642.64 24466642.86 0.0279 0.0112 Saturn 62288-10-09 22:48 G 24471567.35 24471567.45 24471567.55 0.0281 0.0255 Uranus 62290-06-02 11:17 G 24472167.93 24472167.97 24472168.03 0.0140 0.0136

Uranus 62291-06-07 04:05 G 24472537.48 24472537.67 24472537.89 0.0140 0.0081 62292-03-11 18:14 G 24472816.19 24472816.26 24472816.34 0.1619 0.1452 Mars Uranus 62292-06-10 21:50 G 24472907.17 24472907.41 24472907.67 0.0140 0.0026 Uranus 62293-06-15 16:34 G 24473276.94 24473277.19 24473277.44 0.0141 0.0032 Uranus 62294-06-20 11:46 G 24473646.80 24473646.99 24473647.19 0.0141 0.0089 Saturn 62304-04-11 20:38 G 24477229.16 24477229.36 24477229.58 0.0279 0.0142 Jupiter 62304-11-16 08:24 G 24477447.65 24477447.85 24477448.05 0.0491 0.0262 Neptune 62311-11-21 11:31 G 24480008.83 24480008.98 24480009.16 0.0088 0.0069 Neptune 62312-11-22 23:02 G 24480376.24 24480376.46 24480376.71 0.0088 0.0039 Neptune 62313-11-25 10:48 G 24480743.69 24480743.95 24480744.21 0.0088 0.0009 Neptune 62314-11-27 22:19 G 24481111.18 24481111.43 24481111.68 0.0088 0.0022 Neptune 62315-11-30 09:22 G 24481478.70 24481478.89 24481479.12 0.0088 0.0052 Jupiter 62316-11-20 14:10 G 24481834.85 24481835.09 24481835.32 0.0491 0.0036 Neptune 62316-12-01 20:53 G 24481846.29 24481846.37 24481846.49 0.0088 0.0082 Saturn 62318-10-19 03:22 G 24482532.41 24482532.64 24482532.88 0.0280 0.0095 Jupiter 62322-05-13 15:22 G 24483835.01 24483835.14 24483835.28 0.0539 0.0435 Pluto 62327-10-24 07:41 G 24485824.68 24485824.82 24485825.02 0.0079 0.0060 Jupiter 62328-11-24 23:02 G 24486222.30 24486222.46 24486222.63 0.0493 0.0346 Uranus 62330-12-08 17:17 G 24486966.07 24486966.22 24486966.41 0.0138 0.0103 Uranus 62331-12-13 08:10 G 24487335.61 24487335.84 24487336.08 0.0138 0.0048 Uranus 62332-12-16 21:50 G 24487705.16 24487705.41 24487705.67 0.0138 0.0006 Uranus 62333-12-21 10:34 G 24488074.73 24488074.94 24488075.19 0.0137 0.0059 Saturn 62334-04-19 07:55 G 24488193.64 24488193.83 24488194.02 0.0279 0.0174 Jupiter 62334-05-18 22:34 G 24488223.21 24488223.44 24488223.67 0.0537 0.0012 Uranus 62334-12-25 22:34 G 24488444.31 24488444.44 24488444.61 0.0137 0.0110 Jupiter 62346-05-24 03:36 G 24492611.51 24492611.65 24492611.81 0.0535 0.0401 Saturn 62347-10-13 04:05 G 24493118.50 24493118.67 24493118.86 0.0281 0.0191 Saturn 62363-04-13 23:17 G 24498780.25 24498780.47 24498780.71 0.0279 0.0084 62371-03-15 18:29 G 24501673.10 24501673.27 24501673.44 0.1618 0.0708 Mars Uranus 62374-06-03 21:50 G 24502849.35 24502849.41 24502849.52 0.0139 0.0131

Uranus 62375-06-08 14:53 G 24503218.92 24503219.12 24503219.35 0.0140 0.0076 Uranus 62376-06-12 08:38 G 24503588.61 24503588.86 24503589.12 0.0140 0.0020 Uranus 62377-06-17 02:53 G 24503958.38 24503958.62 24503958.87 0.0141 0.0037 Saturn 62377-10-20 06:58 G 24504083.58 24504083.79 24504084.00 0.0280 0.0154 Uranus 62378-06-21 21:50 G 24504328.24 24504328.41 24504328.62 0.0141 0.0094 Jupiter 62387-11-16 14:38 G 24507762.93 24507763.11 24507763.30 0.0490 0.0308 Neptune 62392-05-18 00:29 G 24509407.48 24509407.52 24509407.56 0.0089 0.0088 Saturn 62393-04-20 11:46 G 24509744.86 24509744.99 24509745.12 0.0279 0.0233 Neptune 62393-05-20 12:00 G 24509774.81 24509775.00 24509775.21 0.0089 0.0057 Neptune 62394-05-22 23:46 G 24510142.26 24510142.49 24510142.75 0.0089 0.0027 Neptune 62395-05-25 12:00 G 24510509.75 24510510.00 24510510.26 0.0089 0.0004 Neptune 62396-05-26 23:31 G 24510877.26 24510877.48 24510877.73 0.0089 0.0035 Neptune 62397-05-29 11:17 G 24511244.81 24511244.97 24511245.16 0.0089 0.0065 Jupiter 62399-11-20 22:48 G 24512150.21 24512150.45 24512150.68 0.0491 0.0009 Jupiter 62405-05-12 22:48 G 24514150.36 24514150.45 24514150.56 0.0539 0.0483 Saturn 62406-10-14 06:58 G 24514669.57 24514669.79 24514670.01 0.0281 0.0134 Jupiter 62411-11-25 08:38 G 24516537.68 24516537.86 24516538.04 0.0493 0.0311 Uranus 62414-12-09 06:14 G 24517647.60 24517647.76 24517647.96 0.0139 0.0097 Uranus 62415-12-13 21:07 G 24518017.15 24518017.38 24518017.63 0.0138 0.0042 Uranus 62416-12-17 11:02 G 24518386.71 24518386.96 24518387.22 0.0138 0.0012 Jupiter 62417-05-18 01:55 G 24518538.35 24518538.58 24518538.81 0.0537 0.0076 Uranus 62417-12-22 00:00 G 24518756.29 24518756.50 24518756.73 0.0137 0.0064 Uranus 62418-12-26 11:46 G 24519125.88 24519125.99 24519126.15 0.0137 0.0116 Saturn 62422-04-15 00:58 G 24520331.30 24520331.54 24520331.79 0.0279 0.0029 Jupiter 62429-05-23 04:48 G 24522926.53 24522926.70 24522926.89 0.0535 0.0333 Saturn 62436-10-21 07:41 G 24525634.67 24525634.82 24525635.00 0.0280 0.0209 Uranus 62458-06-04 11:02 G 24533530.85 24533530.96 24533531.08 0.0139 0.0124 Uranus 62459-06-09 03:50 G 24533900.44 24533900.66 24533900.88 0.0140 0.0069 Uranus 62460-06-12 21:22 G 24534270.13 24534270.39 24534270.64 0.0140 0.0014 Uranus 62461-06-17 15:36 G 24534639.91 24534640.15 24534640.39 0.0141 0.0043

Uranus 62462-06-22 10:48 G 24535009.77 24535009.95 24535010.13 0.0141 0.0100 Saturn 62465-10-15 07:55 G 24536220.59 24536220.83 24536221.07 0.0281 0.0079 Jupiter 62470-11-16 00:58 G 24538078.37 24538078.54 24538078.70 0.0490 0.0342 Neptune 62475-11-20 17:02 G 24539909.15 24539909.21 24539909.30 0.0088 0.0085 Neptune 62476-11-22 04:34 G 24540276.50 24540276.69 24540276.90 0.0088 0.0055 Neptune 62477-11-24 15:50 G 24540643.93 24540644.16 24540644.43 0.0088 0.0026 Neptune 62478-11-27 03:36 G 24541011.39 24541011.65 24541011.91 0.0088 0.0005 Neptune 62479-11-29 14:38 G 24541378.89 24541379.11 24541379.36 0.0088 0.0035 Neptune 62480-12-01 01:55 G 24541746.43 24541746.58 24541746.78 0.0088 0.0065 Saturn 62481-04-16 02:24 G 24541882.36 24541882.60 24541882.84 0.0279 0.0026 Jupiter 62482-11-20 09:36 G 24542465.66 24542465.90 24542466.13 0.0491 0.0036 Pluto 62488-04-23 06:00 G 24544446.50 24544446.75 24544447.01 0.0065 0.0007 Jupiter 62494-11-24 17:02 G 24546853.02 24546853.21 24546853.41 0.0492 0.0272 Saturn 62495-10-23 06:58 G 24547185.70 24547185.79 24547185.89 0.0280 0.0257 Uranus 62498-12-09 19:12 G 24548329.12 24548329.30 24548329.51 0.0139 0.0090 Uranus 62499-12-14 10:05 G 24548698.68 24548698.92 24548699.17 0.0138 0.0036 Jupiter 62500-05-18 03:22 G 24548853.42 24548853.64 24548853.87 0.0538 0.0143 Uranus 62500-12-19 00:00 G 24549068.25 24549068.50 24549068.76 0.0138 0.0018 Uranus 62501-12-23 12:43 G 24549437.83 24549438.03 24549438.27 0.0137 0.0071 Uranus 62502-12-28 00:58 G 24549807.45 24549807.54 24549807.67 0.0137 0.0122 Saturn 62510-04-11 23:17 G 24552469.34 24552469.47 24552469.62 0.0277 0.0224 Jupiter 62512-05-23 10:19 G 24553241.74 24553241.93 24553242.13 0.0537 0.0281 Saturn 62524-10-17 07:41 G 24557771.58 24557771.82 24557772.07 0.0281 0.0028 Saturn 62540-04-18 03:22 G 24563433.41 24563433.64 24563433.87 0.0278 0.0079 Uranus 62542-06-05 22:48 G 24564212.33 24564212.45 24564212.59 0.0139 0.0118 Uranus 62543-06-10 15:22 G 24564581.92 24564582.14 24564582.37 0.0140 0.0064 Uranus 62544-06-14 08:53 G 24564951.62 24564951.87 24564952.13 0.0140 0.0009 Uranus 62545-06-19 02:53 G 24565321.39 24565321.62 24565321.87 0.0141 0.0049 Uranus 62546-06-23 22:05 G 24565691.26 24565691.42 24565691.60 0.0141 0.0105 Jupiter 62553-11-16 10:48 G 24568393.81 24568393.95 24568394.10 0.0489 0.0376

Neptune 62557-05-20 16:48 G 24569675.08 24569675.20 24569675.36 0.0089 0.0074 Neptune 62558-05-23 05:02 G 24570042.49 24570042.71 24570042.93 0.0089 0.0043 Neptune 62559-05-25 16:48 G 24570409.96 24570410.20 24570410.46 0.0089 0.0013 Neptune 62560-05-27 04:34 G 24570777.45 24570777.69 24570777.95 0.0089 0.0018 Neptune 62561-05-29 16:34 G 24571144.98 24571145.19 24571145.41 0.0089 0.0048 Neptune 62562-06-01 03:50 G 24571512.57 24571512.66 24571512.81 0.0089 0.0079 Jupiter 62565-11-20 19:12 G 24572781.07 24572781.30 24572781.53 0.0490 0.0070 Saturn 62569-04-13 01:55 G 24574020.39 24574020.58 24574020.78 0.0277 0.0168 62576-03-15 01:41 G 24576548.40 24576548.57 24576548.75 0.1620 0.0586 Mars Jupiter 62577-11-25 02:38 G 24577168.41 24577168.61 24577168.82 0.0492 0.0237 Uranus 62581-12-06 16:34 G 24578641.17 24578641.19 24578641.21 0.0139 0.0139 Uranus 62582-12-11 07:55 G 24579010.64 24579010.83 24579011.04 0.0139 0.0085 Jupiter 62583-05-18 12:29 G 24579168.80 24579169.02 24579169.24 0.0538 0.0184 Saturn 62583-10-19 07:26 G 24579322.56 24579322.81 24579323.06 0.0281 0.0024 Uranus 62583-12-15 22:48 G 24579380.21 24579380.45 24579380.70 0.0138 0.0031 Uranus 62584-12-19 12:43 G 24579749.79 24579750.03 24579750.29 0.0138 0.0023 Uranus 62585-12-24 01:55 G 24580119.38 24580119.58 24580119.80 0.0138 0.0076 Uranus 62586-12-28 13:55 G 24580489.01 24580489.08 24580489.19 0.0137 0.0127 Jupiter 62595-05-23 17:02 G 24583557.00 24583557.21 24583557.42 0.0536 0.0230 Saturn 62599-04-20 05:17 G 24584984.51 24584984.72 24584984.93 0.0278 0.0135 Saturn 62612-10-13 15:07 G 24589909.04 24589909.13 24589909.26 0.0282 0.0250 Uranus 62626-06-07 12:14 G 24594893.88 24594894.01 24594894.18 0.0139 0.0113 Uranus 62627-06-12 05:02 G 24595263.48 24595263.71 24595263.95 0.0140 0.0058 Saturn 62628-04-15 05:02 G 24595571.49 24595571.71 24595571.93 0.0277 0.0111 Uranus 62628-06-15 22:34 G 24595633.18 24595633.44 24595633.69 0.0140 0.0002 Uranus 62629-06-20 16:34 G 24596002.97 24596003.19 24596003.44 0.0141 0.0055 Uranus 62630-06-25 11:31 G 24596372.85 24596372.98 24596373.16 0.0141 0.0112 Jupiter 62636-11-16 19:41 G 24598709.21 24598709.32 24598709.46 0.0489 0.0414 Neptune 62640-11-23 09:07 G 24600176.76 24600176.88 24600177.06 0.0088 0.0071 Neptune 62641-11-25 20:53 G 24600544.16 24600544.37 24600544.61 0.0088 0.0041

Saturn 62642-10-21 07:55 G 24600873.60 24600873.83 24600874.08 0.0281 0.0079 Neptune 62642-11-28 08:24 G 24600911.60 24600911.85 24600912.12 0.0088 0.0012 Neptune 62643-11-30 19:55 G 24601279.08 24601279.33 24601279.59 0.0088 0.0019 Neptune 62644-12-02 07:12 G 24601646.60 24601646.80 24601647.03 0.0088 0.0049 Neptune 62645-12-04 18:14 G 24602014.17 24602014.26 24602014.40 0.0088 0.0079 Jupiter 62648-11-21 04:34 G 24603096.46 24603096.69 24603096.92 0.0490 0.0106 62655-03-19 02:24 G 24605405.57 24605405.60 24605405.63 0.1619 0.1592 Mars Saturn 62658-04-22 08:10 G 24606535.68 24606535.84 24606536.03 0.0278 0.0193 Jupiter 62660-11-25 13:26 G 24607483.85 24607484.06 24607484.27 0.0492 0.0205 Uranus 62665-12-08 05:31 G 24609322.68 24609322.73 24609322.82 0.0139 0.0133 Jupiter 62666-05-18 15:22 G 24609483.94 24609484.14 24609484.35 0.0538 0.0249 Uranus 62666-12-12 21:07 G 24609692.19 24609692.38 24609692.60 0.0139 0.0079 Uranus 62667-12-17 12:00 G 24610061.76 24610062.00 24610062.26 0.0138 0.0026 Uranus 62668-12-21 02:10 G 24610431.35 24610431.59 24610431.84 0.0138 0.0029 Uranus 62669-12-25 15:22 G 24610800.94 24610801.14 24610801.35 0.0138 0.0081 Uranus 62670-12-30 03:36 G 24611170.60 24611170.65 24611170.73 0.0137 0.0133 Saturn 62671-10-15 15:36 G 24611459.99 24611460.15 24611460.34 0.0282 0.0197 Jupiter 62678-05-23 15:36 G 24613871.92 24613872.15 24613872.37 0.0537 0.0156 Saturn 62687-04-17 09:36 G 24617122.66 24617122.90 24617123.14 0.0277 0.0051 Saturn 62701-10-23 10:34 G 24622424.72 24622424.94 24622425.16 0.0281 0.0134 Uranus 62710-06-09 01:26 G 24625575.40 24625575.56 24625575.72 0.0139 0.0107 Uranus 62711-06-13 17:17 G 24625945.00 24625945.22 24625945.47 0.0140 0.0053 Uranus 62712-06-17 11:02 G 24626314.71 24626314.96 24626315.22 0.0140 0.0003 Uranus 62713-06-22 05:02 G 24626684.49 24626684.71 24626684.95 0.0140 0.0060 Uranus 62714-06-27 00:29 G 24627054.38 24627054.52 24627054.67 0.0141 0.0116 Saturn 62717-04-24 13:26 G 24628086.97 24628087.06 24628087.16 0.0279 0.0253 Jupiter 62719-11-18 05:46 G 24629024.65 24629024.74 24629024.83 0.0489 0.0449 Neptune 62722-05-24 09:36 G 24629942.72 24629942.90 24629943.10 0.0089 0.0060 Neptune 62723-05-26 21:07 G 24630310.16 24630310.38 24630310.64 0.0089 0.0030 Neptune 62724-05-28 09:22 G 24630677.63 24630677.89 24630678.15 0.0089 0.0001

Neptune 62725-05-30 21:22 G 24631045.15 24631045.39 24631045.63 0.0089 0.0031 Neptune 62726-06-02 08:53 G 24631412.70 24631412.87 24631413.07 0.0089 0.0062 Saturn 62730-10-17 18:14 G 24633011.05 24633011.26 24633011.48 0.0282 0.0140 Jupiter 62731-11-22 14:10 G 24633411.87 24633412.09 24633412.32 0.0490 0.0140 Pluto 62736-04-27 10:05 G 24635029.69 24635029.92 24635030.15 0.0065 0.0029 Jupiter 62743-11-26 22:19 G 24637799.21 24637799.43 24637799.65 0.0491 0.0169 Saturn 62746-04-19 15:07 G 24638673.89 24638674.13 24638674.38 0.0278 0.0013 Jupiter 62749-05-18 13:26 G 24639798.88 24639799.06 24639799.24 0.0539 0.0327 Uranus 62749-12-09 18:43 G 24640004.19 24640004.28 24640004.39 0.0139 0.0127 Uranus 62750-12-14 10:19 G 24640373.73 24640373.93 24640374.16 0.0139 0.0074 Uranus 62751-12-19 01:26 G 24640743.31 24640743.56 24640743.82 0.0138 0.0019 Uranus 62752-12-22 15:22 G 24641112.91 24641113.14 24641113.40 0.0138 0.0034 Uranus 62753-12-27 04:34 G 24641482.51 24641482.69 24641482.90 0.0138 0.0087 Jupiter 62755-12-01 04:19 G 24642186.62 24642186.68 24642186.75 0.0492 0.0473 Saturn 62760-10-24 15:36 G 24643975.98 24643976.15 24643976.33 0.0281 0.0196 Jupiter 62761-05-23 21:22 G 24644187.16 24644187.39 24644187.62 0.0538 0.0103 Jupiter 62773-05-29 02:24 G 24648575.55 24648575.60 24648575.66 0.0536 0.0518 Saturn 62775-04-14 04:34 G 24649260.60 24649260.69 24649260.80 0.0277 0.0250 Mars 62789-09-17 22:34 G 24654531.30 24654531.44 24654531.58 0.1903 0.1368 Saturn 62789-10-18 23:17 G 24654562.24 24654562.47 24654562.71 0.0282 0.0078 Uranus 62794-06-09 14:38 G 24656256.95 24656257.11 24656257.30 0.0139 0.0101 Uranus 62795-06-14 07:12 G 24656626.57 24656626.80 24656627.05 0.0140 0.0046 Uranus 62796-06-18 00:43 G 24656996.28 24656996.53 24656996.79 0.0140 0.0010 Uranus 62797-06-22 18:58 G 24657366.07 24657366.29 24657366.52 0.0140 0.0066 Uranus 62798-06-27 14:10 G 24657735.97 24657736.09 24657736.22 0.0141 0.0122 Jupiter 62802-11-17 14:10 G 24659340.08 24659340.09 24659340.11 0.0488 0.0486 Neptune 62804-11-23 14:38 G 24660077.10 24660077.11 24660077.17 0.0088 0.0087 Saturn 62805-04-20 22:48 G 24660225.22 24660225.45 24660225.69 0.0278 0.0078 Neptune 62805-11-26 02:10 G 24660444.41 24660444.59 24660444.81 0.0088 0.0058 Neptune 62806-11-28 13:55 G 24660811.84 24660812.08 24660812.33 0.0088 0.0028

Neptune 62807-12-01 01:26 G 24661179.30 24661179.56 24661179.82 0.0088 0.0002 Neptune 62808-12-02 12:29 G 24661546.79 24661547.02 24661547.27 0.0088 0.0032 Neptune 62809-12-04 23:31 G 24661914.32 24661914.48 24661914.69 0.0088 0.0062 Jupiter 62814-11-21 19:12 G 24663727.09 24663727.30 24663727.52 0.0489 0.0190 Saturn 62819-10-26 23:02 G 24665527.39 24665527.46 24665527.56 0.0281 0.0263 Pluto 62824-10-30 11:17 G 24667357.76 24667357.97 24667358.23 0.0078 0.0034 Jupiter 62826-11-26 03:07 G 24668114.41 24668114.63 24668114.86 0.0490 0.0120 Jupiter 62832-05-17 18:00 G 24670114.09 24670114.25 24670114.41 0.0539 0.0387 Uranus 62833-12-10 08:53 G 24670685.75 24670685.87 24670686.00 0.0139 0.0121 Saturn 62834-04-15 12:29 G 24670811.85 24670812.02 24670812.21 0.0277 0.0183 Uranus 62834-12-15 00:43 G 24671055.31 24671055.53 24671055.76 0.0139 0.0066 Uranus 62835-12-19 15:36 G 24671424.90 24671425.15 24671425.41 0.0138 0.0013 Uranus 62836-12-23 05:46 G 24671794.50 24671794.74 24671794.99 0.0138 0.0041 Uranus 62837-12-27 18:58 G 24672164.11 24672164.29 24672164.49 0.0138 0.0093 Jupiter 62838-11-30 11:46 G 24672501.89 24672501.99 24672502.11 0.0492 0.0432 Jupiter 62844-05-22 22:05 G 24674502.18 24674502.42 24674502.65 0.0538 0.0033 Saturn 62848-10-20 07:41 G 24676113.57 24676113.82 24676114.07 0.0281 0.0010 Jupiter 62856-05-27 20:24 G 24678890.21 24678890.35 24678890.49 0.0537 0.0429 Mars 62860-03-18 09:22 G 24680280.70 24680280.89 24680281.07 0.1622 0.0300 Saturn 62864-04-22 07:41 G 24681776.62 24681776.82 24681777.03 0.0278 0.0147 Saturn 62877-10-14 20:38 G 24686700.30 24686700.36 24686700.44 0.0282 0.0269 Uranus 62878-06-10 03:22 G 24686938.48 24686938.64 24686938.85 0.0139 0.0095 Uranus 62879-06-14 20:10 G 24687308.10 24687308.34 24687308.58 0.0140 0.0040 Uranus 62880-06-18 13:41 G 24687677.81 24687678.07 24687678.32 0.0140 0.0015 Uranus 62881-06-23 07:26 G 24688047.60 24688047.81 24688048.04 0.0140 0.0072 Uranus 62882-06-28 02:38 G 24688417.51 24688417.61 24688417.72 0.0141 0.0127 Neptune 62886-05-23 13:55 G 24689842.97 24689843.08 24689843.22 0.0089 0.0077 Neptune 62887-05-26 01:26 G 24690210.36 24690210.56 24690210.80 0.0089 0.0047 Neptune 62888-05-27 13:41 G 24690577.82 24690578.07 24690578.32 0.0089 0.0016 Neptune 62889-05-30 01:12 G 24690945.31 24690945.55 24690945.81 0.0089 0.0014

Neptune 62890-06-01 12:43 G 24691312.83 24691313.03 24691313.28 0.0089 0.0045 Neptune 62891-06-04 00:43 G 24691680.41 24691680.53 24691680.68 0.0089 0.0075 Saturn 62893-04-16 22:34 G 24692363.21 24692363.44 24692363.66 0.0277 0.0113 Jupiter 62897-11-21 01:26 G 24694042.36 24694042.56 24694042.77 0.0489 0.0236 Saturn 62907-10-23 17:46 G 24697665.00 24697665.24 24697665.48 0.0281 0.0062 Jupiter 62909-11-26 10:19 G 24698429.70 24698429.93 24698430.16 0.0490 0.0078 Jupiter 62915-05-18 10:48 G 24700428.85 24700428.95 24700429.05 0.0540 0.0484 Uranus 62917-12-11 20:53 G 24701367.24 24701367.37 24701367.52 0.0139 0.0115 Uranus 62918-12-16 13:12 G 24701736.82 24701737.05 24701737.28 0.0139 0.0060 Uranus 62919-12-21 04:19 G 24702106.43 24702106.68 24702106.93 0.0138 0.0006 Uranus 62920-12-24 18:43 G 24702476.04 24702476.28 24702476.52 0.0138 0.0046 Jupiter 62921-11-30 18:00 G 24702817.11 24702817.25 24702817.39 0.0491 0.0387 Uranus 62921-12-29 07:55 G 24702845.67 24702845.83 24702846.02 0.0138 0.0099 Saturn 62923-04-25 17:31 G 24703328.08 24703328.23 24703328.38 0.0279 0.0219 Jupiter 62927-05-23 14:53 G 24704816.89 24704817.12 24704817.35 0.0539 0.0065 Saturn 62936-10-17 10:05 G 24708251.74 24708251.92 24708252.10 0.0282 0.0190 Jupiter 62939-05-28 21:50 G 24709205.25 24709205.41 24709205.59 0.0537 0.0361 Saturn 62952-04-19 08:38 G 24713914.62 24713914.86 24713915.10 0.0278 0.0041 Uranus 62962-06-11 16:48 G 24717620.02 24717620.20 24717620.41 0.0139 0.0087 Uranus 62963-06-16 09:22 G 24717989.65 24717989.89 24717990.14 0.0140 0.0033 Uranus 62964-06-20 02:53 G 24718359.37 24718359.62 24718359.87 0.0140 0.0022 Uranus 62965-06-24 20:53 G 24718729.16 24718729.37 24718729.59 0.0140 0.0078 Uranus 62966-06-29 15:36 G 24719099.09 24719099.15 24719099.24 0.0141 0.0134 Saturn 62966-10-25 05:17 G 24719216.52 24719216.72 24719216.95 0.0281 0.0138 Neptune 62969-11-26 07:41 G 24720344.69 24720344.82 24720344.98 0.0088 0.0073 Neptune 62970-11-28 19:26 G 24720712.09 24720712.31 24720712.54 0.0088 0.0043 Neptune 62971-12-01 07:12 G 24721079.54 24721079.80 24721080.05 0.0088 0.0014 Neptune 62972-12-02 18:14 G 24721447.02 24721447.26 24721447.53 0.0088 0.0017 Neptune 62973-12-05 05:31 G 24721814.53 24721814.73 24721814.97 0.0088 0.0046 Neptune 62974-12-07 17:02 G 24722182.09 24722182.21 24722182.35 0.0088 0.0076 

 Jupiter
 62980-11-21 07:12 G
 24724357.62
 24724357.80
 24724358.00
 0.0489
 0.0284

 Saturn
 62981-04-14 11:31 G
 24724501.95
 24724501.98
 24724502.01
 0.0277
 0.0275

 Pluto
 62984-04-29 13:26 G
 24725612.94
 24725613.06
 24725613.23
 0.0065
 0.0053

 Pluto
 62985-05-01 01:41 G
 24725979.41
 24725979.57
 24725979.78
 0.0065
 0.0046

 Jupiter
 62992-11-25 11:46 G
 24728744.75
 24728744.99
 24728745.22
 0.0490
 0.0016

 Saturn
 62995-10-19 23:46 G
 24729803.26
 24729803.49
 24729803.72
 0.0282
 0.0111

## 64TH MILLENNIUM CE

#### This is a list of transits of Earth in the 64th millennium CE.

FROM MAX- C START MAX END SUNRAD DEPTH S

TRANSIT

Uranus 63001-12-13 10:05 G 24732048.76 24732048.92 24732049.08 0.0139 0.0108
Uranus 63002-12-18 01:55 G 24732418.36 24732418.58 24732418.83 0.0139 0.0054
Uranus 63003-12-22 17:31 G 24732787.97 24732788.23 24732788.48 0.0138 0.0002
Jupiter 63004-11-30 19:26 G 24733132.14 24733132.31 24733132.49 0.0491 0.0324
Uranus 63004-12-26 07:41 G 24733157.60 24733157.82 24733158.07 0.0138 0.0054
Uranus 63005-12-30 21:22 G 24733527.24 24733527.39 24733527.56 0.0138 0.0105
Jupiter 63010-05-23 17:31 G 24735132.01 24735132.23 24735132.46 0.0539 0.0132
Saturn 63011-04-22 19:12 G 24735466.06 24735466.30 24735466.55 0.0278 0.0032
Jupiter 63022-05-28 22:05 G 24739520.22 24739520.42 24739520.61 0.0537 0.0288
Saturn 63040-04-16 20:24 G 24746053.19 24746053.35 24746053.52 0.0278 0.0205
Uranus 63045-06-08 14:38 G 24747932.05 24747932.11 24747932.18 0.0139 0.0133
Uranus 63046-06-13 06:14 G 24748301.56 24748301.76 24748301.97 0.0139 0.0080

Uranus 63047-06-17 22:34 G 24748671.19 24748671.44 24748671.69 0.0139 0.0026 Uranus 63048-06-21 15:36 G 24749040.91 24749041.15 24749041.41 0.0140 0.0029 Uranus 63049-06-26 09:22 G 24749410.70 24749410.89 24749411.11 0.0140 0.0084 Uranus 63050-07-01 03:50 G 24749780.65 24749780.66 24749780.72 0.0141 0.0140 Neptune 63051-05-27 06:14 G 24750110.60 24750110.76 24750110.96 0.0089 0.0064 Neptune 63052-05-28 18:14 G 24750478.03 24750478.26 24750478.51 0.0089 0.0033 Neptune 63053-05-31 06:14 G 24750845.50 24750845.76 24750846.02 0.0089 0.0003 Neptune 63054-06-02 17:31 G 24751213.00 24751213.23 24751213.49 0.0089 0.0028 Saturn 63054-10-22 13:26 G 24751354.81 24751355.06 24751355.31 0.0282 0.0032 Neptune 63055-06-05 05:17 G 24751580.55 24751580.72 24751580.93 0.0089 0.0058 Neptune 63056-06-06 17:31 G 24751948.21 24751948.23 24751948.25 0.0089 0.0088 Jupiter 63063-11-22 09:07 G 24754672.72 24754672.88 24754673.05 0.0488 0.0345 Mars 63065-03-19 16:19 G 24755156.03 24755156.18 24755156.33 0.1625 0.0987 Saturn 63070-04-24 05:31 G 24757017.51 24757017.73 24757017.96 0.0278 0.0105 Pluto 63072-11-02 10:48 G 24757940.70 24757940.95 24757941.22 0.0079 0.0012 Mars 63073-09-18 19:26 G 24758261.14 24758261.31 24758261.47 0.1899 0.1093 Jupiter 63075-11-26 16:19 G 24759059.95 24759060.18 24759060.42 0.0489 0.0038 Uranus 63085-12-13 20:53 G 24762730.21 24762730.37 24762730.55 0.0139 0.0103 Uranus 63086-12-18 13:26 G 24763099.83 24763100.06 24763100.30 0.0139 0.0048 Jupiter 63087-12-01 01:26 G 24763447.38 24763447.56 24763447.76 0.0491 0.0279 Uranus 63087-12-23 05:02 G 24763469.45 24763469.71 24763469.96 0.0139 0.0006 Uranus 63088-12-26 19:12 G 24763839.08 24763839.30 24763839.54 0.0138 0.0059 Uranus 63089-12-31 09:07 G 24764208.74 24764208.88 24764209.04 0.0138 0.0110 Jupiter 63093-05-22 12:14 G 24765446.80 24765447.01 24765447.22 0.0539 0.0226 Saturn 63099-04-19 04:48 G 24767604.49 24767604.70 24767604.91 0.0278 0.0136 Jupiter 63105-05-28 15:36 G 24769834.93 24769835.15 24769835.37 0.0538 0.0191 Saturn 63113-10-25 01:55 G 24772906.33 24772906.58 24772906.82 0.0281 0.0045 Saturn 63129-04-26 14:24 G 24778568.92 24778569.10 24778569.30 0.0278 0.0174 Uranus 63129-06-10 03:50 G 24778613.58 24778613.66 24778613.79 0.0139 0.0127 Uranus 63130-06-14 19:26 G 24778983.11 24778983.31 24778983.54 0.0139 0.0074

Uranus 63131-06-19 12:00 G 24779352.75 24779353.00 24779353.25 0.0139 0.0020 Uranus 63132-06-23 05:02 G 24779722.47 24779722.71 24779722.96 0.0140 0.0035 Uranus 63133-06-27 22:19 G 24780092.26 24780092.43 24780092.65 0.0140 0.0091 Neptune 63134-11-30 01:12 G 24780612.37 24780612.55 24780612.75 0.0088 0.0059 Neptune 63135-12-02 12:58 G 24780979.80 24780980.04 24780980.28 0.0088 0.0030 Neptune 63136-12-04 00:29 G 24781347.26 24781347.52 24781347.78 0.0088 0.0001 Neptune 63137-12-06 11:31 G 24781714.75 24781714.98 24781715.23 0.0088 0.0030 Neptune 63138-12-08 22:48 G 24782082.28 24782082.45 24782082.66 0.0088 0.0060 Saturn 63142-10-19 03:36 G 24783492.52 24783492.65 24783492.78 0.0282 0.0240 63144-03-22 17:02 G 24784013.09 24784013.21 24784013.34 0.1624 0.1197 Mars Jupiter 63146-11-22 15:07 G 24784988.00 24784988.13 24784988.28 0.0488 0.0392 Saturn 63158-04-21 11:46 G 24789155.75 24789155.99 24789156.22 0.0278 0.0070 Jupiter 63158-11-26 22:48 G 24789375.22 24789375.45 24789375.68 0.0489 0.0084 Uranus 63169-12-15 09:36 G 24793411.72 24793411.90 24793412.09 0.0139 0.0097 Jupiter 63170-12-01 03:50 G 24793762.45 24793762.66 24793762.87 0.0490 0.0218 Uranus 63170-12-20 01:55 G 24793781.35 24793781.58 24793781.83 0.0139 0.0043 Uranus 63171-12-24 17:31 G 24794150.98 24794151.23 24794151.48 0.0139 0.0011 Saturn 63172-10-26 11:46 G 24794457.77 24794457.99 24794458.22 0.0281 0.0117 Uranus 63172-12-28 07:55 G 24794520.62 24794520.83 24794521.07 0.0138 0.0064 Uranus 63174-01-01 22:05 G 24794890.28 24794890.42 24794890.56 0.0138 0.0115 Jupiter 63176-05-22 11:31 G 24795761.80 24795761.98 24795762.18 0.0540 0.0306 Saturn 63188-04-27 21:50 G 24800120.30 24800120.41 24800120.54 0.0278 0.0241 Jupiter 63188-05-27 19:12 G 24800150.07 24800150.30 24800150.53 0.0539 0.0129 Saturn 63201-10-20 12:00 G 24805043.81 24805044.00 24805044.21 0.0282 0.0171 Uranus 63213-06-10 17:31 G 24809295.12 24809295.23 24809295.37 0.0139 0.0121 Uranus 63214-06-15 09:07 G 24809664.67 24809664.88 24809665.11 0.0139 0.0068 Neptune 63215-05-27 11:02 G 24810010.87 24810010.96 24810011.08 0.0089 0.0081 Uranus 63215-06-20 01:12 G 24810034.31 24810034.55 24810034.81 0.0139 0.0015 Neptune 63216-05-28 22:48 G 24810378.26 24810378.45 24810378.68 0.0089 0.0051 Uranus 63216-06-23 18:14 G 24810404.02 24810404.26 24810404.51 0.0140 0.0041

Saturn 63217-04-22 16:48 G 24810706.96 24810707.20 24810707.45 0.0278 0.0010 Neptune 63217-05-31 11:02 G 24810745.71 24810745.96 24810746.21 0.0089 0.0020 Uranus 63217-06-28 11:46 G 24810773.81 24810773.99 24810774.18 0.0140 0.0095 Neptune 63218-06-02 22:34 G 24811113.19 24811113.44 24811113.70 0.0089 0.0011 Neptune 63219-06-05 10:19 G 24811480.71 24811480.93 24811481.17 0.0089 0.0041 Neptune 63220-06-06 21:50 G 24811848.28 24811848.41 24811848.59 0.0089 0.0072 Jupiter 63229-11-21 19:41 G 24815303.24 24815303.32 24815303.42 0.0487 0.0446 Saturn 63231-10-28 19:12 G 24816009.12 24816009.30 24816009.49 0.0281 0.0183 Pluto 63233-05-04 03:36 G 24816562.40 24816562.65 24816562.90 0.0065 0.0013 Jupiter 63241-11-26 03:22 G 24819690.42 24819690.64 24819690.87 0.0488 0.0137 Saturn 63246-04-17 13:26 G 24821293.98 24821294.06 24821294.16 0.0276 0.0257 Jupiter 63253-11-30 10:48 G 24824077.74 24824077.95 24824078.18 0.0490 0.0175 Uranus 63253-12-15 20:24 G 24824093.18 24824093.35 24824093.56 0.0139 0.0093 Uranus 63254-12-20 13:12 G 24824462.81 24824463.05 24824463.30 0.0139 0.0038 Uranus 63255-12-25 04:48 G 24824832.45 24824832.70 24824832.95 0.0139 0.0016 Uranus 63256-12-28 19:12 G 24825202.09 24825202.30 24825202.53 0.0138 0.0068 Uranus 63258-01-02 08:53 G 24825571.77 24825571.87 24825572.01 0.0138 0.0120 Jupiter 63259-05-22 17:02 G 24826077.04 24826077.21 24826077.39 0.0540 0.0363 Saturn 63260-10-21 18:43 G 24826595.06 24826595.28 24826595.52 0.0282 0.0105 Jupiter 63271-05-27 19:55 G 24830465.10 24830465.33 24830465.57 0.0538 0.0057 Saturn 63276-04-23 20:38 G 24832258.12 24832258.36 24832258.60 0.0278 0.0051 Jupiter 63283-06-01 23:17 G 24834853.37 24834853.47 24834853.58 0.0537 0.0474 Saturn 63290-10-29 23:17 G 24837560.36 24837560.47 24837560.61 0.0281 0.0243 Uranus 63297-06-11 06:43 G 24839976.66 24839976.78 24839976.94 0.0139 0.0115 Uranus 63298-06-15 22:19 G 24840346.21 24840346.43 24840346.66 0.0139 0.0062 Neptune 63298-11-29 07:55 G 24840512.70 24840512.83 24840512.98 0.0088 0.0075 Uranus 63299-06-20 14:24 G 24840715.85 24840716.10 24840716.36 0.0139 0.0008 Neptune 63299-12-01 19:12 G 24840880.10 24840880.30 24840880.54 0.0088 0.0045 Uranus 63300-06-25 07:12 G 24841085.57 24841085.80 24841086.05 0.0140 0.0046 Neptune 63300-12-04 06:58 G 24841247.54 24841247.79 24841248.05 0.0088 0.0015 Uranus 63301-06-30 00:29 G 24841455.35 24841455.52 24841455.71 0.0140 0.0101 Neptune 63301-12-06 18:43 G 24841615.02 24841615.28 24841615.53 0.0088 0.0015 Neptune 63302-12-09 05:46 G 24841982.53 24841982.74 24841982.98 0.0088 0.0045 Neptune 63303-12-11 17:02 G 24842350.10 24842350.21 24842350.37 0.0088 0.0074 Saturn 63305-04-19 17:46 G 24842845.08 24842845.24 24842845.42 0.0276 0.0197 Jupiter 63312-11-22 03:50 G 24845618.65 24845618.66 24845618.68 0.0487 0.0485 Saturn 63319-10-24 22:48 G 24848146.20 24848146.45 24848146.69 0.0282 0.0045 Pluto 63320-11-05 04:34 G 24848523.66 24848523.69 24848523.77 0.0079 0.0077 Jupiter 63324-11-26 12:29 G 24850005.80 24850006.02 24850006.24 0.0488 0.0175 Saturn 63335-04-26 22:34 G 24853809.22 24853809.44 24853809.67 0.0278 0.0107 Jupiter 63336-11-30 20:24 G 24854393.13 24854393.35 24854393.58 0.0490 0.0137 Uranus 63337-12-17 09:50 G 24854774.71 24854774.91 24854775.11 0.0139 0.0086 Uranus 63338-12-22 02:24 G 24855144.35 24855144.60 24855144.85 0.0139 0.0032 Uranus 63339-12-26 17:46 G 24855513.99 24855514.24 24855514.49 0.0139 0.0021 Uranus 63340-12-30 08:24 G 24855883.64 24855883.85 24855884.07 0.0138 0.0074 Uranus 63342-01-03 21:36 G 24856253.32 24856253.40 24856253.53 0.0138 0.0125 Jupiter 63342-05-22 17:17 G 24856392.09 24856392.22 24856392.36 0.0540 0.0439 Jupiter 63348-12-05 03:07 G 24858780.54 24858780.63 24858780.73 0.0490 0.0447 Mars 63349-03-22 23:46 G 24858888.30 24858888.49 24858888.68 0.1627 0.0107 Jupiter 63354-05-27 20:38 G 24860780.13 24860780.36 24860780.59 0.0540 0.0017 Saturn 63364-04-20 20:53 G 24864396.17 24864396.37 24864396.59 0.0276 0.0141 Jupiter 63366-06-02 04:05 G 24865168.53 24865168.67 24865168.82 0.0538 0.0420 Saturn 63378-10-26 00:14 G 24869697.27 24869697.51 24869697.76 0.0282 0.0011 Neptune 63380-05-29 04:48 G 24870278.54 24870278.70 24870278.87 0.0089 0.0067 Neptune 63381-05-31 16:19 G 24870645.96 24870646.18 24870646.43 0.0089 0.0036 Uranus 63381-06-12 20:10 G 24870658.19 24870658.34 24870658.50 0.0139 0.0108 Neptune 63382-06-03 04:19 G 24871013.43 24871013.68 24871013.94 0.0089 0.0006 Uranus 63382-06-17 11:17 G 24871027.75 24871027.97 24871028.21 0.0139 0.0056 Neptune 63383-06-05 15:50 G 24871380.93 24871381.16 24871381.42 0.0089 0.0025 Uranus 63383-06-22 03:22 G 24871397.39 24871397.64 24871397.89 0.0139 0.0003

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Uranus 63468-06-27 07:55 G 24902448.60 24902448.83 24902449.06 0.0140 0.0057 Uranus 63469-07-02 00:58 G 24902818.40 24902818.54 24902818.70 0.0140 0.0112 Pluto 63481-05-07 04:48 G 24907145.46 24907145.70 24907145.96 0.0065 0.0018 Saturn 63482-04-25 01:41 G 24907498.33 24907498.57 24907498.81 0.0276 0.0031 Jupiter 63490-11-27 07:12 G 24910636.60 24910636.80 24910637.01 0.0487 0.0248 Saturn 63496-10-29 00:58 G 24912799.32 24912799.54 24912799.77 0.0282 0.0115 Jupiter 63502-12-02 15:22 G 24915023.91 24915024.14 24915024.38 0.0489 0.0065 Uranus 63504-12-15 15:22 G 24915768.05 24915768.14 24915768.25 0.0140 0.0128 Uranus 63505-12-20 08:24 G 24916137.65 24916137.85 24916138.08 0.0139 0.0075 Uranus 63506-12-25 00:58 G 24916507.30 24916507.54 24916507.80 0.0139 0.0021 Uranus 63507-12-29 16:34 G 24916876.94 24916877.19 24916877.44 0.0139 0.0032 Uranus 63509-01-02 06:58 G 24917246.61 24917246.79 24917247.01 0.0138 0.0085 Uranus 63510-01-06 20:39 G 24917616.33 24917616.36 24917616.43 0.0138 0.0135 Saturn 63512-05-02 02:53 G 24918462.57 24918462.62 24918462.69 0.0277 0.0267 Jupiter 63514-12-06 23:46 G 24919411.35 24919411.49 24919411.64 0.0490 0.0380 Jupiter 63520-05-28 08:39 G 24921410.64 24921410.86 24921411.09 0.0540 0.0125 Saturn 63525-10-24 07:41 G 24923385.63 24923385.82 24923386.03 0.0283 0.0162 Jupiter 63532-06-02 09:36 G 24925798.71 24925798.90 24925799.09 0.0539 0.0293 Saturn 63541-04-27 04:05 G 24929049.43 24929049.67 24929049.92 0.0276 0.0025 Neptune 63544-05-30 10:48 G 24930178.86 24930178.95 24930179.05 0.0089 0.0083 Neptune 63545-06-01 22:19 G 24930546.24 24930546.43 24930546.66 0.0089 0.0053 Neptune 63546-06-04 10:48 G 24930913.70 24930913.95 24930914.20 0.0089 0.0022 Neptune 63547-06-06 22:19 G 24931281.18 24931281.43 24931281.69 0.0089 0.0009 Neptune 63548-06-08 10:05 G 24931648.70 24931648.92 24931649.16 0.0089 0.0040 Neptune 63549-06-10 21:22 G 24932016.26 24932016.39 24932016.58 0.0089 0.0070 Uranus 63549-06-15 20:10 G 24932021.17 24932021.34 24932021.54 0.0139 0.0096 Uranus 63550-06-20 11:31 G 24932390.74 24932390.98 24932391.23 0.0139 0.0043 Uranus 63551-06-25 03:22 G 24932760.39 24932760.64 24932760.89 0.0139 0.0009 Uranus 63552-06-28 19:55 G 24933130.10 24933130.33 24933130.55 0.0140 0.0063 Uranus 63553-07-03 12:58 G 24933499.91 24933500.04 24933500.19 0.0140 0.0117

63554-03-24 05:03 G 24933763.63 24933763.71 24933763.79 0.1631 0.1479 Mars Saturn 63555-11-01 01:41 G 24934350.38 24934350.57 24934350.77 0.0282 0.0168 63569-11-10 04:34 G 24939473.47 24939473.69 24939473.91 0.0078 0.0042 Pluto Saturn 63570-04-21 17:17 G 24939636.11 24939636.22 24939636.36 0.0276 0.0234 Jupiter 63573-11-27 18:00 G 24940952.06 24940952.25 24940952.45 0.0488 0.0281 Saturn 63584-10-25 07:41 G 24944936.59 24944936.82 24944937.05 0.0283 0.0110 Jupiter 63585-12-02 02:10 G 24945339.35 24945339.59 24945339.82 0.0488 0.0034 Uranus 63588-12-16 00:43 G 24946449.42 24946449.53 24946449.66 0.0140 0.0123 Uranus 63589-12-20 18:00 G 24946819.04 24946819.25 24946819.48 0.0139 0.0070 Uranus 63590-12-25 10:34 G 24947188.69 24947188.94 24947189.19 0.0139 0.0016 Uranus 63591-12-30 01:55 G 24947558.34 24947558.58 24947558.83 0.0139 0.0037 Uranus 63593-01-02 16:34 G 24947928.01 24947928.19 24947928.40 0.0138 0.0089 Jupiter 63597-12-06 10:05 G 24949726.75 24949726.92 24949727.08 0.0489 0.0348 Saturn 63600-04-28 07:41 G 24950600.59 24950600.82 24950601.06 0.0276 0.0083 Jupiter 63603-05-28 08:10 G 24951725.63 24951725.84 24951726.06 0.0541 0.0199 Saturn 63614-11-02 03:51 G 24955901.53 24955901.66 24955901.82 0.0282 0.0225 Jupiter 63615-06-02 17:17 G 24956114.01 24956114.22 24956114.42 0.0540 0.0245 Neptune 63627-12-03 10:48 G 24960680.82 24960680.95 24960681.09 0.0088 0.0074 Neptune 63628-12-04 21:51 G 24961048.21 24961048.41 24961048.65 0.0088 0.0045 Saturn 63629-04-22 21:07 G 24961187.20 24961187.38 24961187.58 0.0276 0.0176 Neptune 63629-12-07 09:36 G 24961415.65 24961415.90 24961416.16 0.0088 0.0015 Neptune 63630-12-09 20:53 G 24961783.12 24961783.37 24961783.63 0.0088 0.0014 Neptune 63631-12-12 08:10 G 24962150.63 24962150.84 24962151.08 0.0088 0.0044 Neptune 63632-12-13 19:55 G 24962518.20 24962518.33 24962518.48 0.0088 0.0074 Mars 63633-03-26 06:15 G 24962620.59 24962620.76 24962620.92 0.1630 0.0742 Uranus 63633-06-16 07:55 G 24962702.65 24962702.83 24962703.03 0.0138 0.0090 Uranus 63634-06-20 23:03 G 24963072.22 24963072.46 24963072.71 0.0139 0.0038 Uranus 63635-06-25 14:39 G 24963441.86 24963442.11 24963442.36 0.0139 0.0015 Uranus 63636-06-29 06:58 G 24963811.58 24963811.79 24963812.02 0.0140 0.0069 Uranus 63637-07-04 00:00 G 24964181.40 24964181.50 24964181.65 0.0140 0.0123

Saturn 63643-10-27 09:36 G 24966487.66 24966487.90 24966488.15 0.0283 0.0054 Jupiter 63656-11-27 04:19 G 24971267.50 24971267.68 24971267.86 0.0487 0.0313 Saturn 63659-04-30 12:58 G 24972151.84 24972152.04 24972152.25 0.0277 0.0145 Jupiter 63668-12-01 09:22 G 24975654.66 24975654.89 24975655.13 0.0488 0.0011 Uranus 63672-12-16 11:31 G 24977130.85 24977130.98 24977131.11 0.0140 0.0118 Uranus 63673-12-21 04:19 G 24977500.47 24977500.68 24977500.92 0.0140 0.0065 Uranus 63674-12-25 21:07 G 24977870.12 24977870.38 24977870.63 0.0139 0.0011 Uranus 63675-12-30 12:15 G 24978239.78 24978240.01 24978240.27 0.0139 0.0042 Uranus 63677-01-03 03:07 G 24978609.46 24978609.63 24978609.83 0.0138 0.0093 Jupiter 63680-12-05 17:03 G 24980042.03 24980042.21 24980042.40 0.0489 0.0304 Jupiter 63686-05-27 14:24 G 24982040.90 24982041.10 24982041.31 0.0541 0.0255 Saturn 63688-04-24 02:53 G 24982738.40 24982738.62 24982738.84 0.0276 0.0114 Jupiter 63698-06-01 19:12 G 24986429.08 24986429.30 24986429.52 0.0539 0.0177 Saturn 63702-10-29 14:10 G 24988038.84 24988039.09 24988039.34 0.0283 0.0007 Neptune 63709-06-02 04:48 G 24990446.57 24990446.70 24990446.90 0.0089 0.0069 Neptune 63710-06-04 17:17 G 24990814.00 24990814.22 24990814.46 0.0089 0.0037 Neptune 63711-06-07 05:17 G 24991181.47 24991181.72 24991181.98 0.0089 0.0007 Neptune 63712-06-08 16:48 G 24991548.97 24991549.20 24991549.46 0.0089 0.0024 Neptune 63713-06-11 04:34 G 24991916.50 24991916.69 24991916.91 0.0089 0.0054 Neptune 63714-06-13 16:34 G 24992284.12 24992284.19 24992284.28 0.0089 0.0085 Uranus 63716-06-13 05:31 G 24993014.70 24993014.73 24993014.80 0.0138 0.0135 Uranus 63717-06-17 19:41 G 24993384.13 24993384.32 24993384.53 0.0138 0.0085 Saturn 63718-05-02 19:12 G 24993703.16 24993703.30 24993703.47 0.0277 0.0209 Uranus 63718-06-22 10:48 G 24993753.71 24993753.95 24993754.20 0.0139 0.0032 Uranus 63719-06-27 02:39 G 24994123.36 24994123.61 24994123.86 0.0139 0.0020 Uranus 63720-06-30 18:43 G 24994493.08 24994493.28 24994493.51 0.0140 0.0074 63720-09-25 03:51 G 24994579.46 24994579.66 24994579.87 0.1892 0.0316 Mars Uranus 63721-07-05 12:00 G 24994862.92 24994863.00 24994863.12 0.0140 0.0128 Pluto 63729-05-10 03:22 G 24997728.55 24997728.64 24997728.77 0.0065 0.0058 Pluto 63730-05-11 15:36 G 24998094.96 24998095.15 24998095.37 0.0065 0.0040

Saturn 63731-10-23 23:31 G 24998625.38 24998625.48 24998625.58 0.0283 0.0259 Jupiter 63739-11-28 09:51 G 25001582.76 25001582.91 25001583.07 0.0487 0.0363 Saturn 63747-04-27 10:05 G 25004289.69 25004289.92 25004290.17 0.0276 0.0049 Jupiter 63751-12-02 17:03 G 25005969.98 25005970.21 25005970.44 0.0488 0.0052 Uranus 63756-12-17 20:10 G 25007812.20 25007812.34 25007812.49 0.0140 0.0114 Uranus 63757-12-22 13:27 G 25008181.83 25008182.06 25008182.29 0.0140 0.0061 Uranus 63758-12-27 05:46 G 25008551.49 25008551.74 25008552.00 0.0139 0.0008 Uranus 63759-12-31 21:22 G 25008921.15 25008921.39 25008921.63 0.0139 0.0045 Uranus 63761-01-04 12:15 G 25009290.84 25009291.01 25009291.20 0.0138 0.0097 Saturn 63761-10-30 21:22 G 25009590.15 25009590.39 25009590.63 0.0282 0.0073 Jupiter 63763-12-07 01:41 G 25010357.37 25010357.57 25010357.77 0.0489 0.0266 Jupiter 63769-05-27 08:24 G 25012355.68 25012355.85 25012356.03 0.0541 0.0351 Saturn 63777-05-04 03:07 G 25015254.63 25015254.63 25015254.66 0.0277 0.0277 Jupiter 63781-06-01 13:27 G 25016743.83 25016744.06 25016744.29 0.0540 0.0084 Saturn 63790-10-25 09:22 G 25020176.71 25020176.89 25020177.08 0.0283 0.0186 Neptune 63792-12-05 06:15 G 25020948.59 25020948.76 25020948.97 0.0088 0.0060 Jupiter 63793-06-06 21:22 G 25021132.34 25021132.39 25021132.44 0.0539 0.0524 Neptune 63793-12-07 18:15 G 25021316.01 25021316.26 25021316.50 0.0088 0.0030 Neptune 63794-12-10 05:31 G 25021683.47 25021683.73 25021683.99 0.0088 0.0001 Neptune 63795-12-12 17:17 G 25022050.97 25022051.22 25022051.46 0.0088 0.0030 Neptune 63796-12-14 04:19 G 25022418.50 25022418.68 25022418.88 0.0088 0.0060 Uranus 63800-06-14 16:48 G 25023696.13 25023696.20 25023696.30 0.0138 0.0130 Uranus 63801-06-19 06:58 G 25024065.60 25024065.79 25024066.01 0.0138 0.0080 Uranus 63802-06-23 22:05 G 25024435.18 25024435.42 25024435.67 0.0139 0.0028 Uranus 63803-06-28 13:41 G 25024804.83 25024805.07 25024805.33 0.0139 0.0026 Uranus 63804-07-02 06:15 G 25025174.56 25025174.76 25025174.98 0.0140 0.0079 Uranus 63805-07-07 00:00 G 25025544.42 25025544.50 25025544.58 0.0140 0.0132 Saturn 63806-04-29 18:58 G 25025841.05 25025841.29 25025841.53 0.0276 0.0019 63817-11-12 18:15 G 25030056.04 25030056.26 25030056.49 0.0079 0.0039 Pluto Saturn 63820-11-02 06:58 G 25031141.58 25031141.79 25031142.00 0.0282 0.0145

Jupiter 63822-11-28 17:17 G 25031898.09 25031898.22 25031898.35 0.0487 0.0405 Jupiter 63834-12-03 00:15 G 25036285.28 25036285.51 25036285.74 0.0487 0.0096 Saturn 63835-04-24 22:48 G 25036428.30 25036428.45 25036428.62 0.0276 0.0211 63838-03-27 10:48 G 25037495.78 25037495.95 25037496.12 0.1634 0.0651 Mars Uranus 63840-12-19 06:29 G 25038493.63 25038493.77 25038493.94 0.0140 0.0110 Uranus 63841-12-23 23:31 G 25038863.26 25038863.48 25038863.72 0.0140 0.0057 Uranus 63842-12-28 16:19 G 25039232.92 25039233.18 25039233.43 0.0139 0.0003 Uranus 63844-01-02 07:55 G 25039602.59 25039602.83 25039603.07 0.0139 0.0049 Uranus 63845-01-05 22:48 G 25039972.28 25039972.45 25039972.62 0.0138 0.0101 Jupiter 63846-12-07 04:19 G 25040672.47 25040672.68 25040672.90 0.0488 0.0208 Saturn 63849-10-27 21:36 G 25041728.18 25041728.40 25041728.64 0.0283 0.0110 Jupiter 63852-05-27 09:07 G 25042670.74 25042670.88 25042671.02 0.0542 0.0428 Jupiter 63864-06-01 16:48 G 25047058.97 25047059.20 25047059.43 0.0540 0.0018 Saturn 63865-05-01 04:48 G 25047392.47 25047392.70 25047392.93 0.0277 0.0090 Neptune 63873-06-02 13:41 G 25050346.98 25050347.07 25050347.16 0.0089 0.0083 Neptune 63874-06-05 00:58 G 25050714.35 25050714.54 25050714.77 0.0089 0.0053 Neptune 63875-06-07 12:58 G 25051081.80 25051082.04 25051082.30 0.0089 0.0022 Jupiter 63876-06-06 21:36 G 25051447.27 25051447.40 25051447.52 0.0539 0.0450 Neptune 63876-06-09 00:58 G 25051449.29 25051449.54 25051449.80 0.0089 0.0009 Neptune 63877-06-11 12:43 G 25051816.81 25051817.03 25051817.28 0.0089 0.0039 Neptune 63878-06-14 00:29 G 25052184.37 25052184.52 25052184.69 0.0089 0.0070 Saturn 63879-11-04 17:46 G 25052693.10 25052693.24 25052693.41 0.0282 0.0219 Uranus 63884-06-15 04:05 G 25054377.58 25054377.67 25054377.79 0.0138 0.0125 Uranus 63885-06-19 18:15 G 25054747.07 25054747.26 25054747.49 0.0138 0.0075 Uranus 63886-06-24 09:36 G 25055116.65 25055116.90 25055117.15 0.0139 0.0022 Uranus 63887-06-29 01:12 G 25055486.31 25055486.55 25055486.81 0.0139 0.0031 Uranus 63888-07-02 17:46 G 25055856.05 25055856.24 25055856.45 0.0140 0.0084 Uranus 63889-07-07 11:17 G 25056225.94 25056225.97 25056226.03 0.0140 0.0137 Saturn 63894-04-26 07:55 G 25057979.62 25057979.83 25057980.04 0.0277 0.0141 Jupiter 63905-11-28 19:41 G 25062213.26 25062213.32 25062213.39 0.0486 0.0467

Saturn 63908-10-30 11:17 G 25063279.73 25063279.97 25063280.22 0.0283 0.0031 63917-03-30 11:46 G 25066352.95 25066352.99 25066353.04 0.1632 0.1571 Mars Jupiter 63917-12-03 02:24 G 25066600.38 25066600.60 25066600.83 0.0487 0.0157 Saturn 63924-05-03 14:39 G 25068943.92 25068944.11 25068944.31 0.0277 0.0161 Uranus 63924-12-20 16:05 G 25069175.00 25069175.17 25069175.33 0.0140 0.0105 Uranus 63925-12-25 08:53 G 25069544.65 25069544.87 25069545.12 0.0140 0.0053 Uranus 63926-12-30 01:41 G 25069914.31 25069914.57 25069914.82 0.0139 0.0001 Uranus 63928-01-03 17:03 G 25070283.99 25070284.21 25070284.45 0.0139 0.0054 Uranus 63929-01-07 07:55 G 25070653.68 25070653.83 25070654.01 0.0138 0.0105 Jupiter 63929-12-07 09:22 G 25070987.66 25070987.89 25070988.11 0.0488 0.0157 Jupiter 63935-05-28 09:51 G 25072985.83 25072985.91 25072985.99 0.0542 0.0503 Jupiter 63941-12-11 17:46 G 25075375.20 25075375.24 25075375.30 0.0489 0.0477 Jupiter 63947-06-02 10:05 G 25077373.70 25077373.92 25077374.15 0.0540 0.0083 Saturn 63953-04-28 16:34 G 25079530.96 25079531.19 25079531.43 0.0277 0.0072 Neptune 63956-12-06 15:22 G 25080849.02 25080849.14 25080849.30 0.0088 0.0073 Neptune 63957-12-09 03:07 G 25081216.41 25081216.63 25081216.86 0.0088 0.0044 Neptune 63958-12-11 14:39 G 25081583.86 25081584.11 25081584.37 0.0088 0.0014 Jupiter 63959-06-07 13:55 G 25081761.91 25081762.08 25081762.26 0.0539 0.0348 Neptune 63959-12-14 02:10 G 25081951.33 25081951.59 25081951.84 0.0088 0.0016 Neptune 63960-12-15 13:12 G 25082318.84 25082319.05 25082319.29 0.0088 0.0046 Neptune 63961-12-18 00:15 G 25082686.40 25082686.51 25082686.67 0.0088 0.0075 Saturn 63967-11-02 00:58 G 25084831.29 25084831.54 25084831.78 0.0282 0.0047 Uranus 63968-06-16 15:07 G 25085059.01 25085059.13 25085059.26 0.0138 0.0120 Uranus 63969-06-21 05:17 G 25085428.51 25085428.72 25085428.94 0.0138 0.0069 Uranus 63970-06-25 20:24 G 25085798.10 25085798.35 25085798.60 0.0139 0.0017 Uranus 63971-06-30 12:15 G 25086167.76 25086168.01 25086168.25 0.0139 0.0036 Uranus 63972-07-04 04:34 G 25086537.51 25086537.69 25086537.90 0.0140 0.0089 Pluto 63978-05-14 14:53 G 25088677.86 25088678.12 25088678.38 0.0065 0.0000 Saturn 63983-05-06 00:43 G 25090495.41 25090495.53 25090495.67 0.0277 0.0232 Saturn 63996-10-26 02:39 G 25095417.47 25095417.61 25095417.74 0.0283 0.0237

## 65TH MILLENNIUM CE

#### This is a list of transits of Earth in the 65th millennium CE.

FROM MAX- C START MAX END SUNRAD DEPTH S

TRANSIT

TIME

Uranus 64008-12-21 01:55 G 25099856.41 25099856.58 25099856.76 0.0140 0.0100 Uranus 64009-12-25 19:12 G 25100226.06 25100226.30 25100226.54 0.0140 0.0047 Uranus 64010-12-30 11:46 G 25100595.74 25100595.99 25100596.25 0.0139 0.0007 Uranus 64012-01-04 03:36 G 25100965.42 25100965.65 25100965.88 0.0139 0.0058 Saturn 64012-04-30 00:43 G 25101082.29 25101082.53 25101082.77 0.0277 0.0005 Jupiter 64012-12-06 15:07 G 25101302.90 25101303.13 25101303.36 0.0488 0.0107 Uranus 64013-01-07 18:15 G 25101335.12 25101335.26 25101335.43 0.0138 0.0110 Jupiter 64024-12-10 19:27 G 25105690.19 25105690.31 25105690.44 0.0489 0.0414 Saturn 64026-11-03 13:41 G 25106382.86 25106383.07 25106383.30 0.0282 0.0125 Jupiter 64030-06-01 08:39 G 25107688.64 25107688.86 25107689.08 0.0541 0.0167 Neptune 64038-06-05 09:22 G 25110614.74 25110614.89 25110615.08 0.0089 0.0067 Neptune 64039-06-07 21:22 G 25110982.16 25110982.39 25110982.63 0.0089 0.0037 Neptune 64040-06-09 09:22 G 25111349.63 25111349.89 25111350.15 0.0089 0.0006 Saturn 64041-04-24 21:51 G 25111669.32 25111669.41 25111669.52 0.0275 0.0251 Neptune 64041-06-11 21:07 G 25111717.13 25111717.38 25111717.63 0.0089 0.0024 Jupiter 64042-06-06 16:19 G 25112076.99 25112077.18 25112077.38 0.0540 0.0281 Neptune 64042-06-14 08:39 G 25112084.68 25112084.86 25112085.08 0.0089 0.0055 Neptune 64043-06-16 20:24 G 25112452.30 25112452.35 25112452.45 0.0089 0.0085 Uranus 64052-06-17 01:12 G 25115740.43 25115740.55 25115740.71 0.0138 0.0114 Uranus 64053-06-21 15:36 G 25116109.94 25116110.15 25116110.39 0.0138 0.0064 Uranus 64054-06-26 06:58 G 25116479.54 25116479.79 25116480.04 0.0139 0.0011 Uranus 64055-06-30 22:34 G 25116849.21 25116849.44 25116849.70 0.0139 0.0041 Saturn 64055-10-28 14:24 G 25116968.90 25116969.10 25116969.30 0.0283 0.0161 Uranus 64056-07-04 15:22 G 25117218.96 25117219.14 25117219.34 0.0140 0.0094 64066-11-16 13:55 G 25121005.95 25121006.08 25121006.23 0.0078 0.0066 Pluto Saturn 64071-05-02 08:10 G 25122633.60 25122633.84 25122634.08 0.0277 0.0061 Jupiter 64083-12-02 11:17 G 25127230.78 25127230.97 25127231.18 0.0486 0.0265 Saturn 64085-11-05 00:29 G 25127934.35 25127934.52 25127934.70 0.0282 0.0196 Uranus 64092-12-21 10:34 G 25130537.76 25130537.94 25130538.13 0.0140 0.0095 Uranus 64093-12-26 03:51 G 25130907.42 25130907.66 25130907.91 0.0139 0.0042 Uranus 64094-12-30 20:39 G 25131277.11 25131277.36 25131277.62 0.0139 0.0011 Jupiter 64095-12-06 18:29 G 25131618.04 25131618.27 25131618.51 0.0487 0.0050 Uranus 64096-01-04 12:15 G 25131646.79 25131647.01 25131647.25 0.0139 0.0063 Uranus 64097-01-08 03:22 G 25132016.51 25132016.64 25132016.79 0.0138 0.0114 Saturn 64100-04-27 05:46 G 25133220.56 25133220.74 25133220.92 0.0275 0.0185 Jupiter 64107-12-12 01:12 G 25136005.40 25136005.55 25136005.71 0.0489 0.0366 Jupiter 64113-06-01 12:00 G 25138003.79 25138004.00 25138004.21 0.0542 0.0232 Saturn 64114-10-31 00:43 G 25138520.29 25138520.53 25138520.76 0.0283 0.0089 Neptune 64120-12-07 01:12 G 25140749.50 25140749.55 25140749.59 0.0088 0.0087 Neptune 64121-12-09 12:29 G 25141116.84 25141117.02 25141117.23 0.0088 0.0057 64122-03-30 15:51 G 25141227.98 25141228.16 25141228.35 0.1637 0.0156 Mars Neptune 64122-12-12 00:15 G 25141484.27 25141484.51 25141484.76 0.0088 0.0027 Neptune 64123-12-14 12:00 G 25141851.74 25141852.00 25141852.26 0.0088 0.0002 Neptune 64124-12-15 22:48 G 25142219.23 25142219.45 25142219.71 0.0088 0.0033 Jupiter 64125-06-06 14:53 G 25142391.90 25142392.12 25142392.33 0.0540 0.0197 Neptune 64125-12-18 10:34 G 25142586.77 25142586.94 25142587.14 0.0088 0.0061 Saturn 64130-05-04 13:41 G 25144184.86 25144185.07 25144185.29 0.0277 0.0123 Uranus 64136-06-18 11:46 G 25146421.83 25146421.99 25146422.14 0.0138 0.0109

Uranus 64137-06-23 01:41 G 25146791.36 25146791.57 25146791.82 0.0138 0.0058 Uranus 64138-06-27 17:03 G 25147160.96 25147161.21 25147161.47 0.0139 0.0007 Uranus 64139-07-02 08:39 G 25147530.63 25147530.86 25147531.11 0.0139 0.0046 Uranus 64140-07-06 01:12 G 25147900.38 25147900.55 25147900.74 0.0140 0.0099 Saturn 64144-11-07 08:39 G 25149485.79 25149485.86 25149485.96 0.0282 0.0264 Saturn 64159-04-29 12:29 G 25154771.80 25154772.02 25154772.24 0.0275 0.0122 Jupiter 64166-12-02 18:00 G 25157546.07 25157546.25 25157546.43 0.0486 0.0310 Saturn 64173-11-01 07:55 G 25160071.58 25160071.83 25160072.08 0.0283 0.0023 Uranus 64176-12-22 19:27 G 25161219.13 25161219.31 25161219.51 0.0140 0.0091 Uranus 64177-12-27 12:58 G 25161588.80 25161589.04 25161589.29 0.0139 0.0038 Jupiter 64178-12-07 01:55 G 25161933.35 25161933.58 25161933.82 0.0487 0.0009 Uranus 64179-01-01 05:46 G 25161958.49 25161958.74 25161959.00 0.0139 0.0015 Uranus 64180-01-05 21:36 G 25162328.19 25162328.40 25162328.63 0.0139 0.0067 Uranus 64181-01-09 12:15 G 25162697.91 25162698.01 25162698.17 0.0138 0.0119 Saturn 64189-05-05 18:15 G 25165736.08 25165736.26 25165736.44 0.0277 0.0182 Jupiter 64190-12-11 09:07 G 25166320.71 25166320.88 25166321.07 0.0489 0.0324 Jupiter 64196-05-31 10:05 G 25168318.73 25168318.92 25168319.11 0.0542 0.0318 Neptune 64202-06-06 18:58 G 25170515.21 25170515.29 25170515.42 0.0089 0.0081 Neptune 64203-06-09 07:12 G 25170882.59 25170882.80 25170883.01 0.0089 0.0051 Neptune 64204-06-10 18:43 G 25171250.04 25171250.28 25171250.54 0.0089 0.0020 Neptune 64205-06-13 06:29 G 25171617.52 25171617.77 25171618.03 0.0089 0.0010 Neptune 64206-06-15 18:00 G 25171985.03 25171985.25 25171985.49 0.0089 0.0040 Neptune 64207-06-18 05:17 G 25172352.60 25172352.72 25172352.91 0.0089 0.0071 Jupiter 64208-06-06 13:41 G 25172706.85 25172707.07 25172707.30 0.0541 0.0118 Saturn 64218-05-01 17:31 G 25176322.99 25176323.23 25176323.47 0.0275 0.0062 Uranus 64220-06-19 21:51 G 25177103.25 25177103.41 25177103.58 0.0138 0.0103 Uranus 64221-06-24 12:00 G 25177472.78 25177473.00 25177473.25 0.0138 0.0053 Uranus 64222-06-29 03:07 G 25177842.38 25177842.63 25177842.89 0.0139 0.0002 Uranus 64223-07-03 18:58 G 25178212.06 25178212.29 25178212.53 0.0139 0.0051 Uranus 64224-07-07 11:03 G 25178581.81 25178581.96 25178582.15 0.0140 0.0104

64226-05-17 10:48 G 25179260.80 25179260.95 25179261.16 0.0065 0.0047 Pluto Pluto 64227-05-18 22:48 G 25179627.32 25179627.45 25179627.64 0.0065 0.0051 Saturn 64232-11-03 12:58 G 25181622.79 25181623.04 25181623.28 0.0283 0.0039 Saturn 64248-05-07 21:07 G 25187287.27 25187287.38 25187287.51 0.0277 0.0239 Jupiter 64249-12-03 02:53 G 25187861.47 25187861.62 25187861.79 0.0486 0.0350 Uranus 64260-12-24 03:36 G 25191900.46 25191900.65 25191900.86 0.0140 0.0087 Saturn 64261-10-28 23:03 G 25192209.32 25192209.46 25192209.61 0.0284 0.0230 Jupiter 64261-12-07 09:22 G 25192248.65 25192248.89 25192249.12 0.0487 0.0036 Uranus 64261-12-28 21:22 G 25192270.14 25192270.39 25192270.64 0.0139 0.0034 Uranus 64263-01-02 13:55 G 25192639.84 25192640.08 25192640.34 0.0139 0.0019 Uranus 64264-01-07 05:46 G 25193009.53 25193009.74 25193009.97 0.0139 0.0071 Uranus 64265-01-10 20:39 G 25193379.26 25193379.36 25193379.50 0.0138 0.0122 Jupiter 64273-12-11 17:03 G 25196636.02 25196636.21 25196636.40 0.0488 0.0281 Saturn 64277-05-02 21:22 G 25197874.15 25197874.39 25197874.63 0.0275 0.0004 Jupiter 64279-06-01 12:29 G 25198633.86 25198634.02 25198634.18 0.0543 0.0386 Neptune 64285-12-09 22:05 G 25201017.27 25201017.42 25201017.58 0.0088 0.0070 Neptune 64286-12-12 09:36 G 25201384.69 25201384.90 25201385.15 0.0088 0.0042 Neptune 64287-12-14 21:22 G 25201752.14 25201752.39 25201752.65 0.0088 0.0012 Neptune 64288-12-16 08:53 G 25202119.63 25202119.87 25202120.13 0.0088 0.0019 Neptune 64289-12-18 20:10 G 25202487.15 25202487.34 25202487.58 0.0088 0.0049 Neptune 64290-12-21 07:41 G 25202854.72 25202854.82 25202854.96 0.0088 0.0078 Jupiter 64291-06-06 21:22 G 25203022.16 25203022.39 25203022.62 0.0541 0.0068 Saturn 64291-11-05 15:36 G 25203173.92 25203174.15 25203174.39 0.0283 0.0096 Jupiter 64303-06-13 02:10 G 25207410.52 25207410.59 25207410.68 0.0540 0.0505 Uranus 64304-06-21 07:41 G 25207784.66 25207784.82 25207785.01 0.0138 0.0099 Uranus 64305-06-25 22:05 G 25208154.19 25208154.42 25208154.66 0.0138 0.0049 Saturn 64306-04-28 12:29 G 25208460.95 25208461.02 25208461.12 0.0275 0.0257 Uranus 64306-06-30 12:58 G 25208523.79 25208524.04 25208524.30 0.0139 0.0004 Uranus 64307-07-05 04:34 G 25208893.47 25208893.69 25208893.94 0.0139 0.0055 Uranus 64308-07-08 20:53 G 25209263.22 25209263.37 25209263.54 0.0140 0.0107

64314-11-20 00:15 G 25211588.29 25211588.51 25211588.78 0.0079 0.0028 Pluto Saturn 64320-10-30 23:46 G 25213760.31 25213760.49 25213760.69 0.0284 0.0177 64327-03-31 19:41 G 25216103.21 25216103.32 25216103.44 0.1642 0.1287 Mars Jupiter 64332-12-03 12:43 G 25218176.89 25218177.03 25218177.18 0.0486 0.0384 Saturn 64336-05-05 00:00 G 25219425.27 25219425.50 25219425.74 0.0275 0.0052 Uranus 64343-12-21 18:00 G 25222212.21 25222212.25 25222212.33 0.0140 0.0137 Jupiter 64344-12-07 18:43 G 25222564.05 25222564.28 25222564.52 0.0486 0.0074 Uranus 64344-12-25 12:29 G 25222581.83 25222582.02 25222582.24 0.0140 0.0083 Uranus 64345-12-30 06:15 G 25222951.52 25222951.76 25222952.02 0.0139 0.0030 Uranus 64347-01-03 23:03 G 25223321.21 25223321.46 25223321.71 0.0139 0.0022 Uranus 64348-01-08 14:53 G 25223690.91 25223691.12 25223691.34 0.0139 0.0074 Uranus 64349-01-12 05:46 G 25224060.64 25224060.74 25224060.86 0.0138 0.0125 Saturn 64350-11-07 16:48 G 25224725.00 25224725.20 25224725.42 0.0283 0.0150 Jupiter 64356-12-12 02:24 G 25226951.40 25226951.60 25226951.81 0.0488 0.0246 Jupiter 64362-06-01 18:58 G 25228949.16 25228949.29 25228949.42 0.0542 0.0442 Saturn 64365-04-29 14:39 G 25230011.95 25230012.11 25230012.28 0.0275 0.0203 Neptune 64367-06-09 16:48 G 25230783.04 25230783.20 25230783.39 0.0089 0.0064 64367-10-02 13:12 G 25230897.99 25230898.05 25230898.11 0.1884 0.1785 Mars Neptune 64368-06-11 04:34 G 25231150.47 25231150.69 25231150.94 0.0089 0.0034 Neptune 64369-06-13 16:19 G 25231517.93 25231518.18 25231518.44 0.0089 0.0004 Neptune 64370-06-16 04:05 G 25231885.43 25231885.67 25231885.92 0.0089 0.0027 Neptune 64371-06-18 15:22 G 25232252.97 25232253.14 25232253.36 0.0089 0.0057 Neptune 64372-06-20 03:07 G 25232620.60 25232620.63 25232620.70 0.0089 0.0087 Jupiter 64374-06-07 00:00 G 25233337.27 25233337.50 25233337.73 0.0541 0.0004 Saturn 64379-11-01 23:17 G 25235311.25 25235311.47 25235311.70 0.0284 0.0126 Jupiter 64386-06-12 01:41 G 25237725.43 25237725.57 25237725.71 0.0541 0.0430 Uranus 64388-06-21 17:17 G 25238466.06 25238466.22 25238466.43 0.0138 0.0096 Uranus 64389-06-26 07:55 G 25238835.60 25238835.83 25238836.08 0.0138 0.0045 Uranus 64390-06-30 22:48 G 25239205.20 25239205.45 25239205.71 0.0139 0.0007 Uranus 64391-07-05 14:39 G 25239574.88 25239575.11 25239575.34 0.0139 0.0059

Uranus 64392-07-09 06:43 G 25239944.63 25239944.78 25239944.94 0.0140 0.0111 Saturn 64395-05-07 02:24 G 25240976.38 25240976.60 25240976.83 0.0275 0.0106 64406-04-02 20:53 G 25244960.22 25244960.37 25244960.52 0.1640 0.0971 Mars Saturn 64409-11-08 17:31 G 25246276.06 25246276.23 25246276.41 0.0283 0.0202 Jupiter 64415-12-03 22:34 G 25248492.33 25248492.44 25248492.56 0.0485 0.0421 Saturn 64424-04-30 16:05 G 25251562.98 25251563.17 25251563.39 0.0275 0.0151 Jupiter 64427-12-08 05:31 G 25252879.50 25252879.73 25252879.96 0.0487 0.0106 Uranus 64427-12-22 03:07 G 25252893.57 25252893.63 25252893.73 0.0140 0.0133 Uranus 64428-12-25 21:36 G 25253263.20 25253263.40 25253263.62 0.0140 0.0079 Uranus 64429-12-30 15:07 G 25253632.89 25253633.13 25253633.39 0.0139 0.0027 Uranus 64431-01-04 07:41 G 25254002.58 25254002.82 25254003.08 0.0139 0.0026 Uranus 64432-01-08 23:31 G 25254372.27 25254372.48 25254372.69 0.0139 0.0077 Uranus 64433-01-12 14:10 G 25254742.01 25254742.09 25254742.20 0.0138 0.0128 Saturn 64438-11-02 22:48 G 25256862.21 25256862.45 25256862.69 0.0283 0.0076 Jupiter 64439-12-12 13:12 G 25257266.84 25257267.05 25257267.26 0.0487 0.0214 Jupiter 64445-05-31 17:03 G 25259264.15 25259264.21 25259264.26 0.0543 0.0526 Neptune 64449-12-10 08:24 G 25260917.78 25260917.85 25260917.93 0.0088 0.0084 Neptune 64450-12-12 19:41 G 25261285.13 25261285.32 25261285.54 0.0088 0.0054 Neptune 64451-12-15 07:41 G 25261652.57 25261652.82 25261653.07 0.0088 0.0025 Neptune 64452-12-16 19:27 G 25262020.05 25262020.31 25262020.57 0.0088 0.0005 Neptune 64453-12-19 06:29 G 25262387.56 25262387.77 25262388.03 0.0088 0.0036 Saturn 64454-05-08 04:48 G 25262527.51 25262527.70 25262527.90 0.0276 0.0162 Neptune 64454-12-21 18:15 G 25262755.10 25262755.26 25262755.46 0.0088 0.0065 Jupiter 64457-06-06 00:29 G 25263652.29 25263652.52 25263652.75 0.0542 0.0073 Saturn 64468-11-09 17:46 G 25267827.15 25267827.24 25267827.36 0.0283 0.0255 Jupiter 64469-06-11 09:51 G 25268040.76 25268040.91 25268041.08 0.0541 0.0384 Uranus 64472-06-22 03:22 G 25269147.46 25269147.64 25269147.84 0.0138 0.0090 Uranus 64473-06-26 17:17 G 25269516.99 25269517.22 25269517.48 0.0139 0.0041 Uranus 64474-07-01 08:24 G 25269886.60 25269886.85 25269887.10 0.0139 0.0011 Pluto 64475-05-20 21:07 G 25270210.12 25270210.38 25270210.63 0.0065 0.0007

Uranus 64475-07-06 00:00 G 25270256.28 25270256.50 25270256.73 0.0139 0.0063 Uranus 64476-07-09 15:36 G 25270626.03 25270626.15 25270626.32 0.0140 0.0115 Saturn 64483-05-02 18:43 G 25273114.05 25273114.28 25273114.51 0.0275 0.0095 Saturn 64497-11-03 22:48 G 25278413.20 25278413.45 25278413.70 0.0283 0.0024 Jupiter 64498-12-03 09:22 G 25278807.81 25278807.89 25278807.98 0.0485 0.0452 Jupiter 64510-12-08 16:48 G 25283194.98 25283195.20 25283195.43 0.0486 0.0136 Uranus 64511-12-23 12:29 G 25283574.94 25283575.02 25283575.15 0.0140 0.0127 Uranus 64512-12-27 06:43 G 25283944.58 25283944.78 25283945.01 0.0140 0.0075 Saturn 64513-05-10 07:41 G 25284078.69 25284078.82 25284078.98 0.0276 0.0218 Uranus 64514-01-01 00:43 G 25284314.28 25284314.53 25284314.78 0.0139 0.0022 Uranus 64515-01-05 17:03 G 25284683.96 25284684.21 25284684.46 0.0139 0.0030 Uranus 64516-01-10 08:53 G 25285053.66 25285053.87 25285054.08 0.0139 0.0081 Uranus 64517-01-13 23:17 G 25285423.41 25285423.47 25285423.57 0.0138 0.0132 Jupiter 64522-12-12 22:05 G 25287582.20 25287582.42 25287582.64 0.0487 0.0174 Neptune 64531-06-10 02:53 G 25290683.53 25290683.62 25290683.78 0.0089 0.0079 Neptune 64532-06-11 14:53 G 25291050.92 25291051.12 25291051.35 0.0089 0.0048 Neptune 64533-06-14 02:39 G 25291418.37 25291418.61 25291418.87 0.0089 0.0018 Neptune 64534-06-16 14:24 G 25291785.85 25291786.10 25291786.36 0.0089 0.0013 Neptune 64535-06-19 01:41 G 25292153.36 25292153.57 25292153.81 0.0089 0.0044 Neptune 64536-06-20 13:27 G 25292520.93 25292521.06 25292521.22 0.0089 0.0074 Jupiter 64540-06-06 08:10 G 25293967.61 25293967.84 25293968.06 0.0542 0.0125 Saturn 64542-05-04 21:51 G 25294665.17 25294665.41 25294665.66 0.0275 0.0039 Jupiter 64552-06-11 13:12 G 25298355.87 25298356.05 25298356.24 0.0541 0.0319 Uranus 64555-06-19 23:03 G 25299459.43 25299459.46 25299459.53 0.0138 0.0135 Uranus 64556-06-23 12:15 G 25299828.83 25299829.01 25299829.23 0.0138 0.0086 Saturn 64556-11-06 00:15 G 25299964.26 25299964.51 25299964.76 0.0283 0.0031 Uranus 64557-06-28 02:53 G 25300198.38 25300198.62 25300198.87 0.0139 0.0036 Uranus 64558-07-02 17:31 G 25300567.98 25300568.23 25300568.49 0.0139 0.0015 Uranus 64559-07-07 09:07 G 25300937.66 25300937.88 25300938.10 0.0139 0.0067 Uranus 64560-07-11 00:58 G 25301307.43 25301307.54 25301307.69 0.0140 0.0119

64563-11-23 18:00 G 25302538.14 25302538.25 25302538.38 0.0078 0.0069 Pluto Saturn 64571-04-30 02:24 G 25305252.56 25305252.60 25305252.67 0.0275 0.0267 Saturn 64585-10-31 05:46 G 25310550.61 25310550.74 25310550.87 0.0284 0.0241 Jupiter 64593-12-08 00:29 G 25313510.31 25313510.52 25313510.75 0.0486 0.0180 Uranus 64595-12-23 21:51 G 25314256.29 25314256.41 25314256.54 0.0140 0.0122 Uranus 64596-12-27 15:51 G 25314625.95 25314626.16 25314626.39 0.0140 0.0070 Uranus 64598-01-01 09:22 G 25314995.64 25314995.89 25314996.15 0.0139 0.0018 Uranus 64599-01-06 01:55 G 25315365.33 25315365.58 25315365.83 0.0139 0.0034 Uranus 64600-01-10 17:31 G 25315735.04 25315735.23 25315735.44 0.0139 0.0085 Uranus 64601-01-15 08:24 G 25316104.80 25316104.85 25316104.91 0.0138 0.0135 Saturn 64601-05-07 02:24 G 25316216.36 25316216.60 25316216.85 0.0275 0.0021 Jupiter 64605-12-13 07:12 G 25317897.58 25317897.80 25317898.03 0.0487 0.0138 Mars 64611-04-04 00:29 G 25319835.35 25319835.52 25319835.70 0.1646 0.0490 Neptune 64614-12-14 05:46 G 25321185.59 25321185.74 25321185.92 0.0088 0.0067 Saturn 64615-11-09 04:05 G 25321515.44 25321515.67 25321515.91 0.0283 0.0091 Neptune 64615-12-16 17:17 G 25321553.01 25321553.22 25321553.48 0.0088 0.0038 Neptune 64616-12-18 05:17 G 25321920.47 25321920.72 25321920.99 0.0088 0.0009 Jupiter 64617-12-17 15:51 G 25322285.08 25322285.16 25322285.23 0.0488 0.0460 Neptune 64617-12-20 17:17 G 25322287.97 25322288.22 25322288.47 0.0088 0.0022 Neptune 64618-12-23 04:34 G 25322655.49 25322655.69 25322655.91 0.0088 0.0051 Neptune 64619-12-25 16:34 G 25323023.09 25323023.19 25323023.30 0.0088 0.0081 Jupiter 64623-06-07 03:22 G 25324282.43 25324282.64 25324282.85 0.0542 0.0219 Saturn 64630-05-02 07:27 G 25326803.65 25326803.81 25326803.97 0.0275 0.0207 Jupiter 64635-06-12 09:22 G 25328670.68 25328670.89 25328671.10 0.0542 0.0230 Uranus 64639-06-21 07:55 G 25330140.76 25330140.83 25330140.92 0.0138 0.0130 Uranus 64640-06-24 21:07 G 25330510.19 25330510.38 25330510.60 0.0138 0.0082 Uranus 64641-06-29 11:31 G 25330879.74 25330879.98 25330880.23 0.0139 0.0031 Uranus 64642-07-04 02:10 G 25331249.35 25331249.59 25331249.85 0.0139 0.0020 Uranus 64643-07-08 17:46 G 25331619.03 25331619.24 25331619.47 0.0139 0.0071 Uranus 64644-07-12 09:51 G 25331988.81 25331988.91 25331989.05 0.0140 0.0123

Saturn 64644-11-02 12:29 G 25332101.83 25332102.02 25332102.21 0.0284 0.0176 64651-10-03 15:22 G 25334627.94 25334628.14 25334628.34 0.1878 0.0188 Mars Saturn 64660-05-08 09:07 G 25337767.65 25337767.88 25337768.11 0.0276 0.0084 Saturn 64674-11-10 10:05 G 25343066.72 25343066.92 25343067.13 0.0283 0.0155 Jupiter 64676-12-08 09:22 G 25343825.68 25343825.89 25343826.11 0.0486 0.0218 Uranus 64679-12-25 06:43 G 25344937.65 25344937.78 25344937.92 0.0140 0.0117 Uranus 64680-12-29 00:43 G 25345307.31 25345307.53 25345307.76 0.0140 0.0065 Uranus 64682-01-02 18:15 G 25345677.01 25345677.26 25345677.51 0.0139 0.0013 Uranus 64683-01-07 10:19 G 25346046.69 25346046.93 25346047.18 0.0139 0.0039 Uranus 64684-01-12 01:55 G 25346416.41 25346416.58 25346416.79 0.0139 0.0090 Jupiter 64688-12-12 16:19 G 25348212.95 25348213.18 25348213.41 0.0486 0.0099 Saturn 64689-05-03 13:27 G 25348354.86 25348355.06 25348355.27 0.0276 0.0143 Neptune 64696-06-12 01:12 G 25350951.39 25350951.55 25350951.77 0.0089 0.0062 Neptune 64697-06-14 13:27 G 25351318.83 25351319.06 25351319.31 0.0089 0.0031 Neptune 64698-06-17 01:12 G 25351686.30 25351686.55 25351686.81 0.0089 0.0001 Neptune 64699-06-19 12:43 G 25352053.80 25352054.03 25352054.28 0.0089 0.0030 Neptune 64700-06-22 00:00 G 25352421.33 25352421.50 25352421.71 0.0089 0.0061 Jupiter 64700-12-17 20:24 G 25352600.23 25352600.35 25352600.49 0.0487 0.0407 Saturn 64703-11-05 21:51 G 25353653.18 25353653.41 25353653.65 0.0284 0.0105 Jupiter 64706-06-07 05:46 G 25354597.55 25354597.74 25354597.94 0.0543 0.0292 Jupiter 64718-06-12 14:10 G 25358985.87 25358986.09 25358986.31 0.0542 0.0168 Saturn 64719-05-11 16:48 G 25359319.00 25359319.20 25359319.41 0.0276 0.0150 Pluto 64723-05-24 16:48 G 25360793.02 25360793.20 25360793.41 0.0065 0.0042 Uranus 64723-06-22 16:34 G 25360822.11 25360822.19 25360822.31 0.0138 0.0126 Pluto 64724-05-25 04:34 G 25361159.57 25361159.69 25361159.84 0.0065 0.0056 Uranus 64724-06-26 05:46 G 25361191.55 25361191.74 25361191.97 0.0138 0.0077 Uranus 64725-06-30 20:24 G 25361561.10 25361561.35 25361561.60 0.0139 0.0027 Uranus 64726-07-05 11:03 G 25361930.71 25361930.96 25361931.21 0.0139 0.0024 Uranus 64727-07-10 02:24 G 25362300.40 25362300.60 25362300.82 0.0139 0.0075 Uranus 64728-07-13 18:43 G 25362670.19 25362670.28 25362670.39 0.0140 0.0127

Saturn 64733-11-12 18:58 G 25364618.15 25364618.29 25364618.45 0.0283 0.0224 Saturn 64748-05-05 21:07 G 25369906.15 25369906.38 25369906.62 0.0276 0.0077 Jupiter 64759-12-09 13:41 G 25374140.88 25374141.07 25374141.26 0.0485 0.0275 Saturn 64762-11-07 09:22 G 25375204.64 25375204.89 25375205.14 0.0283 0.0030 Uranus 64763-12-26 15:07 G 25375618.99 25375619.13 25375619.29 0.0140 0.0113 Uranus 64764-12-30 09:07 G 25375988.66 25375988.88 25375989.12 0.0140 0.0061 Uranus 64766-01-04 02:24 G 25376358.35 25376358.60 25376358.86 0.0139 0.0009 Uranus 64767-01-08 18:43 G 25376728.04 25376728.28 25376728.53 0.0139 0.0043 Uranus 64768-01-13 10:19 G 25377097.76 25377097.93 25377098.13 0.0139 0.0093 Jupiter 64771-12-13 20:10 G 25378528.10 25378528.34 25378528.57 0.0486 0.0042 Saturn 64778-05-13 01:55 G 25380870.44 25380870.58 25380870.73 0.0276 0.0218 Neptune 64778-12-14 16:19 G 25381086.10 25381086.18 25381086.31 0.0088 0.0080 Neptune 64779-12-17 04:19 G 25381453.47 25381453.68 25381453.90 0.0088 0.0051 Neptune 64780-12-18 15:51 G 25381820.92 25381821.16 25381821.42 0.0088 0.0021 Neptune 64781-12-21 03:36 G 25382188.39 25382188.65 25382188.90 0.0088 0.0009 Neptune 64782-12-23 14:53 G 25382555.90 25382556.12 25382556.37 0.0088 0.0038 Jupiter 64783-12-18 02:24 G 25382915.45 25382915.60 25382915.76 0.0487 0.0359 Neptune 64783-12-26 02:39 G 25382923.46 25382923.61 25382923.79 0.0088 0.0068 Jupiter 64789-06-06 06:58 G 25384912.63 25384912.79 25384912.97 0.0543 0.0366 Jupiter 64801-06-11 07:41 G 25389300.59 25389300.82 25389301.05 0.0542 0.0065 Saturn 64807-05-08 05:17 G 25391457.48 25391457.72 25391457.97 0.0276 0.0011 Uranus 64807-06-23 01:12 G 25391503.45 25391503.55 25391503.68 0.0138 0.0122 Uranus 64808-06-26 14:24 G 25391872.90 25391873.10 25391873.33 0.0138 0.0073 Uranus 64809-07-01 04:48 G 25392242.45 25392242.70 25392242.95 0.0139 0.0023 Uranus 64810-07-05 19:27 G 25392612.07 25392612.31 25392612.57 0.0139 0.0028 Uranus 64811-07-10 11:03 G 25392981.76 25392981.96 25392982.18 0.0139 0.0079 Pluto 64811-11-26 03:22 G 25393120.42 25393120.64 25393120.90 0.0079 0.0029 Uranus 64812-07-14 03:22 G 25393351.57 25393351.64 25393351.74 0.0140 0.0131 Jupiter 64813-06-16 11:46 G 25393688.92 25393688.99 25393689.07 0.0541 0.0509 Saturn 64821-11-08 22:34 G 25396756.19 25396756.44 25396756.68 0.0283 0.0047

Saturn 64836-05-02 01:27 G 25402044.48 25402044.56 25402044.66 0.0275 0.0255 Jupiter 64842-12-08 18:29 G 25404456.10 25404456.27 25404456.44 0.0485 0.0326 Uranus 64847-12-26 23:31 G 25406300.33 25406300.48 25406300.64 0.0140 0.0109 Uranus 64848-12-30 17:31 G 25406670.00 25406670.23 25406670.46 0.0140 0.0057 Uranus 64850-01-04 10:48 G 25407039.70 25407039.95 25407040.21 0.0139 0.0005 Saturn 64850-11-02 23:17 G 25407342.34 25407342.47 25407342.61 0.0284 0.0237 Uranus 64851-01-09 03:07 G 25407409.39 25407409.63 25407409.88 0.0139 0.0046 Uranus 64852-01-13 18:43 G 25407779.11 25407779.28 25407779.48 0.0139 0.0097 Jupiter 64854-12-13 02:10 G 25408843.35 25408843.59 25408843.82 0.0486 0.0008 Neptune 64860-06-12 11:46 G 25410851.87 25410851.99 25410852.15 0.0089 0.0075 Neptune 64861-06-14 23:31 G 25411219.28 25411219.48 25411219.72 0.0089 0.0044 Neptune 64862-06-17 11:31 G 25411586.74 25411586.98 25411587.25 0.0089 0.0014 Neptune 64863-06-19 23:17 G 25411954.22 25411954.47 25411954.72 0.0089 0.0017 Neptune 64864-06-21 10:34 G 25412321.75 25412321.94 25412322.18 0.0089 0.0047 Neptune 64865-06-23 22:05 G 25412689.32 25412689.42 25412689.58 0.0089 0.0078 Saturn 64866-05-09 14:10 G 25413008.85 25413009.09 25413009.32 0.0276 0.0059 Jupiter 64866-12-17 08:24 G 25413230.68 25413230.85 25413231.04 0.0487 0.0310 Jupiter 64872-06-04 23:17 G 25415227.37 25415227.47 25415227.58 0.0543 0.0475 Saturn 64880-11-10 11:46 G 25418307.78 25418307.99 25418308.22 0.0283 0.0125 Jupiter 64884-06-10 06:00 G 25419615.51 25419615.75 25419615.98 0.0543 0.0024 Uranus 64891-06-23 09:51 G 25422184.80 25422184.91 25422185.06 0.0138 0.0118 Uranus 64892-06-26 23:17 G 25422554.26 25422554.47 25422554.70 0.0138 0.0069 Uranus 64893-07-01 13:27 G 25422923.82 25422924.06 25422924.32 0.0139 0.0020 Uranus 64894-07-06 04:19 G 25423293.44 25423293.68 25423293.94 0.0139 0.0032 Mars 64895-04-06 05:03 G 25423567.53 25423567.71 25423567.90 0.1649 0.0322 Saturn 64895-05-04 11:03 G 25423595.80 25423595.96 25423596.15 0.0275 0.0186 Uranus 64895-07-10 19:41 G 25423663.14 25423663.32 25423663.55 0.0139 0.0084 Jupiter 64896-06-15 13:55 G 25424003.95 25424004.08 25424004.22 0.0541 0.0440 Uranus 64896-07-14 12:15 G 25424032.97 25424033.01 25424033.10 0.0140 0.0135 Saturn 64909-11-05 12:29 G 25428893.82 25428894.02 25428894.23 0.0284 0.0159

Saturn 64925-05-11 22:19 G 25434560.22 25434560.43 25434560.65 0.0276 0.0125 Jupiter 64925-12-09 00:00 G 25434771.36 25434771.50 25434771.66 0.0485 0.0379 Uranus 64931-12-28 07:55 G 25436981.68 25436981.83 25436982.01 0.0140 0.0106 Uranus 64933-01-01 01:55 G 25437351.36 25437351.58 25437351.83 0.0140 0.0054 Uranus 64934-01-05 19:27 G 25437721.06 25437721.31 25437721.57 0.0139 0.0002 Uranus 64935-01-10 11:31 G 25438090.76 25438090.98 25438091.23 0.0139 0.0050 Uranus 64936-01-15 03:22 G 25438460.48 25438460.64 25438460.83 0.0139 0.0100 Jupiter 64937-12-13 04:34 G 25439158.46 25439158.69 25439158.93 0.0486 0.0069 Saturn 64939-11-14 00:58 G 25439859.37 25439859.54 25439859.72 0.0283 0.0201 Neptune 64943-12-17 14:53 G 25441353.95 25441354.12 25441354.31 0.0088 0.0063 Neptune 64944-12-19 02:10 G 25441721.37 25441721.59 25441721.85 0.0088 0.0035 Neptune 64945-12-21 14:24 G 25442088.84 25442089.10 25442089.36 0.0088 0.0005 Neptune 64946-12-24 01:41 G 25442456.33 25442456.57 25442456.83 0.0088 0.0025 Neptune 64947-12-26 12:58 G 25442823.86 25442824.04 25442824.27 0.0088 0.0055 Neptune 64948-12-28 00:43 G 25443191.48 25443191.53 25443191.63 0.0088 0.0084 Jupiter 64949-12-17 11:17 G 25443545.77 25443545.97 25443546.17 0.0486 0.0250 Saturn 64954-05-06 20:39 G 25445147.15 25445147.36 25445147.58 0.0275 0.0118 Jupiter 64967-06-11 07:55 G 25449930.60 25449930.83 25449931.06 0.0543 0.0093 Saturn 64968-11-07 00:43 G 25450445.30 25450445.53 25450445.78 0.0284 0.0084 Pluto 64972-05-27 02:39 G 25451742.37 25451742.61 25451742.87 0.0065 0.0013 Uranus 64975-06-24 18:43 G 25452866.15 25452866.28 25452866.43 0.0138 0.0114 Uranus 64976-06-28 08:10 G 25453235.62 25453235.84 25453236.07 0.0138 0.0065 Uranus 64977-07-02 22:34 G 25453605.19 25453605.44 25453605.69 0.0139 0.0016 Uranus 64978-07-07 13:12 G 25453974.81 25453975.05 25453975.30 0.0139 0.0035 Jupiter 64979-06-16 10:19 G 25454318.76 25454318.93 25454319.11 0.0541 0.0346 Uranus 64979-07-12 05:03 G 25454344.52 25454344.71 25454344.92 0.0139 0.0086 Uranus 64980-07-15 21:22 G 25454714.37 25454714.39 25454714.45 0.0140 0.0138 Saturn 64984-05-13 05:46 G 25456111.57 25456111.74 25456111.92 0.0276 0.0190 Saturn 64998-11-15 12:29 G 25461410.97 25461411.02 25461411.08 0.0283 0.0274

# 66TH MILLENNIUM CE

### This is a list of transits of Earth in the 66th millennium CE.

FROM MAX- C START MAX END SUNRAD DEPTH S

TIME

Jupiter 65008-12-09 04:19 G 25465086.58 25465086.68 25465086.79 0.0485 0.0433 65013-05-09 05:03 G 25466698.47 25466698.71 25466698.95 0.0275 0.0052 65015-12-29 17:17 G 25467663.06 25467663.22 25467663.41 0.0140 0.0102 Uranus 65017-01-02 11:03 G 25468032.73 25468032.96 25468033.21 0.0140 0.0050 Uranus 65018-01-07 04:34 G 25468402.44 25468402.69 25468402.95 0.0139 0.0003 Uranus 65019-01-11 20:53 G 25468772.14 25468772.37 25468772.61 0.0139 0.0054 Uranus 65020-01-16 12:29 G 25469141.87 25469142.02 25469142.21 0.0139 0.0104 Jupiter 65020-12-13 10:05 G 25469473.70 25469473.92 25469474.15 0.0485 0.0119 Neptune 65024-06-13 22:34 G 25470752.41 25470752.44 25470752.51 0.0089 0.0088 Neptune 65025-06-16 10:19 G 25471119.75 25471119.93 25471120.14 0.0089 0.0058 Neptune 65026-06-18 22:05 G 25471487.19 25471487.42 25471487.67 0.0089 0.0027 Neptune 65027-06-21 10:05 G 25471854.67 25471854.92 25471855.18 0.0089 0.0003 Saturn 65027-11-10 12:00 G 25471996.75 25471997.00 25471997.24 0.0284 0.0011 Neptune 65028-06-22 21:36 G 25472222.17 25472222.40 25472222.65 0.0089 0.0034 Neptune 65029-06-25 09:22 G 25472589.72 25472589.89 25472590.08 0.0089 0.0064 Jupiter 65032-12-17 17:31 G 25473861.01 25473861.23 25473861.44 0.0486 0.0203 Saturn 65043-05-16 12:15 G 25477662.92 25477663.01 25477663.11 0.0276 0.0253 Jupiter 65050-06-11 03:36 G 25480245.44 25480245.65 25480245.87 0.0543 0.0190 Saturn 65056-11-04 01:27 G 25482583.50 25482583.56 25482583.65 0.0284 0.0270 Uranus 65059-06-26 03:36 G 25483547.51 25483547.65 25483547.81 0.0138 0.0110

Uranus 65060-06-29 17:03 G 25483916.99 25483917.21 25483917.45 0.0138 0.0061 Pluto 65060-11-29 21:07 G 25484070.26 25484070.38 25484070.52 0.0079 0.0068 Uranus 65061-07-04 07:27 G 25484286.56 25484286.81 25484287.07 0.0139 0.0011 Jupiter 65062-06-16 07:55 G 25484633.63 25484633.83 25484634.03 0.0542 0.0260 Uranus 65062-07-08 22:34 G 25484656.20 25484656.44 25484656.68 0.0139 0.0039 Uranus 65063-07-13 13:55 G 25485025.91 25485026.08 25485026.29 0.0139 0.0091 Saturn 65072-05-10 12:29 G 25488249.78 25488250.02 25488250.26 0.0275 0.0012 Saturn 65086-11-11 20:10 G 25493548.11 25493548.34 25493548.59 0.0284 0.0058 Jupiter 65091-12-09 11:03 G 25495401.94 25495401.96 25495402.00 0.0485 0.0480 Uranus 65099-12-30 02:39 G 25498344.43 25498344.61 25498344.80 0.0140 0.0097 65100-04-07 06:15 G 25498442.64 25498442.76 25498442.88 0.1656 0.1247 Mars Uranus 65101-01-03 20:24 G 25498714.12 25498714.35 25498714.60 0.0140 0.0045 Saturn 65101-05-06 07:27 G 25498836.68 25498836.81 25498836.94 0.0275 0.0232 Uranus 65102-01-08 13:55 G 25499083.83 25499084.08 25499084.34 0.0139 0.0008 Uranus 65103-01-13 06:29 G 25499453.54 25499453.77 25499454.01 0.0139 0.0058 Jupiter 65103-12-14 17:31 G 25499789.01 25499789.23 25499789.45 0.0486 0.0164 Uranus 65104-01-17 22:19 G 25499823.28 25499823.43 25499823.60 0.0139 0.0108 Neptune 65107-12-19 00:58 G 25501254.43 25501254.54 25501254.69 0.0088 0.0076 Neptune 65108-12-20 12:43 G 25501621.83 25501622.03 25501622.27 0.0088 0.0047 Neptune 65109-12-23 00:29 G 25501989.27 25501989.52 25501989.78 0.0088 0.0018 Neptune 65110-12-25 12:15 G 25502356.76 25502357.01 25502357.27 0.0088 0.0012 Neptune 65111-12-27 23:46 G 25502724.27 25502724.49 25502724.73 0.0088 0.0042 Neptune 65112-12-29 10:48 G 25503091.82 25503091.95 25503092.12 0.0088 0.0071 Saturn 65115-11-07 08:24 G 25504134.69 25504134.85 25504135.03 0.0284 0.0206 Jupiter 65115-12-18 23:03 G 25504176.24 25504176.46 25504176.69 0.0486 0.0154 Jupiter 65127-12-23 06:29 G 25508563.72 25508563.77 25508563.82 0.0487 0.0475 Saturn 65131-05-13 18:00 G 25509801.02 25509801.25 25509801.49 0.0275 0.0072 Jupiter 65133-06-11 04:48 G 25510560.50 25510560.70 25510560.91 0.0544 0.0264 Uranus 65143-06-27 12:15 G 25514228.85 25514229.01 25514229.18 0.0138 0.0105 Uranus 65144-07-01 01:41 G 25514598.35 25514598.57 25514598.81 0.0138 0.0056

Jupiter 65145-06-16 13:55 G 25514948.86 25514949.08 25514949.29 0.0543 0.0203 Uranus 65145-07-05 16:19 G 25514967.92 25514968.18 25514968.43 0.0139 0.0007 Saturn 65145-11-14 02:10 G 25515099.37 25515099.59 25515099.82 0.0284 0.0120 Uranus 65146-07-10 06:58 G 25515337.56 25515337.79 25515338.04 0.0139 0.0044 Uranus 65147-07-14 23:03 G 25515707.28 25515707.46 25515707.65 0.0139 0.0094 Saturn 65160-05-07 11:31 G 25520387.80 25520387.98 25520388.17 0.0275 0.0175 Saturn 65174-11-08 12:15 G 25525685.80 25525686.01 25525686.23 0.0284 0.0148 65179-04-10 09:22 G 25527299.76 25527299.89 25527300.03 0.1653 0.1123 Mars Uranus 65183-12-31 12:00 G 25529025.81 25529026.00 25529026.20 0.0140 0.0091 Uranus 65185-01-04 05:46 G 25529395.51 25529395.74 25529396.00 0.0140 0.0040 Uranus 65186-01-08 23:31 G 25529765.23 25529765.48 25529765.74 0.0139 0.0012 Jupiter 65186-12-14 01:55 G 25530104.37 25530104.58 25530104.80 0.0485 0.0204 Uranus 65187-01-13 15:51 G 25530134.95 25530135.16 25530135.40 0.0139 0.0063 Uranus 65188-01-18 07:41 G 25530504.69 25530504.82 25530504.98 0.0139 0.0113 Neptune 65189-06-16 20:53 G 25531020.22 25531020.37 25531020.53 0.0089 0.0071 Saturn 65190-05-14 22:19 G 25531352.21 25531352.43 25531352.64 0.0275 0.0129 Neptune 65190-06-19 08:24 G 25531387.63 25531387.85 25531388.09 0.0089 0.0041 Neptune 65191-06-21 20:10 G 25531755.09 25531755.34 25531755.60 0.0089 0.0010 Neptune 65192-06-23 07:55 G 25532122.59 25532122.83 25532123.09 0.0089 0.0020 Neptune 65193-06-25 19:27 G 25532490.12 25532490.31 25532490.54 0.0089 0.0051 Neptune 65194-06-28 07:12 G 25532857.71 25532857.80 25532857.92 0.0089 0.0080 Jupiter 65198-12-18 07:41 G 25534491.59 25534491.82 25534492.05 0.0486 0.0112 Saturn 65204-11-15 06:15 G 25536650.58 25536650.76 25536650.96 0.0284 0.0179 Jupiter 65210-12-22 14:53 G 25538879.03 25538879.12 25538879.23 0.0487 0.0436 Jupiter 65216-06-10 09:51 G 25540875.73 25540875.91 25540876.10 0.0543 0.0326 Saturn 65219-05-09 14:24 G 25541938.88 25541939.10 25541939.32 0.0275 0.0120 Pluto 65220-05-29 23:17 G 25542325.27 25542325.47 25542325.70 0.0065 0.0034 Pluto 65221-05-31 11:03 G 25542691.92 25542691.96 25542692.03 0.0065 0.0063 Uranus 65227-06-27 21:07 G 25544910.21 25544910.38 25544910.56 0.0138 0.0100 Jupiter 65228-06-15 14:53 G 25545263.90 25545264.12 25545264.35 0.0542 0.0127

Uranus 65228-07-01 10:48 G 25545279.72 25545279.95 25545280.19 0.0138 0.0052 Uranus 65229-07-06 01:12 G 25545649.29 25545649.55 25545649.80 0.0139 0.0003 Uranus 65230-07-10 16:05 G 25546018.94 25546019.17 25546019.41 0.0139 0.0048 Uranus 65231-07-15 07:27 G 25546388.65 25546388.81 25546389.01 0.0139 0.0100 Saturn 65233-11-09 13:55 G 25547236.85 25547237.08 25547237.32 0.0284 0.0094 Saturn 65249-05-16 01:27 G 25552903.40 25552903.56 25552903.75 0.0275 0.0186 Saturn 65263-11-17 08:24 G 25558201.71 25558201.85 25558201.99 0.0284 0.0233 Uranus 65266-12-27 02:10 G 25559337.57 25559337.59 25559337.65 0.0140 0.0138 Uranus 65267-12-31 21:07 G 25559707.19 25559707.38 25559707.59 0.0140 0.0086 Uranus 65269-01-04 15:22 G 25560076.90 25560077.14 25560077.39 0.0140 0.0035 Jupiter 65269-12-13 11:03 G 25560419.76 25560419.96 25560420.17 0.0485 0.0243 Uranus 65270-01-09 08:53 G 25560446.62 25560446.87 25560447.13 0.0139 0.0017 Uranus 65271-01-14 01:12 G 25560816.34 25560816.55 25560816.79 0.0139 0.0068 Uranus 65272-01-18 17:17 G 25561186.10 25561186.22 25561186.37 0.0139 0.0117 Neptune 65272-12-19 23:17 G 25561522.29 25561522.47 25561522.67 0.0088 0.0060 Neptune 65273-12-22 11:03 G 25561889.73 25561889.96 25561890.21 0.0088 0.0030 Neptune 65274-12-24 23:03 G 25562257.20 25562257.46 25562257.72 0.0088 0.0001 Neptune 65275-12-27 10:19 G 25562624.69 25562624.93 25562625.18 0.0088 0.0029 Neptune 65276-12-28 21:36 G 25562992.23 25562992.40 25562992.61 0.0088 0.0058 Neptune 65277-12-31 09:07 G 25563359.87 25563359.88 25563359.94 0.0088 0.0088 Saturn 65278-05-10 16:34 G 25563489.96 25563490.19 25563490.43 0.0275 0.0067 Jupiter 65281-12-17 17:46 G 25564807.01 25564807.24 25564807.47 0.0486 0.0077 Saturn 65292-11-10 14:24 G 25568787.85 25568788.10 25568788.35 0.0284 0.0042 Jupiter 65293-12-22 00:58 G 25569194.41 25569194.54 25569194.67 0.0486 0.0402 Jupiter 65299-06-10 07:27 G 25571190.67 25571190.81 25571190.96 0.0544 0.0413 Saturn 65308-05-18 04:05 G 25574454.57 25574454.67 25574454.80 0.0275 0.0240 Pluto 65308-12-02 08:10 G 25574652.61 25574652.84 25574653.10 0.0079 0.0024 Jupiter 65311-06-16 15:36 G 25575578.92 25575579.15 25575579.38 0.0543 0.0054 Uranus 65311-06-29 05:17 G 25575591.55 25575591.72 25575591.91 0.0138 0.0096 Uranus 65312-07-02 18:58 G 25575961.06 25575961.29 25575961.54 0.0138 0.0048

Uranus 65313-07-07 09:36 G 25576330.64 25576330.90 25576331.15 0.0139 0.0003 Uranus 65314-07-12 00:15 G 25576700.29 25576700.51 25576700.76 0.0139 0.0053 Uranus 65315-07-16 15:36 G 25577070.01 25577070.15 25577070.35 0.0139 0.0104 Jupiter 65323-06-22 01:27 G 25579967.50 25579967.56 25579967.62 0.0542 0.0523 Saturn 65337-05-12 18:43 G 25585041.04 25585041.28 25585041.52 0.0275 0.0013 Uranus 65350-12-28 11:17 G 25590018.91 25590018.97 25590019.06 0.0140 0.0134 Saturn 65351-11-13 13:55 G 25590338.83 25590339.08 25590339.32 0.0284 0.0009 Uranus 65352-01-02 06:43 G 25590388.57 25590388.78 25590388.99 0.0140 0.0081 Jupiter 65352-12-13 21:36 G 25590735.21 25590735.40 25590735.60 0.0485 0.0275 Uranus 65353-01-06 00:43 G 25590758.29 25590758.53 25590758.79 0.0140 0.0030 Neptune 65353-06-17 06:58 G 25590920.74 25590920.79 25590920.91 0.0089 0.0085 Uranus 65354-01-10 18:29 G 25591128.02 25591128.27 25591128.52 0.0139 0.0022 Neptune 65354-06-19 18:43 G 25591288.10 25591288.28 25591288.50 0.0089 0.0054 Uranus 65355-01-15 11:03 G 25591497.75 25591497.96 25591498.18 0.0139 0.0072 Neptune 65355-06-22 06:29 G 25591655.53 25591655.77 25591656.03 0.0089 0.0024 Uranus 65356-01-20 02:39 G 25591867.51 25591867.61 25591867.75 0.0139 0.0122 Neptune 65356-06-23 18:15 G 25592023.01 25592023.26 25592023.52 0.0089 0.0006 Neptune 65357-06-26 05:31 G 25592390.51 25592390.73 25592390.98 0.0089 0.0037 Neptune 65358-06-28 17:31 G 25592758.07 25592758.23 25592758.40 0.0089 0.0066 Jupiter 65364-12-18 05:03 G 25595122.48 25595122.71 25595122.95 0.0485 0.0048 Saturn 65366-05-07 22:34 G 25595628.34 25595628.44 25595628.56 0.0274 0.0241 Jupiter 65376-12-22 10:19 G 25599509.78 25599509.93 25599510.09 0.0486 0.0364 Saturn 65380-11-06 13:41 G 25600925.02 25600925.07 25600925.15 0.0284 0.0273 Jupiter 65382-06-10 15:07 G 25601506.02 25601506.13 25601506.26 0.0544 0.0467 Mars 65384-04-09 09:51 G 25602174.73 25602174.91 25602175.09 0.1660 0.0469 Jupiter 65394-06-15 23:31 G 25605894.25 25605894.48 25605894.71 0.0543 0.0005 Uranus 65395-06-29 14:24 G 25606272.93 25606273.10 25606273.31 0.0138 0.0092 Saturn 65396-05-13 20:53 G 25606592.13 25606592.37 25606592.61 0.0275 0.0040 Uranus 65396-07-03 04:19 G 25606642.44 25606642.68 25606642.93 0.0138 0.0043 Uranus 65397-07-07 18:29 G 25607012.02 25607012.27 25607012.52 0.0139 0.0007

Uranus 65398-07-12 09:36 G 25607381.66 25607381.90 25607382.13 0.0139 0.0056 Uranus 65399-07-17 00:58 G 25607751.39 25607751.54 25607751.71 0.0139 0.0107 Jupiter 65406-06-22 05:03 G 25610282.60 25610282.71 25610282.84 0.0542 0.0458 Saturn 65410-11-15 13:55 G 25611889.83 25611890.08 25611890.32 0.0284 0.0060 Saturn 65425-05-10 01:12 G 25617179.38 25617179.55 25617179.74 0.0275 0.0186 Uranus 65434-12-29 21:07 G 25620700.29 25620700.38 25620700.48 0.0140 0.0129 Jupiter 65435-12-15 07:27 G 25621050.63 25621050.81 25621050.99 0.0484 0.0314 Uranus 65436-01-03 15:51 G 25621069.96 25621070.16 25621070.39 0.0140 0.0077 Neptune 65436-12-21 08:24 G 25621422.73 25621422.85 25621423.02 0.0088 0.0073 Uranus 65437-01-07 10:19 G 25621439.69 25621439.93 25621440.19 0.0140 0.0026 Neptune 65437-12-23 20:53 G 25621790.15 25621790.37 25621790.60 0.0088 0.0043 Uranus 65438-01-12 04:05 G 25621809.42 25621809.67 25621809.92 0.0139 0.0026 Neptune 65438-12-26 08:24 G 25622157.60 25622157.85 25622158.11 0.0088 0.0014 Uranus 65439-01-16 20:24 G 25622179.15 25622179.35 25622179.57 0.0139 0.0076 Saturn 65439-11-09 15:51 G 25622476.01 25622476.16 25622476.33 0.0284 0.0217 Neptune 65439-12-28 20:10 G 25622525.09 25622525.34 25622525.60 0.0088 0.0016 Uranus 65440-01-21 12:00 G 25622548.92 25622549.00 25622549.13 0.0139 0.0126 Neptune 65440-12-30 07:27 G 25622892.61 25622892.81 25622893.05 0.0088 0.0045 Neptune 65442-01-01 18:58 G 25623260.18 25623260.29 25623260.45 0.0088 0.0075 Jupiter 65447-12-19 14:10 G 25625437.85 25625438.09 25625438.32 0.0485 0.0011 Saturn 65455-05-17 00:00 G 25628143.27 25628143.50 25628143.72 0.0275 0.0096 Jupiter 65459-12-23 20:39 G 25629825.19 25629825.36 25629825.53 0.0486 0.0330 Jupiter 65465-06-10 19:27 G 25631821.27 25631821.31 25631821.37 0.0544 0.0531 Pluto 65469-06-03 10:48 G 25633274.72 25633274.95 25633275.19 0.0065 0.0026 Saturn 65469-11-16 14:39 G 25633440.89 25633441.11 25633441.35 0.0284 0.0114 Jupiter 65477-06-15 19:55 G 25636209.11 25636209.33 25636209.56 0.0544 0.0090 Uranus 65478-06-26 10:19 G 25636584.91 25636584.93 25636585.00 0.0138 0.0136 Uranus 65479-06-30 23:17 G 25636954.29 25636954.47 25636954.68 0.0138 0.0088 Uranus 65480-07-04 12:43 G 25637323.80 25637324.03 25637324.29 0.0138 0.0040 Uranus 65481-07-09 03:07 G 25637693.38 25637693.63 25637693.88 0.0139 0.0010

Uranus 65482-07-13 17:46 G 25638063.02 25638063.24 25638063.48 0.0139 0.0060 Uranus 65483-07-18 09:07 G 25638432.74 25638432.88 25638433.05 0.0139 0.0110 Saturn 65484-05-11 04:34 G 25638730.48 25638730.69 25638730.90 0.0275 0.0129 Jupiter 65489-06-21 02:39 G 25640597.45 25640597.61 25640597.79 0.0543 0.0373 Saturn 65498-11-10 19:41 G 25644027.13 25644027.32 25644027.54 0.0284 0.0157 Saturn 65514-05-19 03:51 G 25649694.47 25649694.66 25649694.87 0.0275 0.0155 Neptune 65518-06-21 05:03 G 25651188.56 25651188.71 25651188.89 0.0089 0.0068 Jupiter 65518-12-15 16:34 G 25651366.03 25651366.19 25651366.35 0.0484 0.0353 Uranus 65518-12-31 07:12 G 25651381.69 25651381.80 25651381.92 0.0140 0.0124 Neptune 65519-06-23 16:48 G 25651555.98 25651556.20 25651556.44 0.0089 0.0037 Uranus 65520-01-05 02:10 G 25651751.38 25651751.59 25651751.82 0.0140 0.0073 Neptune 65520-06-25 04:19 G 25651923.43 25651923.68 25651923.94 0.0089 0.0007 Uranus 65521-01-08 20:39 G 25652121.11 25652121.36 25652121.62 0.0140 0.0021 Neptune 65521-06-27 15:51 G 25652290.92 25652291.16 25652291.42 0.0089 0.0023 Uranus 65522-01-13 13:55 G 25652490.84 25652491.08 25652491.34 0.0139 0.0031 Neptune 65522-06-30 03:07 G 25652658.45 25652658.63 25652658.86 0.0089 0.0053 Uranus 65523-01-18 06:29 G 25652860.57 25652860.77 25652860.99 0.0139 0.0080 Neptune 65523-07-02 14:39 G 25653026.05 25653026.11 25653026.23 0.0089 0.0083 Uranus 65524-01-22 21:51 G 25653230.35 25653230.41 25653230.53 0.0139 0.0130 Saturn 65528-11-18 17:31 G 25654992.05 25654992.23 25654992.44 0.0284 0.0172 Jupiter 65530-12-20 00:15 G 25655753.28 25655753.51 25655753.75 0.0485 0.0027 Jupiter 65542-12-24 06:58 G 25660140.61 25660140.79 25660140.98 0.0485 0.0296 Saturn 65543-05-14 08:39 G 25660281.63 25660281.86 25660282.10 0.0275 0.0070 Saturn 65557-11-13 01:55 G 25665578.34 25665578.58 25665578.81 0.0284 0.0093 Jupiter 65560-06-16 00:29 G 25666524.30 25666524.52 25666524.74 0.0544 0.0156 Uranus 65562-06-27 20:10 G 25667266.29 25667266.34 25667266.44 0.0138 0.0131 Uranus 65563-07-02 09:07 G 25667635.68 25667635.88 25667636.09 0.0138 0.0083 Uranus 65564-07-05 22:19 G 25668005.20 25668005.43 25668005.69 0.0138 0.0036 Uranus 65565-07-10 12:29 G 25668374.77 25668375.02 25668375.28 0.0139 0.0015 Uranus 65566-07-15 03:07 G 25668744.42 25668744.63 25668744.87 0.0139 0.0064

Uranus 65567-07-19 18:43 G 25669114.14 25669114.28 25669114.43 0.0139 0.0114 Jupiter 65572-06-21 09:07 G 25670912.69 25670912.88 25670913.07 0.0543 0.0316 Saturn 65573-05-20 09:22 G 25671245.75 25671245.89 25671246.05 0.0275 0.0216 65582-10-11 17:03 G 25674677.01 25674677.21 25674677.41 0.1861 0.0304 Mars Saturn 65587-11-20 23:17 G 25676543.33 25676543.47 25676543.61 0.0283 0.0234 Neptune 65600-12-21 18:00 G 25681323.22 25681323.25 25681323.32 0.0088 0.0086 Jupiter 65601-12-15 01:55 G 25681681.45 25681681.58 25681681.72 0.0484 0.0392 Neptune 65601-12-24 05:31 G 25681690.56 25681690.73 25681690.95 0.0088 0.0057 Saturn 65602-05-15 13:55 G 25681832.84 25681833.08 25681833.32 0.0275 0.0009 Neptune 65602-12-26 18:00 G 25682058.00 25682058.25 25682058.50 0.0088 0.0027 Uranus 65602-12-31 17:31 G 25682063.11 25682063.23 25682063.38 0.0140 0.0119 Neptune 65603-12-29 05:46 G 25682425.48 25682425.74 25682426.00 0.0088 0.0002 Uranus 65604-01-05 12:29 G 25682432.81 25682433.02 25682433.26 0.0140 0.0067 Neptune 65604-12-30 17:17 G 25682792.99 25682793.22 25682793.47 0.0088 0.0032 Uranus 65605-01-09 07:12 G 25682802.54 25682802.80 25682803.05 0.0140 0.0016 Neptune 65606-01-02 04:34 G 25683160.53 25683160.69 25683160.90 0.0088 0.0061 Uranus 65606-01-14 00:15 G 25683172.28 25683172.51 25683172.77 0.0139 0.0036 Uranus 65607-01-18 16:34 G 25683542.01 25683542.19 25683542.41 0.0139 0.0085 Uranus 65608-01-23 08:10 G 25683911.80 25683911.84 25683911.93 0.0139 0.0134 Jupiter 65613-12-19 06:29 G 25686068.54 25686068.77 25686069.01 0.0484 0.0078 Saturn 65616-11-14 10:19 G 25687129.68 25687129.93 25687130.18 0.0284 0.0025 Jupiter 65625-12-23 12:43 G 25690455.83 25690456.03 25690456.24 0.0485 0.0245 Saturn 65631-05-10 07:41 G 25692419.75 25692419.82 25692419.92 0.0275 0.0257 Jupiter 65643-06-16 02:53 G 25696839.41 25696839.62 25696839.83 0.0544 0.0227 Uranus 65646-06-28 05:17 G 25697947.64 25697947.72 25697947.83 0.0138 0.0126 Uranus 65647-07-02 17:46 G 25698317.05 25698317.24 25698317.46 0.0138 0.0079 Uranus 65648-07-06 07:27 G 25698686.56 25698686.81 25698687.06 0.0138 0.0030 Uranus 65649-07-10 21:22 G 25699056.14 25699056.39 25699056.64 0.0139 0.0018 Uranus 65650-07-15 12:00 G 25699425.79 25699426.00 25699426.23 0.0139 0.0068 Uranus 65651-07-20 03:07 G 25699795.51 25699795.63 25699795.78 0.0139 0.0118

Jupiter 65655-06-21 03:36 G 25701227.44 25701227.65 25701227.86 0.0543 0.0214 Saturn 65661-05-16 20:39 G 25703384.12 25703384.36 25703384.60 0.0276 0.0055 65668-04-12 12:00 G 25705906.82 25705907.00 25705907.19 0.1665 0.0264 Mars Saturn 65675-11-16 20:53 G 25708681.13 25708681.37 25708681.62 0.0284 0.0047 Neptune 65682-06-20 14:39 G 25711089.03 25711089.11 25711089.24 0.0089 0.0082 Neptune 65683-06-23 02:10 G 25711456.40 25711456.59 25711456.82 0.0089 0.0051 Neptune 65684-06-24 13:55 G 25711823.84 25711824.08 25711824.34 0.0089 0.0022 Jupiter 65684-12-14 06:43 G 25711996.70 25711996.78 25711996.88 0.0484 0.0446 Neptune 65685-06-27 01:27 G 25712191.31 25712191.56 25712191.82 0.0089 0.0009 Neptune 65686-06-29 12:43 G 25712558.82 25712559.03 25712559.28 0.0089 0.0040 Uranus 65687-01-01 04:19 G 25712744.54 25712744.68 25712744.84 0.0140 0.0113 Neptune 65687-07-02 00:15 G 25712926.37 25712926.51 25712926.69 0.0089 0.0069 Uranus 65688-01-05 23:31 G 25713114.26 25713114.48 25713114.72 0.0140 0.0061 Uranus 65689-01-09 18:00 G 25713484.00 25713484.25 25713484.51 0.0140 0.0010 Uranus 65690-01-14 11:03 G 25713853.72 25713853.96 25713854.21 0.0139 0.0041 Saturn 65690-05-11 15:22 G 25713970.98 25713971.14 25713971.32 0.0275 0.0192 Uranus 65691-01-19 03:22 G 25714223.46 25714223.64 25714223.85 0.0139 0.0090 Uranus 65692-01-23 19:12 G 25714593.30 25714593.30 25714593.33 0.0139 0.0138 Jupiter 65696-12-18 12:29 G 25716383.79 25716384.02 25716384.25 0.0485 0.0126 Saturn 65704-11-10 21:36 G 25719267.26 25719267.40 25719267.54 0.0284 0.0235 Jupiter 65708-12-23 19:55 G 25720771.12 25720771.33 25720771.55 0.0485 0.0200 Pluto 65717-06-06 09:22 G 25723857.65 25723857.89 25723858.15 0.0065 0.0014 Saturn 65720-05-19 03:51 G 25724935.45 25724935.66 25724935.89 0.0276 0.0120 Jupiter 65726-06-15 19:27 G 25727154.14 25727154.31 25727154.50 0.0544 0.0338 Uranus 65730-06-29 15:07 G 25728629.03 25728629.13 25728629.27 0.0138 0.0121 Uranus 65731-07-04 03:51 G 25728998.45 25728998.66 25728998.88 0.0138 0.0073 Uranus 65732-07-07 17:17 G 25729367.97 25729368.22 25729368.47 0.0138 0.0026 Uranus 65733-07-12 06:58 G 25729737.55 25729737.79 25729738.05 0.0139 0.0024 Uranus 65734-07-16 21:51 G 25730107.20 25730107.41 25730107.63 0.0139 0.0073 Saturn 65734-11-19 09:07 G 25730232.66 25730232.88 25730233.11 0.0283 0.0123

Uranus 65735-07-21 12:58 G 25730476.94 25730477.04 25730477.18 0.0139 0.0123 Jupiter 65738-06-21 02:39 G 25731542.39 25731542.61 25731542.84 0.0544 0.0130 Saturn 65749-05-14 00:29 G 25735522.31 25735522.52 25735522.74 0.0275 0.0124 Saturn 65763-11-13 09:36 G 25740818.70 25740818.90 25740819.11 0.0284 0.0160 Neptune 65765-12-24 14:24 G 25741590.96 25741591.10 25741591.27 0.0088 0.0070 Neptune 65766-12-27 02:10 G 25741958.37 25741958.59 25741958.83 0.0088 0.0041 Neptune 65767-12-29 14:10 G 25742325.84 25742326.09 25742326.36 0.0088 0.0012 Neptune 65768-12-31 01:55 G 25742693.34 25742693.58 25742693.85 0.0088 0.0018 Neptune 65770-01-02 13:27 G 25743060.86 25743061.06 25743061.30 0.0088 0.0047 Uranus 65771-01-02 15:22 G 25743425.97 25743426.14 25743426.30 0.0140 0.0107 Neptune 65771-01-05 01:12 G 25743428.44 25743428.55 25743428.70 0.0088 0.0077 Uranus 65772-01-07 10:19 G 25743795.69 25743795.93 25743796.16 0.0140 0.0055 Uranus 65773-01-11 04:34 G 25744165.43 25744165.69 25744165.94 0.0140 0.0005 Uranus 65774-01-15 21:36 G 25744535.17 25744535.40 25744535.65 0.0139 0.0046 Uranus 65775-01-20 13:55 G 25744904.91 25744905.08 25744905.28 0.0139 0.0096 Saturn 65779-05-21 11:31 G 25746486.82 25746486.98 25746487.18 0.0276 0.0187 Jupiter 65779-12-19 18:43 G 25746699.06 25746699.28 25746699.50 0.0485 0.0177 Jupiter 65791-12-23 22:48 G 25751086.23 25751086.45 25751086.68 0.0485 0.0140 Saturn 65793-11-20 22:34 G 25751784.28 25751784.44 25751784.63 0.0283 0.0200 Jupiter 65803-12-29 05:17 G 25755473.65 25755473.72 25755473.79 0.0485 0.0462 Pluto 65805-12-09 18:58 G 25756185.04 25756185.29 25756185.56 0.0079 0.0006 Saturn 65808-05-16 10:05 G 25757073.68 25757073.92 25757074.16 0.0275 0.0056 Jupiter 65809-06-15 20:53 G 25757469.23 25757469.37 25757469.52 0.0544 0.0414 Uranus 65814-07-01 00:00 G 25759310.38 25759310.50 25759310.65 0.0138 0.0116 Uranus 65815-07-05 12:29 G 25759679.81 25759680.02 25759680.25 0.0138 0.0069 Uranus 65816-07-09 01:41 G 25760049.33 25760049.57 25760049.83 0.0138 0.0021 Uranus 65817-07-13 15:36 G 25760418.91 25760419.15 25760419.41 0.0139 0.0028 Uranus 65818-07-18 06:29 G 25760788.57 25760788.77 25760788.99 0.0139 0.0077 Uranus 65819-07-22 21:36 G 25761158.31 25761158.40 25761158.52 0.0139 0.0127 Jupiter 65821-06-21 04:19 G 25761857.45 25761857.68 25761857.91 0.0544 0.0055

Saturn 65822-11-15 22:34 G 25762370.20 25762370.44 25762370.68 0.0284 0.0083 Jupiter 65833-06-26 06:15 G 25766245.68 25766245.76 25766245.85 0.0542 0.0501 Saturn 65838-05-23 19:55 G 25768038.25 25768038.33 25768038.44 0.0276 0.0252 Neptune 65847-06-24 11:31 G 25771356.84 25771356.98 25771357.19 0.0089 0.0066 Neptune 65848-06-25 23:46 G 25771724.25 25771724.49 25771724.72 0.0089 0.0035 Neptune 65849-06-28 11:17 G 25772091.72 25772091.97 25772092.23 0.0089 0.0005 Neptune 65850-06-30 22:34 G 25772459.21 25772459.44 25772459.70 0.0089 0.0026 Neptune 65851-07-03 09:36 G 25772826.72 25772826.90 25772827.13 0.0089 0.0056 Neptune 65852-07-04 21:07 G 25773194.33 25773194.38 25773194.48 0.0089 0.0085 Saturn 65852-11-23 11:31 G 25773335.93 25773335.98 25773336.05 0.0283 0.0274 Uranus 65855-01-04 02:10 G 25774107.41 25774107.59 25774107.77 0.0140 0.0101 Uranus 65856-01-08 20:53 G 25774477.14 25774477.37 25774477.62 0.0140 0.0050 Uranus 65857-01-12 15:22 G 25774846.89 25774847.14 25774847.40 0.0140 0.0001 Uranus 65858-01-17 08:24 G 25775216.62 25775216.85 25775217.09 0.0139 0.0051 Uranus 65859-01-22 00:58 G 25775586.38 25775586.54 25775586.73 0.0139 0.0100 Jupiter 65862-12-19 22:19 G 25777014.22 25777014.43 25777014.63 0.0484 0.0234 Mars 65866-10-13 00:43 G 25778407.37 25778407.53 25778407.69 0.1853 0.1160 Saturn 65867-05-18 19:27 G 25778625.07 25778625.31 25778625.56 0.0275 0.0012 Mars 65873-04-13 08:53 G 25780781.80 25780781.87 25780781.94 0.1673 0.1549 Jupiter 65874-12-24 03:36 G 25781401.42 25781401.65 25781401.89 0.0485 0.0087 Saturn 65881-11-17 11:31 G 25783921.73 25783921.98 25783922.23 0.0284 0.0007 Jupiter 65886-12-28 10:48 G 25785788.82 25785788.95 25785789.07 0.0486 0.0412 Jupiter 65892-06-14 18:00 G 25787784.18 25787784.25 25787784.33 0.0544 0.0509 Saturn 65896-05-12 18:15 G 25789212.13 25789212.26 25789212.41 0.0275 0.0223 Uranus 65898-07-01 10:19 G 25789991.79 25789991.93 25789992.08 0.0138 0.0111 Uranus 65899-07-05 22:34 G 25790361.22 25790361.44 25790361.67 0.0138 0.0064 Uranus 65900-07-10 12:00 G 25790730.75 25790731.00 25790731.25 0.0138 0.0016 Uranus 65901-07-15 01:41 G 25791100.33 25791100.57 25791100.82 0.0139 0.0033 Uranus 65902-07-19 16:19 G 25791469.99 25791470.18 25791470.39 0.0139 0.0082 Uranus 65903-07-24 07:41 G 25791839.76 25791839.82 25791839.92 0.0139 0.0132

Jupiter 65904-06-20 22:05 G 25792172.19 25792172.42 25792172.65 0.0543 0.0052 Saturn 65910-11-13 03:22 G 25794508.54 25794508.64 25794508.73 0.0284 0.0260 Jupiter 65916-06-26 02:53 G 25796560.48 25796560.62 25796560.77 0.0543 0.0410 Saturn 65926-05-21 04:19 G 25800176.45 25800176.68 25800176.92 0.0275 0.0078 Neptune 65929-12-25 22:19 G 25801491.37 25801491.43 25801491.52 0.0088 0.0084 Neptune 65930-12-28 10:05 G 25801858.73 25801858.92 25801859.14 0.0088 0.0055 Neptune 65931-12-30 21:51 G 25802226.18 25802226.41 25802226.67 0.0088 0.0026 Neptune 65933-01-01 09:51 G 25802593.65 25802593.91 25802594.17 0.0088 0.0004 Neptune 65934-01-03 21:07 G 25802961.16 25802961.38 25802961.64 0.0088 0.0033 Neptune 65935-01-06 08:53 G 25803328.71 25803328.87 25803329.07 0.0088 0.0062 Uranus 65939-01-05 12:43 G 25804788.85 25804789.03 25804789.22 0.0141 0.0096 Uranus 65940-01-10 07:27 G 25805158.58 25805158.81 25805159.07 0.0140 0.0045 Saturn 65940-11-19 22:48 G 25805473.21 25805473.45 25805473.70 0.0284 0.0066 Uranus 65941-01-14 01:55 G 25805528.33 25805528.58 25805528.84 0.0140 0.0006 Uranus 65942-01-18 18:58 G 25805898.07 25805898.29 25805898.54 0.0139 0.0057 Uranus 65943-01-23 11:46 G 25806267.84 25806267.99 25806268.17 0.0139 0.0106 Jupiter 65945-12-20 03:51 G 25807329.47 25807329.66 25807329.85 0.0484 0.0285 65952-04-16 13:27 G 25809638.90 25809639.06 25809639.21 0.1669 0.0958 Mars Saturn 65955-05-16 01:41 G 25810763.37 25810763.57 25810763.77 0.0275 0.0160 Jupiter 65957-12-24 09:36 G 25811716.67 25811716.90 25811717.14 0.0485 0.0037 Pluto 65965-06-09 11:46 G 25814440.81 25814440.99 25814441.20 0.0065 0.0042 Pluto 65966-06-10 23:17 G 25814807.35 25814807.47 25814807.62 0.0065 0.0055 Saturn 65969-11-14 12:58 G 25816059.86 25816060.04 25816060.23 0.0284 0.0191 Jupiter 65969-12-28 14:53 G 25816103.96 25816104.12 25816104.28 0.0485 0.0357 Uranus 65982-07-02 19:27 G 25820673.16 25820673.31 25820673.47 0.0138 0.0107 Uranus 65983-07-07 07:41 G 25821042.60 25821042.82 25821043.06 0.0138 0.0060 Uranus 65984-07-10 21:07 G 25821412.13 25821412.38 25821412.63 0.0138 0.0012 Saturn 65985-05-22 12:00 G 25821727.80 25821728.00 25821728.22 0.0275 0.0142 Uranus 65985-07-15 10:48 G 25821781.71 25821781.95 25821782.20 0.0139 0.0037 Uranus 65986-07-20 01:41 G 25822151.38 25822151.57 25822151.78 0.0139 0.0086

Jupiter 65987-06-20 22:19 G 25822487.21 25822487.43 25822487.65 0.0544 0.0131

Uranus 65987-07-24 17:03 G 25822521.17 25822521.21 25822521.28 0.0139 0.0135

Jupiter 65999-06-26 06:58 G 25826875.62 25826875.79 25826875.97 0.0543 0.0345

Saturn 65999-11-22 08:24 G 25827024.64 25827024.85 25827025.07 0.0284 0.0135

## 67TH MILLENNIUM CE

#### This is a list of transits of Earth in the 67th millennium CE.

FROM MAX- C START MAX END SUNRAD DEPTH S

TRANSIT

TIME

Neptune 66011-06-24 19:55 G 25831257.24 25831257.33 25831257.47 0.0089 0.0079

Neptune 66012-06-26 07:41 G 25831624.63 25831624.82 25831625.06 0.0089 0.0050

Neptune 66013-06-28 19:41 G 25831992.08 25831992.32 25831992.58 0.0089 0.0019

Saturn 66014-05-17 07:41 G 25832314.60 25832314.82 25832315.05 0.0275 0.0099

Neptune 66014-07-01 07:12 G 25832359.55 25832359.80 25832360.06 0.0089 0.0011

Neptune 66015-07-03 18:29 G 25832727.06 25832727.27 25832727.52 0.0089 0.0041

Neptune 66016-07-05 05:46 G 25833094.61 25833094.74 25833094.92 0.0089 0.0071

Uranus 66023-01-05 23:46 G 25835470.31 25835470.49 25835470.70 0.0141 0.0091

Uranus 66024-01-10 18:43 G 25835840.05 25835840.28 25835840.54 0.0140 0.0040

Uranus 66025-01-14 13:27 G 25836209.80 25836210.06 25836210.31 0.0140 0.0011

Uranus 66026-01-19 06:15 G 25836579.55 25836579.76 25836949.63 0.0139 0.0012

Juranus 66028-11-15 20:24 G 25837611.13 25837611.35 25837611.57 0.0284 0.0127

Jupiter 66028-12-19 09:22 G 25837644.72 25837644.89 25837645.06 0.0484 0.0335

Jupiter 66040-12-23 16:34 G 25842031.95 25842032.19 25842032.42 0.0484 0.0013

Saturn 66044-05-23 18:29 G 25843279.12 25843279.27 25843279.44 0.0275 0.0203 Jupiter 66052-12-27 21:51 G 25846419.23 25846419.41 25846419.59 0.0485 0.0311 66053-12-11 14:10 G 25846767.91 25846768.09 25846768.30 0.0079 0.0052 Pluto Saturn 66058-11-23 15:07 G 25848575.97 25848576.13 25848576.32 0.0284 0.0199 Uranus 66066-07-03 06:29 G 25851354.61 25851354.77 25851354.94 0.0138 0.0102 Uranus 66067-07-07 18:29 G 25851724.05 25851724.27 25851724.52 0.0138 0.0055 Uranus 66068-07-11 08:10 G 25852093.58 25852093.84 25852094.09 0.0138 0.0007 Uranus 66069-07-15 21:51 G 25852463.18 25852463.41 25852463.66 0.0139 0.0042 Jupiter 66070-06-20 01:12 G 25852802.34 25852802.55 25852802.76 0.0544 0.0203 Uranus 66070-07-20 12:29 G 25852832.84 25852833.02 25852833.23 0.0139 0.0091 Saturn 66073-05-18 12:29 G 25853865.78 25853866.02 25853866.26 0.0275 0.0042 Jupiter 66082-06-25 05:46 G 25857190.55 25857190.74 25857190.95 0.0543 0.0260 Saturn 66087-11-18 01:27 G 25859162.32 25859162.56 25859162.80 0.0284 0.0067 Neptune 66094-12-27 17:31 G 25861759.09 25861759.23 25861759.41 0.0088 0.0069 Neptune 66095-12-30 05:17 G 25862126.50 25862126.72 25862126.96 0.0088 0.0040 Neptune 66096-12-31 17:03 G 25862493.96 25862494.21 25862494.48 0.0088 0.0011 Neptune 66098-01-03 04:48 G 25862861.45 25862861.70 25862861.96 0.0088 0.0019 Neptune 66099-01-05 16:19 G 25863228.98 25863229.18 25863229.42 0.0088 0.0048 Neptune 66100-01-08 03:51 G 25863596.57 25863596.66 25863596.81 0.0088 0.0078 Saturn 66102-05-14 15:51 G 25864453.13 25864453.16 25864453.21 0.0274 0.0270 Saturn 66103-05-26 23:31 G 25864830.42 25864830.48 25864830.56 0.0275 0.0261 Uranus 66106-01-02 14:53 G 25865782.08 25865782.12 25865782.20 0.0141 0.0137 Uranus 66107-01-07 11:03 G 25866151.77 25866151.96 25866152.18 0.0141 0.0086 Uranus 66108-01-12 06:15 G 25866521.52 25866521.76 25866522.01 0.0140 0.0035 Uranus 66109-01-16 00:43 G 25866891.28 25866891.53 25866891.78 0.0140 0.0016 Uranus 66110-01-20 18:00 G 25867261.04 25867261.25 25867261.48 0.0139 0.0066 Uranus 66111-01-25 10:48 G 25867630.83 25867630.95 25867631.11 0.0139 0.0115 Jupiter 66111-12-20 17:31 G 25867960.09 25867960.23 25867960.39 0.0484 0.0378 Saturn 66117-11-25 20:10 G 25870127.25 25870127.34 25870127.45 0.0284 0.0258 Jupiter 66123-12-25 00:29 G 25872347.29 25872347.52 25872347.76 0.0484 0.0053

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Saturn 66470-11-22 15:36 G 25999054.90 25999055.15 25999055.40 0.0284 0.0011 Jupiter 66480-01-03 04:05 G 26002383.60 26002383.67 26002383.76 0.0484 0.0452 Saturn 66485-05-19 01:55 G 26004346.41 26004346.58 26004346.77 0.0275 0.0186 Uranus 66485-07-04 03:07 G 26004392.51 26004392.63 26004392.76 0.0137 0.0119 Uranus 66486-07-08 14:53 G 26004761.91 26004762.12 26004762.33 0.0137 0.0074 Uranus 66487-07-13 03:07 G 26005131.38 26005131.63 26005131.88 0.0138 0.0027 Uranus 66488-07-16 16:05 G 26005500.92 26005501.17 26005501.42 0.0138 0.0020 Uranus 66489-07-21 05:17 G 26005870.51 26005870.72 26005870.95 0.0138 0.0068 Uranus 66490-07-25 19:41 G 26006240.20 26006240.32 26006240.47 0.0139 0.0116 Jupiter 66497-06-24 20:39 G 26008766.13 26008766.36 26008766.59 0.0545 0.0091 Neptune 66505-06-30 16:48 G 26011693.05 26011693.20 26011693.40 0.0089 0.0065 Neptune 66506-07-03 04:34 G 26012060.47 26012060.69 26012060.95 0.0089 0.0035 Neptune 66507-07-05 16:34 G 26012427.93 26012428.19 26012428.45 0.0089 0.0004 Neptune 66508-07-07 03:36 G 26012795.42 26012795.65 26012795.91 0.0089 0.0027 Jupiter 66509-06-30 21:22 G 26013154.22 26013154.39 26013154.56 0.0544 0.0361 Neptune 66509-07-09 15:36 G 26013162.96 26013163.15 26013163.36 0.0089 0.0056 Neptune 66510-07-12 03:07 G 26013530.57 26013530.63 26013530.71 0.0089 0.0085 66513-10-20 03:07 G 26014726.49 26014726.63 26014726.76 0.1841 0.1341 Mars Saturn 66515-05-27 14:10 G 26015310.88 26015311.09 26015311.32 0.0276 0.0123 Uranus 66526-01-08 04:19 G 26019189.52 26019189.68 26019189.85 0.0141 0.0106 Uranus 66527-01-13 00:58 G 26019559.31 26019559.54 26019559.78 0.0141 0.0054 Uranus 66528-01-17 20:39 G 26019929.11 26019929.36 26019929.62 0.0140 0.0003 Uranus 66529-01-21 15:36 G 26020298.91 26020299.15 26020299.40 0.0140 0.0047 Saturn 66529-11-24 23:03 G 26020606.22 26020606.46 26020606.70 0.0284 0.0054 Uranus 66530-01-26 09:22 G 26020668.72 26020668.89 26020669.09 0.0140 0.0097 Jupiter 66538-12-25 23:46 G 26023924.29 26023924.49 26023924.69 0.0483 0.0247 Saturn 66544-05-21 07:55 G 26025897.62 26025897.83 26025898.05 0.0275 0.0125 Pluto 66550-12-19 14:10 G 26028300.87 26028301.09 26028301.35 0.0079 0.0032 Jupiter 66550-12-30 05:17 G 26028311.49 26028311.72 26028311.96 0.0484 0.0079 Saturn 66558-11-18 22:19 G 26031192.29 26031192.43 26031192.58 0.0284 0.0228

Jupiter 66563-01-03 12:43 G 26032698.91 26032699.03 26032699.15 0.0485 0.0411 Uranus 66569-07-05 16:05 G 26035074.04 26035074.17 26035074.32 0.0137 0.0113 Uranus 66570-07-10 03:36 G 26035443.44 26035443.65 26035443.88 0.0137 0.0068 Uranus 66571-07-14 15:51 G 26035812.91 26035813.16 26035813.41 0.0138 0.0021 Uranus 66572-07-18 04:34 G 26036182.44 26036182.69 26036182.94 0.0138 0.0026 Uranus 66573-07-22 18:00 G 26036552.05 26036552.25 26036552.47 0.0138 0.0074 Saturn 66574-05-28 19:55 G 26036862.16 26036862.33 26036862.52 0.0276 0.0184 Uranus 66574-07-27 08:24 G 26036921.74 26036921.85 26036921.98 0.0139 0.0121 Jupiter 66580-06-24 14:24 G 26039080.89 26039081.10 26039081.32 0.0544 0.0200 Neptune 66587-12-31 23:03 G 26041827.41 26041827.46 26041827.55 0.0088 0.0084 Saturn 66588-11-26 08:39 G 26042157.65 26042157.86 26042158.09 0.0283 0.0125 Neptune 66589-01-02 11:03 G 26042194.77 26042194.96 26042195.17 0.0088 0.0055 Neptune 66590-01-04 22:48 G 26042562.21 26042562.45 26042562.71 0.0088 0.0026 Neptune 66591-01-07 10:48 G 26042929.69 26042929.95 26042930.21 0.0088 0.0003 Neptune 66592-01-09 22:05 G 26043297.19 26043297.42 26043297.67 0.0088 0.0032 Jupiter 66592-06-29 22:05 G 26043469.23 26043469.42 26043469.62 0.0545 0.0282 Neptune 66593-01-11 09:36 G 26043664.74 26043664.90 26043665.11 0.0088 0.0061 Saturn 66603-05-24 15:22 G 26047448.91 26047449.14 26047449.38 0.0275 0.0061 Uranus 66610-01-09 17:03 G 26049871.04 26049871.21 26049871.41 0.0141 0.0100 Uranus 66611-01-14 13:55 G 26050240.84 26050241.08 26050241.32 0.0141 0.0048 Uranus 66612-01-19 09:36 G 26050610.65 26050610.90 26050611.16 0.0140 0.0003 Uranus 66613-01-23 04:19 G 26050980.46 26050980.68 26050980.93 0.0140 0.0053 Uranus 66614-01-27 22:19 G 26051350.27 26051350.43 26051350.61 0.0140 0.0102 Saturn 66617-11-21 08:24 G 26052743.65 26052743.85 26052744.06 0.0284 0.0157 Jupiter 66621-12-26 06:43 G 26054239.59 26054239.78 26054239.97 0.0484 0.0294 Saturn 66633-05-31 02:39 G 26058413.52 26058413.61 26058413.73 0.0276 0.0248 Jupiter 66633-12-30 12:58 G 26058626.80 26058627.04 26058627.28 0.0484 0.0032 Jupiter 66646-01-03 17:03 G 26063014.05 26063014.21 26063014.37 0.0484 0.0354 Saturn 66647-11-29 20:24 G 26063709.17 26063709.35 26063709.53 0.0283 0.0197 Uranus 66653-07-07 04:19 G 26065755.54 26065755.68 26065755.85 0.0137 0.0108

Uranus 66654-07-11 15:51 G 26066124.94 26066125.16 26066125.39 0.0137 0.0063 Uranus 66655-07-16 03:36 G 26066494.41 26066494.65 26066494.91 0.0138 0.0017 Uranus 66656-07-19 16:05 G 26066863.94 26066864.17 26066864.43 0.0138 0.0031 Uranus 66657-07-24 05:17 G 26067233.53 26067233.72 26067233.95 0.0138 0.0079 Uranus 66658-07-28 19:27 G 26067603.22 26067603.31 26067603.43 0.0139 0.0126 Saturn 66662-05-26 00:00 G 26069000.26 26069000.50 26069000.74 0.0275 0.0006 Jupiter 66663-06-25 17:03 G 26069396.01 26069396.21 26069396.41 0.0545 0.0273 Neptune 66669-06-30 23:03 G 26071593.37 26071593.46 26071593.60 0.0089 0.0080 Neptune 66670-07-03 10:48 G 26071960.75 26071960.95 26071961.18 0.0089 0.0050 Neptune 66671-07-05 22:34 G 26072328.19 26072328.44 26072328.69 0.0089 0.0020 Neptune 66672-07-07 10:05 G 26072695.67 26072695.92 26072696.18 0.0089 0.0010 Neptune 66673-07-09 21:07 G 26073063.17 26073063.38 26073063.63 0.0089 0.0041 Neptune 66674-07-12 08:39 G 26073430.73 26073430.86 26073431.05 0.0089 0.0070 Jupiter 66675-07-01 00:29 G 26073784.31 26073784.52 26073784.74 0.0544 0.0208 Saturn 66676-11-22 20:24 G 26074295.11 26074295.35 26074295.58 0.0284 0.0083 Saturn 66691-05-21 01:12 G 26079587.41 26079587.55 26079587.69 0.0276 0.0222 Uranus 66694-01-10 05:46 G 26080552.56 26080552.74 26080552.94 0.0141 0.0094 Uranus 66695-01-15 02:39 G 26080922.37 26080922.61 26080922.86 0.0141 0.0042 Uranus 66696-01-19 22:34 G 26081292.19 26081292.44 26081292.70 0.0141 0.0009 Uranus 66697-01-23 17:17 G 26081662.00 26081662.22 26081662.47 0.0140 0.0059 Uranus 66698-01-28 11:03 G 26082031.82 26082031.96 26082032.15 0.0140 0.0108 Jupiter 66704-12-26 10:34 G 26084554.78 26084554.94 26084555.11 0.0484 0.0353 Saturn 66706-12-02 09:07 G 26085260.82 26085260.88 26085260.95 0.0283 0.0271 Pluto 66710-06-20 10:34 G 26086556.70 26086556.94 26086557.20 0.0065 0.0014 Jupiter 66716-12-30 17:03 G 26088941.97 26088942.21 26088942.44 0.0484 0.0025 Saturn 66721-05-28 09:07 G 26090551.65 26090551.88 26090552.12 0.0275 0.0072 66725-04-23 09:36 G 26091977.72 26091977.90 26091978.08 0.1689 0.0454 Mars Jupiter 66729-01-03 22:05 G 26093329.24 26093329.42 26093329.61 0.0484 0.0301 Saturn 66735-11-26 09:07 G 26095846.63 26095846.88 26095847.13 0.0284 0.0008 Uranus 66737-07-08 18:15 G 26096437.09 26096437.26 26096437.43 0.0137 0.0101

Uranus 66738-07-13 05:03 G 26096806.49 26096806.71 26096806.96 0.0137 0.0056 Uranus 66739-07-17 17:17 G 26097175.97 26097176.22 26097176.47 0.0138 0.0010 Uranus 66740-07-21 05:31 G 26097545.49 26097545.73 26097545.98 0.0138 0.0037 Uranus 66741-07-25 18:43 G 26097915.10 26097915.28 26097915.50 0.0138 0.0084 Uranus 66742-07-30 08:53 G 26098284.80 26098284.87 26098284.96 0.0139 0.0131 Jupiter 66746-06-25 13:27 G 26099710.89 26099711.06 26099711.23 0.0544 0.0372 Saturn 66750-05-23 09:22 G 26101138.69 26101138.89 26101139.09 0.0276 0.0158 Neptune 66753-01-03 16:05 G 26102095.03 26102095.17 26102095.34 0.0088 0.0070 Neptune 66754-01-06 03:36 G 26102462.44 26102462.65 26102462.90 0.0088 0.0042 Neptune 66755-01-08 15:51 G 26102829.90 26102830.16 26102830.42 0.0088 0.0012 Neptune 66756-01-11 03:22 G 26103197.40 26103197.64 26103197.91 0.0088 0.0017 Neptune 66757-01-12 14:39 G 26103564.91 26103565.11 26103565.35 0.0088 0.0046 Neptune 66758-01-15 02:24 G 26103932.48 26103932.60 26103932.75 0.0088 0.0075 Jupiter 66758-06-30 17:31 G 26104099.00 26104099.23 26104099.46 0.0544 0.0096 Saturn 66764-11-20 01:55 G 26106433.49 26106433.58 26106433.69 0.0283 0.0256 Uranus 66777-01-06 21:36 G 26110864.36 26110864.40 26110864.48 0.0142 0.0138 Uranus 66778-01-11 19:12 G 26111234.12 26111234.30 26111234.52 0.0141 0.0087 Uranus 66779-01-16 16:19 G 26111603.93 26111604.18 26111604.43 0.0141 0.0035 Uranus 66780-01-21 12:15 G 26111973.75 26111974.01 26111974.26 0.0141 0.0016 Saturn 66780-05-29 18:15 G 26112103.06 26112103.26 26112103.48 0.0275 0.0139 Uranus 66781-01-25 06:58 G 26112343.57 26112343.79 26112344.02 0.0140 0.0065 Uranus 66782-01-30 00:43 G 26112713.40 26112713.53 26112713.69 0.0140 0.0114 Jupiter 66787-12-26 15:22 G 26114870.02 26114870.14 26114870.27 0.0483 0.0408 Saturn 66794-11-27 22:19 G 26117398.19 26117398.43 26117398.68 0.0284 0.0068 Mars 66797-10-21 17:31 G 26118457.03 26118457.23 26118457.43 0.1833 0.0337 66798-12-22 15:22 G 26118883.88 26118884.14 26118884.40 0.0079 0.0005 Pluto Jupiter 66799-12-30 22:05 G 26119257.19 26119257.42 26119257.65 0.0484 0.0079 Saturn 66809-05-24 17:03 G 26122689.99 26122690.21 26122690.44 0.0276 0.0095 Jupiter 66812-01-04 03:36 G 26123644.45 26123644.65 26123644.85 0.0484 0.0249 Uranus 66821-07-09 06:58 G 26127118.62 26127118.79 26127118.98 0.0137 0.0095

Uranus 66822-07-13 18:00 G 26127488.03 26127488.25 26127488.50 0.0137 0.0050 Uranus 66823-07-18 06:00 G 26127857.49 26127857.75 26127858.00 0.0138 0.0004 Saturn 66823-11-22 13:55 G 26127984.90 26127985.08 26127985.28 0.0283 0.0184 Uranus 66824-07-21 18:00 G 26128227.02 26128227.25 26128227.50 0.0138 0.0043 Uranus 66825-07-26 07:12 G 26128596.62 26128596.80 26128597.01 0.0138 0.0090 Uranus 66826-07-30 20:53 G 26128966.35 26128966.37 26128966.43 0.0139 0.0137 Jupiter 66829-06-24 08:24 G 26130025.75 26130025.85 26130025.97 0.0545 0.0474 Neptune 66834-07-03 15:36 G 26131861.00 26131861.15 26131861.35 0.0089 0.0066 Neptune 66835-07-06 03:36 G 26132228.42 26132228.65 26132228.89 0.0089 0.0036 Neptune 66836-07-07 15:07 G 26132595.88 26132596.13 26132596.39 0.0089 0.0006 Neptune 66837-07-10 02:24 G 26132963.37 26132963.60 26132963.86 0.0089 0.0024 Neptune 66838-07-12 14:10 G 26133330.89 26133331.09 26133331.30 0.0089 0.0054 Saturn 66839-06-01 03:36 G 26133654.50 26133654.65 26133654.82 0.0275 0.0204 Neptune 66839-07-15 01:27 G 26133698.49 26133698.56 26133698.66 0.0089 0.0084 Jupiter 66841-06-29 17:17 G 26134413.99 26134414.22 26134414.45 0.0545 0.0015 Jupiter 66853-07-05 01:27 G 26138802.48 26138802.56 26138802.66 0.0544 0.0498 Saturn 66853-11-29 10:05 G 26138949.71 26138949.92 26138950.15 0.0284 0.0141 Uranus 66861-01-07 10:05 G 26141545.84 26141545.92 26141546.03 0.0142 0.0131 Uranus 66862-01-12 07:55 G 26141915.62 26141915.83 26141916.04 0.0141 0.0080 Uranus 66863-01-17 04:34 G 26142285.45 26142285.69 26142285.95 0.0141 0.0029 Uranus 66864-01-22 00:43 G 26142655.28 26142655.53 26142655.78 0.0141 0.0022 Uranus 66865-01-25 19:27 G 26143025.10 26143025.31 26143025.54 0.0140 0.0071 Uranus 66866-01-30 13:12 G 26143394.94 26143395.05 26143395.20 0.0140 0.0120 Saturn 66868-05-26 00:29 G 26144241.28 26144241.52 26144241.76 0.0276 0.0032 Jupiter 66870-12-25 20:39 G 26145185.29 26145185.36 26145185.43 0.0484 0.0462 Saturn 66882-11-24 00:58 G 26149536.32 26149536.54 26149536.77 0.0284 0.0113 Jupiter 66882-12-30 02:10 G 26149572.36 26149572.59 26149572.82 0.0484 0.0134 Jupiter 66895-01-03 08:53 G 26153959.66 26153959.87 26153960.09 0.0484 0.0197 Saturn 66897-05-21 03:36 G 26154828.59 26154828.65 26154828.73 0.0275 0.0261 Saturn 66898-06-02 11:46 G 26155205.95 26155205.99 26155206.05 0.0275 0.0268

Uranus 66904-07-06 10:19 G 26157430.88 26157430.93 26157431.00 0.0136 0.0132 Uranus 66905-07-10 20:39 G 26157800.18 26157800.36 26157800.56 0.0137 0.0088 Uranus 66906-07-15 07:27 G 26158169.58 26158169.81 26158170.06 0.0137 0.0043 Uranus 66907-07-19 19:27 G 26158539.06 26158539.31 26158539.56 0.0137 0.0003 Uranus 66908-07-23 07:41 G 26158908.59 26158908.82 26158909.06 0.0138 0.0049 Uranus 66909-07-27 20:39 G 26159278.19 26159278.36 26159278.56 0.0138 0.0096 Jupiter 66912-06-24 12:15 G 26160341.01 26160341.01 26160341.02 0.0545 0.0544 Saturn 66912-12-01 20:24 G 26160501.19 26160501.35 26160501.53 0.0284 0.0210 Neptune 66917-01-03 21:07 G 26161995.33 26161995.38 26161995.45 0.0088 0.0085 Neptune 66918-01-06 08:24 G 26162362.68 26162362.85 26162363.07 0.0088 0.0057 Neptune 66919-01-08 20:24 G 26162730.12 26162730.35 26162730.62 0.0088 0.0028 Neptune 66920-01-11 08:39 G 26163097.60 26163097.86 26163098.12 0.0088 0.0002 Neptune 66921-01-12 20:24 G 26163465.11 26163465.35 26163465.59 0.0088 0.0030 Neptune 66922-01-15 07:41 G 26163832.64 26163832.82 26163833.03 0.0088 0.0059 Jupiter 66924-06-29 17:46 G 26164729.02 26164729.24 26164729.47 0.0544 0.0070 Saturn 66927-05-29 07:27 G 26165792.57 26165792.81 26165793.05 0.0276 0.0029 Mars 66930-04-23 02:24 G 26166852.54 26166852.60 26166852.67 0.1698 0.1590 Jupiter 66936-07-04 22:19 G 26169117.28 26169117.43 26169117.58 0.0544 0.0401 Saturn 66941-11-26 09:07 G 26171087.64 26171087.88 26171088.13 0.0284 0.0049 Uranus 66945-01-08 23:17 G 26172227.36 26172227.47 26172227.61 0.0142 0.0124 Uranus 66946-01-13 21:07 G 26172597.17 26172597.38 26172597.61 0.0141 0.0073 Uranus 66947-01-18 18:00 G 26172967.00 26172967.25 26172967.51 0.0141 0.0022 Uranus 66948-01-23 13:55 G 26173336.83 26173337.08 26173337.33 0.0141 0.0029 Uranus 66949-01-27 08:53 G 26173706.66 26173706.87 26173707.09 0.0140 0.0078 Uranus 66950-02-01 02:53 G 26174076.52 26174076.62 26174076.74 0.0140 0.0126 Saturn 66956-05-23 10:48 G 26176379.80 26176379.95 26176380.13 0.0275 0.0199 Pluto 66958-06-22 18:29 G 26177140.04 26177140.27 26177140.52 0.0065 0.0023 Jupiter 66965-12-30 09:07 G 26179887.66 26179887.88 26179888.10 0.0483 0.0182 Saturn 66971-12-04 04:48 G 26182052.66 26182052.70 26182052.77 0.0284 0.0276 Jupiter 66978-01-03 15:22 G 26184274.92 26184275.14 26184275.37 0.0484 0.0150

Saturn 66986-05-30 12:43 G 26187343.81 26187344.03 26187344.27 0.0275 0.0087

Uranus 66988-07-06 23:31 G 26188112.39 26188112.48 26188112.58 0.0136 0.0126

Uranus 66989-07-11 09:36 G 26188481.71 26188481.90 26188482.11 0.0137 0.0082

Jupiter 66990-01-07 21:07 G 26188662.35 26188662.38 26188662.42 0.0484 0.0479

Uranus 66990-07-15 20:24 G 26188851.12 26188851.35 26188851.61 0.0137 0.0037

Uranus 66991-07-20 08:10 G 26189220.59 26189220.84 26189221.10 0.0137 0.0009

Uranus 66992-07-23 20:24 G 26189590.12 26189590.35 26189590.59 0.0138 0.0055

Uranus 66993-07-28 09:22 G 26189590.74 26189959.89 26189960.08 0.0138 0.0102

Neptune 66998-07-03 20:39 G 26191761.28 26191761.36 26191761.49 0.0089 0.0082

Neptune 66999-07-06 08:24 G 26192128.65 26192128.85 26192129.07 0.0089 0.0052

Saturn 67000-07-08 19:55 G 26192638.88 26192639.13 26192639.38 0.0284 0.0013

## 68TH MILLENNIUM CE

### This is a list of transits of Earth in the 68th millennium CE.

FROM MAX- C START MAX END SUNRAD DEPTH S

TRANSIT

TIME

Neptune 67001-07-11 07:41 G 26192863.57 26192863.82 26192864.08 0.0089 0.0008

Neptune 67002-07-13 18:58 G 26193231.07 26193231.29 26193231.53 0.0089 0.0038

Neptune 67003-07-16 06:15 G 26193598.61 26193598.76 26193598.95 0.0089 0.0068

Jupiter 67007-06-30 13:12 G 26195043.83 26195044.05 26195044.27 0.0545 0.0168

Mars 67009-04-26 08:53 G 26195709.74 26195709.87 26195710.02 0.1695 0.1111

Saturn 67015-05-26 17:03 G 26197931.01 26197931.21 26197931.43 0.0275 0.0139

Jupiter 67019-07-05 21:36 G 26199432.22 26199432.40 26199432.59 0.0545 0.0319

Uranus 67029-01-10 11:17 G 26202908.83 26202908.97 26202909.11 0.0142 0.0118 Saturn 67029-11-22 13:55 G 26203225.00 26203225.08 26203225.17 0.0284 0.0265 Uranus 67030-01-15 08:39 G 26203278.65 26203278.86 26203279.10 0.0141 0.0068 Uranus 67031-01-20 05:46 G 26203648.49 26203648.74 26203649.00 0.0141 0.0017 Uranus 67032-01-25 01:55 G 26204018.33 26204018.58 26204018.83 0.0141 0.0034 Uranus 67033-01-28 20:53 G 26204388.17 26204388.37 26204388.58 0.0140 0.0083 Uranus 67034-02-02 14:53 G 26204758.06 26204758.12 26204758.23 0.0140 0.0132 Saturn 67045-06-01 17:03 G 26208895.02 26208895.21 26208895.43 0.0275 0.0145 Pluto 67046-12-25 19:27 G 26209467.08 26209467.31 26209467.57 0.0079 0.0028 Jupiter 67048-12-30 16:48 G 26210202.99 26210203.20 26210203.41 0.0484 0.0226 Saturn 67059-11-30 18:29 G 26214190.03 26214190.27 26214190.52 0.0284 0.0070 Jupiter 67061-01-03 23:31 G 26214590.25 26214590.48 26214590.71 0.0484 0.0109 Uranus 67072-07-08 12:43 G 26218793.93 26218794.03 26218794.17 0.0136 0.0120 Jupiter 67073-01-08 06:29 G 26218977.68 26218977.77 26218977.87 0.0484 0.0441 Uranus 67073-07-12 23:03 G 26219163.27 26219163.46 26219163.69 0.0137 0.0076 Saturn 67074-05-27 21:51 G 26219482.18 26219482.41 26219482.64 0.0275 0.0081 Uranus 67074-07-17 10:05 G 26219532.67 26219532.92 26219533.17 0.0137 0.0030 Uranus 67075-07-21 21:36 G 26219902.15 26219902.40 26219902.66 0.0137 0.0015 Uranus 67076-07-25 09:36 G 26220271.69 26220271.90 26220272.14 0.0138 0.0062 Uranus 67077-07-29 22:48 G 26220641.31 26220641.45 26220641.62 0.0138 0.0108 67081-10-23 09:51 G 26222187.72 26222187.91 26222188.10 0.1824 0.0516 Mars Neptune 67082-01-06 13:27 G 26222262.94 26222263.06 26222263.24 0.0088 0.0072 Neptune 67083-01-09 01:27 G 26222630.35 26222630.56 26222630.80 0.0088 0.0043 Neptune 67084-01-11 13:12 G 26222997.80 26222998.05 26222998.32 0.0088 0.0014 Neptune 67085-01-13 00:58 G 26223365.29 26223365.54 26223365.80 0.0088 0.0015 Neptune 67086-01-15 12:29 G 26223732.81 26223733.02 26223733.26 0.0088 0.0044 Neptune 67087-01-18 00:00 G 26224100.38 26224100.50 26224100.67 0.0088 0.0073 Saturn 67088-11-23 17:31 G 26224776.08 26224776.23 26224776.41 0.0284 0.0208 Jupiter 67090-06-29 19:41 G 26225359.11 26225359.32 26225359.53 0.0545 0.0228 Jupiter 67102-07-06 03:36 G 26229747.45 26229747.65 26229747.86 0.0545 0.0260

Saturn 67104-06-03 20:53 G 26230446.20 26230446.37 26230446.54 0.0275 0.0198 Uranus 67113-01-12 00:00 G 26233590.36 26233590.50 26233590.67 0.0142 0.0112 Uranus 67114-01-16 22:05 G 26233960.19 26233960.42 26233960.65 0.0142 0.0061 Uranus 67115-01-21 18:58 G 26234330.03 26234330.29 26234330.55 0.0141 0.0010 Uranus 67116-01-26 14:53 G 26234699.88 26234700.12 26234700.37 0.0141 0.0040 Uranus 67117-01-30 09:51 G 26235069.73 26235069.91 26235070.12 0.0140 0.0089 Uranus 67118-02-04 04:05 G 26235439.65 26235439.67 26235439.74 0.0140 0.0138 Saturn 67118-12-02 19:41 G 26235741.11 26235741.32 26235741.56 0.0284 0.0123 Jupiter 67132-01-01 03:36 G 26240518.46 26240518.65 26240518.86 0.0483 0.0259 Saturn 67133-05-30 01:27 G 26241033.32 26241033.56 26241033.80 0.0275 0.0025 Jupiter 67144-01-05 09:22 G 26244905.66 26244905.89 26244906.12 0.0483 0.0070 Saturn 67147-11-26 19:55 G 26246327.13 26246327.33 26246327.54 0.0284 0.0153 Jupiter 67156-01-09 15:51 G 26249293.03 26249293.16 26249293.29 0.0484 0.0401 Uranus 67156-07-10 02:39 G 26249475.48 26249475.61 26249475.75 0.0136 0.0114 Uranus 67157-07-14 12:29 G 26249844.82 26249845.02 26249845.25 0.0137 0.0070 Uranus 67158-07-18 23:17 G 26250214.23 26250214.47 26250214.73 0.0137 0.0025 Uranus 67159-07-23 10:48 G 26250583.71 26250583.95 26250584.21 0.0137 0.0022 Uranus 67160-07-26 23:17 G 26250953.25 26250953.47 26250953.69 0.0138 0.0067 Uranus 67161-07-31 12:29 G 26251322.88 26251323.02 26251323.16 0.0138 0.0113 Saturn 67162-05-24 15:36 G 26251620.15 26251620.15 26251620.17 0.0275 0.0275 Saturn 67163-06-05 23:17 G 26251997.39 26251997.47 26251997.58 0.0275 0.0252 Neptune 67163-07-07 13:12 G 26252028.89 26252029.05 26252029.22 0.0089 0.0068 Neptune 67164-07-09 00:15 G 26252396.30 26252396.51 26252396.76 0.0089 0.0039 Neptune 67165-07-11 12:15 G 26252763.76 26252764.01 26252764.27 0.0089 0.0008 Neptune 67166-07-13 23:46 G 26253131.25 26253131.49 26253131.74 0.0089 0.0021 Neptune 67167-07-16 11:03 G 26253498.77 26253498.96 26253499.19 0.0089 0.0051 Neptune 67168-07-17 22:48 G 26253866.35 26253866.45 26253866.57 0.0089 0.0081 Jupiter 67173-06-29 23:46 G 26255674.30 26255674.49 26255674.68 0.0545 0.0296 Saturn 67177-12-03 19:55 G 26257292.15 26257292.33 26257292.54 0.0284 0.0174 Jupiter 67185-07-05 00:43 G 26260062.31 26260062.53 26260062.75 0.0545 0.0166

Saturn 67192-05-31 03:51 G 26262584.42 26262584.66 26262584.90 0.0275 0.0030 Uranus 67197-01-12 11:03 G 26264271.81 26264271.96 26264272.15 0.0142 0.0107 Uranus 67198-01-17 09:22 G 26264641.66 26264641.89 26264642.13 0.0142 0.0056 Uranus 67199-01-22 06:15 G 26265011.50 26265011.76 26265012.01 0.0141 0.0005 Uranus 67200-01-27 02:10 G 26265381.36 26265381.59 26265381.84 0.0141 0.0045 Uranus 67201-01-30 21:22 G 26265751.22 26265751.39 26265751.59 0.0140 0.0095 Pluto 67206-06-26 02:10 G 26267723.38 26267723.59 26267723.83 0.0065 0.0032 Saturn 67206-11-27 21:36 G 26267878.17 26267878.40 26267878.64 0.0284 0.0099 67214-04-26 00:00 G 26270584.35 26270584.50 26270584.65 0.1704 0.1031 Mars Jupiter 67214-12-31 13:27 G 26270833.88 26270834.06 26270834.25 0.0483 0.0298 Saturn 67221-05-25 18:00 G 26273171.12 26273171.25 26273171.40 0.0275 0.0221 Jupiter 67227-01-04 19:12 G 26275221.06 26275221.30 26275221.54 0.0484 0.0033 Saturn 67236-12-04 19:41 G 26278843.18 26278843.32 26278843.48 0.0284 0.0224 Jupiter 67239-01-09 02:24 G 26279608.46 26279608.60 26279608.76 0.0484 0.0370 Uranus 67240-07-10 16:05 G 26280157.03 26280157.17 26280157.34 0.0136 0.0107 Uranus 67241-07-15 02:10 G 26280526.38 26280526.59 26280526.83 0.0137 0.0064 Uranus 67242-07-19 13:12 G 26280895.80 26280896.05 26280896.30 0.0137 0.0018 Uranus 67243-07-24 00:43 G 26281265.28 26281265.53 26281265.78 0.0137 0.0027 Uranus 67244-07-27 12:43 G 26281634.83 26281635.03 26281635.26 0.0138 0.0074 Uranus 67245-08-01 01:55 G 26282004.47 26282004.58 26282004.72 0.0138 0.0119 Neptune 67246-01-06 19:27 G 26282163.28 26282163.31 26282163.37 0.0088 0.0086 Neptune 67247-01-09 06:58 G 26282530.62 26282530.79 26282531.01 0.0088 0.0058 Neptune 67248-01-11 18:43 G 26282898.05 26282898.28 26282898.54 0.0088 0.0029 Neptune 67249-01-13 06:43 G 26283265.52 26283265.78 26283266.04 0.0088 0.0000 Neptune 67250-01-15 18:15 G 26283633.02 26283633.26 26283633.51 0.0088 0.0029 Neptune 67251-01-18 05:31 G 26284000.56 26284000.73 26284000.95 0.0088 0.0058 Saturn 67251-06-02 06:15 G 26284135.53 26284135.76 26284135.99 0.0275 0.0084 Neptune 67252-01-20 17:03 G 26284368.20 26284368.21 26284368.29 0.0088 0.0087 Jupiter 67256-06-28 21:22 G 26285989.24 26285989.39 26285989.56 0.0545 0.0389 Saturn 67265-11-28 23:17 G 26289429.23 26289429.47 26289429.72 0.0284 0.0045

Jupiter 67268-07-04 07:12 G 26290377.58 26290377.80 26290378.03 0.0545 0.0106 Saturn 67280-05-26 20:10 G 26294722.15 26294722.34 26294722.54 0.0275 0.0167 Uranus 67281-01-13 00:15 G 26294953.34 26294953.51 26294953.70 0.0142 0.0100 Uranus 67282-01-17 22:05 G 26295323.20 26295323.42 26295323.68 0.0142 0.0050 Uranus 67283-01-22 19:27 G 26295693.05 26295693.31 26295693.56 0.0141 0.0001 Uranus 67284-01-27 15:22 G 26296062.91 26296063.14 26296063.39 0.0141 0.0052 Uranus 67285-01-31 10:48 G 26296432.79 26296432.95 26296433.14 0.0140 0.0101 Pluto 67294-12-28 00:58 G 26300050.34 26300050.54 26300050.77 0.0079 0.0046 Saturn 67295-12-06 20:39 G 26300394.30 26300394.36 26300394.41 0.0284 0.0275 Jupiter 67297-12-30 23:46 G 26301149.32 26301149.49 26301149.67 0.0483 0.0333 Jupiter 67310-01-05 07:12 G 26305536.56 26305536.80 26305537.04 0.0483 0.0002 Saturn 67310-06-04 08:10 G 26305686.64 26305686.84 26305687.06 0.0275 0.0139 Jupiter 67322-01-09 12:15 G 26309923.83 26309924.01 26309924.18 0.0483 0.0329 Uranus 67324-07-12 06:15 G 26310838.60 26310838.76 26310838.94 0.0136 0.0101 Saturn 67324-12-01 01:41 G 26310980.33 26310980.57 26310980.82 0.0283 0.0012 Uranus 67325-07-16 16:05 G 26311207.96 26311208.17 26311208.42 0.0137 0.0057 Uranus 67326-07-21 03:07 G 26311577.38 26311577.63 26311577.88 0.0137 0.0012 Neptune 67327-07-07 17:03 G 26311929.15 26311929.21 26311929.32 0.0089 0.0085 Uranus 67327-07-25 14:39 G 26311946.87 26311947.11 26311947.36 0.0137 0.0034 Neptune 67328-07-09 04:48 G 26312296.52 26312296.70 26312296.93 0.0089 0.0055 Uranus 67328-07-29 02:39 G 26312316.42 26312316.61 26312316.83 0.0138 0.0080 Neptune 67329-07-11 16:48 G 26312663.96 26312664.20 26312664.45 0.0089 0.0025 Uranus 67329-08-02 15:51 G 26312686.07 26312686.16 26312686.27 0.0138 0.0125 Neptune 67330-07-14 04:34 G 26313031.43 26313031.69 26313031.94 0.0089 0.0005 Neptune 67331-07-16 16:05 G 26313398.94 26313399.17 26313399.41 0.0089 0.0035 Neptune 67332-07-18 03:22 G 26313766.48 26313766.64 26313766.83 0.0089 0.0065 Saturn 67339-05-29 23:03 G 26316273.25 26316273.46 26316273.69 0.0275 0.0112 Jupiter 67339-06-30 05:31 G 26316304.60 26316304.73 26316304.87 0.0545 0.0443 Jupiter 67351-07-05 12:43 G 26320692.80 26320693.03 26320693.26 0.0545 0.0043 Saturn 67353-11-25 00:58 G 26321566.47 26321566.54 26321566.63 0.0284 0.0269

Jupiter 67363-07-10 12:58 G 26325080.96 26325081.04 26325081.13 0.0545 0.0504 Uranus 67365-01-14 11:17 G 26325634.78 26325634.97 26325635.16 0.0142 0.0094 67365-10-25 03:22 G 26325918.51 26325918.64 26325918.79 0.1815 0.1272 Mars Uranus 67366-01-19 09:07 G 26326004.65 26326004.88 26326005.13 0.0142 0.0044 Uranus 67367-01-24 06:15 G 26326374.51 26326374.76 26326375.02 0.0141 0.0008 Uranus 67368-01-29 02:39 G 26326744.38 26326744.61 26326744.85 0.0141 0.0057 Uranus 67369-02-01 22:05 G 26327114.27 26327114.42 26327114.60 0.0140 0.0107 Saturn 67369-06-05 10:48 G 26327237.79 26327237.95 26327238.13 0.0276 0.0194 Jupiter 67380-12-31 08:53 G 26331464.73 26331464.87 26331465.02 0.0483 0.0377 Saturn 67383-12-03 06:29 G 26332531.53 26332531.77 26332532.02 0.0283 0.0071 Jupiter 67393-01-04 15:22 G 26335851.91 26335852.14 26335852.38 0.0483 0.0043 Saturn 67398-05-31 03:07 G 26337824.39 26337824.63 26337824.86 0.0275 0.0055 Jupiter 67405-01-09 20:53 G 26340239.19 26340239.37 26340239.56 0.0484 0.0288 Uranus 67408-07-13 19:41 G 26341520.15 26341520.32 26341520.52 0.0136 0.0093 Uranus 67409-07-18 06:00 G 26341889.52 26341889.75 26341889.99 0.0136 0.0050 Uranus 67410-07-22 16:48 G 26342258.95 26342259.20 26342259.46 0.0137 0.0005 Neptune 67411-01-10 12:43 G 26342430.91 26342431.03 26342431.20 0.0088 0.0072 Uranus 67411-07-27 04:34 G 26342628.45 26342628.69 26342628.93 0.0137 0.0041 Neptune 67412-01-13 00:43 G 26342798.31 26342798.53 26342798.76 0.0088 0.0043 Uranus 67412-07-30 16:19 G 26342998.00 26342998.18 26342998.39 0.0138 0.0087 Saturn 67412-11-27 05:03 G 26343117.55 26343117.71 26343117.89 0.0283 0.0209 Neptune 67413-01-14 12:15 G 26343165.77 26343166.01 26343166.28 0.0088 0.0015 Uranus 67413-08-04 05:17 G 26343367.67 26343367.72 26343367.81 0.0138 0.0132 Neptune 67414-01-17 00:15 G 26343533.25 26343533.51 26343533.77 0.0088 0.0014 Neptune 67415-01-19 11:31 G 26343900.76 26343900.98 26343901.22 0.0088 0.0043 Neptune 67416-01-21 22:48 G 26344268.33 26344268.45 26344268.62 0.0088 0.0072 Jupiter 67422-06-30 02:24 G 26346619.59 26346619.60 26346619.62 0.0545 0.0542 Saturn 67428-06-07 14:39 G 26348789.03 26348789.11 26348789.22 0.0276 0.0251 Jupiter 67434-07-05 07:41 G 26351007.59 26351007.82 26351008.05 0.0545 0.0063 Saturn 67442-12-05 12:58 G 26354082.83 26354083.04 26354083.27 0.0283 0.0134

Jupiter 67446-07-10 15:51 G 26355396.03 26355396.16 26355396.31 0.0545 0.0431 Uranus 67448-01-12 00:58 G 26355946.49 26355946.54 26355946.61 0.0142 0.0139 Uranus 67449-01-15 23:46 G 26356316.29 26356316.49 26356316.69 0.0142 0.0087 Uranus 67450-01-20 21:36 G 26356686.16 26356686.40 26356686.66 0.0142 0.0037 Uranus 67451-01-25 18:58 G 26357056.04 26357056.29 26357056.55 0.0141 0.0014 Uranus 67452-01-30 15:36 G 26357425.93 26357426.15 26357426.38 0.0141 0.0064 Uranus 67453-02-03 11:17 G 26357795.82 26357795.97 26357796.13 0.0140 0.0113 Pluto 67454-06-29 13:41 G 26358306.86 26358307.07 26358307.31 0.0065 0.0029 Saturn 67457-06-02 08:10 G 26359375.60 26359375.84 26359376.08 0.0275 0.0004 Jupiter 67464-01-01 16:05 G 26361780.07 26361780.17 26361780.29 0.0483 0.0423 Saturn 67471-11-29 12:00 G 26364668.79 26364669.00 26364669.22 0.0283 0.0145 Jupiter 67476-01-05 23:31 G 26366167.25 26366167.48 26366167.72 0.0484 0.0087 Saturn 67486-05-28 09:51 G 26369962.78 26369962.91 26369963.07 0.0276 0.0220 Jupiter 67488-01-10 06:00 G 26370554.55 26370554.75 26370554.95 0.0484 0.0246 Uranus 67491-07-11 00:00 G 26371832.43 26371832.50 26371832.58 0.0136 0.0129 Neptune 67492-07-09 09:36 G 26372196.77 26372196.90 26372197.08 0.0089 0.0071 Uranus 67492-07-14 09:22 G 26372201.71 26372201.89 26372202.09 0.0136 0.0086 Neptune 67493-07-11 21:36 G 26372564.18 26372564.40 26372564.64 0.0089 0.0041 Uranus 67493-07-18 19:27 G 26372571.08 26372571.31 26372571.56 0.0136 0.0043 Neptune 67494-07-14 09:36 G 26372931.65 26372931.90 26372932.16 0.0089 0.0011 Uranus 67494-07-23 06:43 G 26372940.52 26372940.78 26372941.03 0.0137 0.0003 Neptune 67495-07-16 21:22 G 26373299.14 26373299.39 26373299.64 0.0089 0.0019 Uranus 67495-07-27 18:15 G 26373310.02 26373310.26 26373310.50 0.0137 0.0047 Neptune 67496-07-18 08:39 G 26373666.66 26373666.86 26373667.09 0.0089 0.0049 Uranus 67496-07-31 06:00 G 26373679.57 26373679.75 26373679.94 0.0138 0.0093 Neptune 67497-07-20 19:55 G 26374034.23 26374034.33 26374034.48 0.0089 0.0079 67498-04-28 19:41 G 26374316.15 26374316.32 26374316.50 0.1711 0.0538 Mars Saturn 67501-12-07 21:36 G 26375634.23 26375634.40 26375634.58 0.0283 0.0201 Saturn 67516-06-04 14:53 G 26380926.89 26380927.12 26380927.36 0.0275 0.0067 Jupiter 67517-07-05 12:00 G 26381322.78 26381323.00 26381323.23 0.0545 0.0131

Jupiter 67529-07-10 19:27 G 26385711.14 26385711.31 26385711.49 0.0545 0.0360 Saturn 67530-12-01 21:07 G 26386220.14 26386220.38 26386220.62 0.0283 0.0077 Uranus 67532-01-13 11:17 G 26386627.89 26386627.97 26386628.07 0.0142 0.0133 Uranus 67533-01-17 09:51 G 26386997.72 26386997.91 26386998.14 0.0142 0.0082 Uranus 67534-01-22 08:24 G 26387367.60 26387367.85 26387368.10 0.0142 0.0031 Uranus 67535-01-27 05:31 G 26387737.48 26387737.73 26387737.99 0.0141 0.0020 Uranus 67536-02-01 01:55 G 26388107.38 26388107.58 26388107.82 0.0141 0.0070 Uranus 67537-02-04 21:51 G 26388477.29 26388477.41 26388477.56 0.0140 0.0118 Pluto 67543-01-01 10:34 G 26390633.74 26390633.94 26390634.15 0.0079 0.0049 Saturn 67545-05-30 15:51 G 26391513.97 26391514.16 26391514.36 0.0276 0.0159 Jupiter 67547-01-01 23:46 G 26392095.44 26392095.49 26392095.54 0.0484 0.0472 Jupiter 67559-01-06 04:48 G 26396482.47 26396482.70 26396482.93 0.0483 0.0142 Saturn 67560-12-09 08:24 G 26397185.79 26397185.85 26397185.93 0.0283 0.0271 Jupiter 67571-01-10 11:17 G 26400869.75 26400869.97 26400870.19 0.0483 0.0192 Neptune 67575-01-10 19:12 G 26402331.27 26402331.30 26402331.38 0.0088 0.0086 Saturn 67575-06-06 22:34 G 26402478.23 26402478.44 26402478.66 0.0275 0.0130 Uranus 67575-07-12 12:58 G 26402513.95 26402514.04 26402514.16 0.0136 0.0123 Neptune 67576-01-13 06:58 G 26402698.62 26402698.79 26402699.01 0.0088 0.0058 Uranus 67576-07-15 22:19 G 26402883.24 26402883.43 26402883.65 0.0136 0.0080 Neptune 67577-01-14 18:58 G 26403066.05 26403066.29 26403066.54 0.0088 0.0029 Uranus 67577-07-20 08:39 G 26403252.63 26403252.86 26403253.12 0.0136 0.0037 Neptune 67578-01-17 06:43 G 26403433.52 26403433.78 26403434.04 0.0088 0.0000 Uranus 67578-07-24 19:41 G 26403622.07 26403622.32 26403622.57 0.0137 0.0009 Neptune 67579-01-19 17:46 G 26403801.01 26403801.24 26403801.51 0.0088 0.0029 Uranus 67579-07-29 06:58 G 26403991.56 26403991.79 26403992.03 0.0137 0.0054 Neptune 67580-01-22 05:31 G 26404168.55 26404168.73 26404168.95 0.0088 0.0057 Uranus 67580-08-01 18:58 G 26404361.12 26404361.29 26404361.47 0.0137 0.0099 Neptune 67581-01-23 16:48 G 26404536.18 26404536.20 26404536.28 0.0088 0.0086 Saturn 67589-12-03 08:24 G 26407771.60 26407771.85 26407772.10 0.0283 0.0005 Jupiter 67600-07-04 08:24 G 26411637.65 26411637.85 26411638.06 0.0544 0.0232

Saturn 67604-05-31 23:03 G 26413065.24 26413065.46 26413065.69 0.0276 0.0097 Jupiter 67612-07-09 12:29 G 26416025.82 26416026.02 26416026.23 0.0544 0.0247 Uranus 67616-01-13 23:17 G 26417309.36 26417309.47 26417309.60 0.0142 0.0127 Uranus 67617-01-17 22:19 G 26417679.22 26417679.43 26417679.65 0.0142 0.0075 Uranus 67618-01-22 20:24 G 26418049.10 26418049.35 26418049.61 0.0142 0.0025 Saturn 67618-11-28 00:58 G 26418358.44 26418358.54 26418358.67 0.0283 0.0250 Uranus 67619-01-27 17:46 G 26418418.99 26418419.24 26418419.50 0.0141 0.0026 Uranus 67620-02-01 14:24 G 26418788.90 26418789.10 26418789.33 0.0141 0.0076 Uranus 67621-02-05 10:19 G 26419158.81 26419158.93 26419159.05 0.0140 0.0124 Saturn 67634-06-08 07:27 G 26424029.65 26424029.81 26424029.99 0.0275 0.0196 Jupiter 67642-01-05 09:51 G 26426797.70 26426797.91 26426798.13 0.0483 0.0196 Saturn 67648-12-04 20:53 G 26429323.13 26429323.37 26429323.62 0.0283 0.0068 Jupiter 67654-01-09 16:34 G 26431184.97 26431185.19 26431185.42 0.0484 0.0139 Neptune 67656-07-09 15:36 G 26432097.09 26432097.15 26432097.23 0.0089 0.0086 Neptune 67657-07-12 02:53 G 26432464.45 26432464.62 26432464.84 0.0089 0.0057 Neptune 67658-07-14 14:53 G 26432831.88 26432832.12 26432832.37 0.0089 0.0027 Uranus 67659-07-13 01:55 G 26433195.47 26433195.58 26433195.72 0.0136 0.0117 Neptune 67659-07-17 02:39 G 26433199.36 26433199.61 26433199.87 0.0089 0.0003 Uranus 67660-07-16 11:31 G 26433564.78 26433564.98 26433565.20 0.0136 0.0074 Neptune 67660-07-18 14:10 G 26433566.86 26433567.09 26433567.33 0.0089 0.0033 Uranus 67661-07-20 22:05 G 26433934.17 26433934.42 26433934.66 0.0136 0.0030 Neptune 67661-07-21 01:41 G 26433934.40 26433934.57 26433934.77 0.0089 0.0063 \* Uranus 67662-07-25 08:39 G 26434303.61 26434303.86 26434304.11 0.0137 0.0015 Saturn 67663-06-03 06:58 G 26434616.55 26434616.79 26434617.03 0.0276 0.0034 Uranus 67663-07-29 19:41 G 26434673.11 26434673.32 26434673.56 0.0137 0.0060 Uranus 67664-08-02 07:27 G 26435042.66 26435042.81 26435042.99 0.0137 0.0105 Jupiter 67666-01-13 22:05 G 26435572.37 26435572.42 26435572.47 0.0484 0.0471 Saturn 67677-11-29 13:55 G 26439909.90 26439910.08 26439910.28 0.0283 0.0177 Jupiter 67683-07-04 04:19 G 26441952.50 26441952.68 26441952.86 0.0545 0.0334 Saturn 67692-05-28 07:27 G 26445203.76 26445203.81 26445203.89 0.0276 0.0266

Saturn 67693-06-09 16:48 G 26445581.14 26445581.20 26445581.28 0.0275 0.0262 Jupiter 67695-07-09 12:43 G 26446340.81 26446341.03 26446341.25 0.0545 0.0164 Uranus 67700-01-14 09:07 G 26447990.76 26447990.88 26447991.03 0.0142 0.0122 Uranus 67701-01-19 07:55 G 26448360.62 26448360.83 26448361.07 0.0142 0.0071 Uranus 67702-01-24 06:29 G 26448730.52 26448730.77 26448731.03 0.0142 0.0020 Pluto 67702-07-03 02:39 G 26448890.38 26448890.61 26448890.86 0.0065 0.0022 Uranus 67703-01-29 03:51 G 26449100.41 26449100.66 26449100.91 0.0141 0.0031 Uranus 67704-02-03 00:29 G 26449470.32 26449470.52 26449470.74 0.0141 0.0080 Uranus 67705-02-06 19:55 G 26449840.25 26449840.33 26449840.45 0.0141 0.0129 Saturn 67707-12-08 09:36 G 26450874.70 26450874.90 26450875.12 0.0283 0.0143 Saturn 67722-06-05 15:07 G 26456167.89 26456168.13 26456168.37 0.0276 0.0030 Jupiter 67725-01-05 14:39 G 26457112.91 26457113.11 26457113.32 0.0484 0.0253 Saturn 67736-12-02 02:24 G 26461461.37 26461461.60 26461461.84 0.0283 0.0105 Jupiter 67737-01-09 20:10 G 26461500.11 26461500.34 26461500.58 0.0483 0.0081 Neptune 67740-01-13 14:10 G 26462598.96 26462599.09 26462599.26 0.0088 0.0071 Neptune 67741-01-15 01:41 G 26462966.37 26462966.57 26462966.82 0.0088 0.0043 Neptune 67742-01-17 13:41 G 26463333.82 26463334.07 26463334.34 0.0088 0.0014 Neptune 67743-01-20 01:27 G 26463701.31 26463701.56 26463701.82 0.0088 0.0015 Uranus 67743-07-14 14:39 G 26463876.98 26463877.11 26463877.27 0.0136 0.0111 Neptune 67744-01-22 12:58 G 26464068.82 26464069.04 26464069.28 0.0088 0.0043 Uranus 67744-07-18 00:00 G 26464246.30 26464246.50 26464246.73 0.0136 0.0068 Neptune 67745-01-24 00:15 G 26464436.39 26464436.51 26464436.69 0.0088 0.0072 Uranus 67745-07-22 10:19 G 26464615.69 26464615.93 26464616.18 0.0136 0.0024 Uranus 67746-07-26 20:53 G 26464985.13 26464985.37 26464985.63 0.0137 0.0020 Uranus 67747-07-31 07:41 G 26465354.62 26465354.82 26465355.06 0.0137 0.0066 Uranus 67748-08-03 19:41 G 26465724.18 26465724.32 26465724.48 0.0138 0.0110 Jupiter 67749-01-14 02:39 G 26465887.50 26465887.61 26465887.73 0.0483 0.0416 Saturn 67751-05-31 17:17 G 26466755.06 26466755.22 26466755.39 0.0276 0.0200 Jupiter 67766-07-04 06:58 G 26472267.64 26472267.79 26472267.94 0.0545 0.0408 Saturn 67766-12-09 22:05 G 26472426.27 26472426.42 26472426.59 0.0283 0.0215

Jupiter 67778-07-09 11:46 G 26476655.77 26476655.99 26476656.22 0.0545 0.0074 Saturn 67781-06-06 22:48 G 26477719.23 26477719.45 26477719.68 0.0276 0.0092 67782-05-01 14:39 G 26478047.92 26478048.11 26478048.29 0.1717 0.0088 Mars Uranus 67784-01-15 20:39 G 26478672.23 26478672.36 26478672.53 0.0142 0.0116 Uranus 67785-01-19 19:55 G 26479042.10 26479042.33 26479042.56 0.0142 0.0064 Uranus 67786-01-24 18:00 G 26479412.00 26479412.25 26479412.51 0.0142 0.0014 Uranus 67787-01-29 15:22 G 26479781.90 26479782.14 26479782.39 0.0141 0.0036 Uranus 67788-02-03 11:46 G 26480151.81 26480151.99 26480152.21 0.0141 0.0086 Uranus 67789-02-07 07:27 G 26480521.75 26480521.81 26480521.90 0.0141 0.0134 Pluto 67791-01-03 23:03 G 26481217.25 26481217.46 26481217.71 0.0079 0.0038 Saturn 67795-12-04 13:41 G 26483012.82 26483013.07 26483013.31 0.0283 0.0035 Jupiter 67808-01-06 20:10 G 26487428.17 26487428.34 26487428.53 0.0483 0.0304 Saturn 67810-06-03 02:24 G 26488306.40 26488306.60 26488306.82 0.0276 0.0135 Jupiter 67820-01-11 01:55 G 26491815.34 26491815.58 26491815.81 0.0483 0.0029 Neptune 67821-07-13 09:36 G 26492364.78 26492364.90 26492365.08 0.0089 0.0072 Neptune 67822-07-15 21:36 G 26492732.18 26492732.40 26492732.63 0.0089 0.0042 Neptune 67823-07-18 09:07 G 26493099.63 26493099.88 26493100.14 0.0089 0.0012 Neptune 67824-07-19 20:39 G 26493467.12 26493467.36 26493467.62 0.0089 0.0018 Neptune 67825-07-22 08:10 G 26493834.64 26493834.84 26493835.07 0.0089 0.0047 Neptune 67826-07-24 19:55 G 26494202.21 26494202.33 26494202.47 0.0089 0.0077 Uranus 67827-07-16 03:22 G 26494558.50 26494558.64 26494558.82 0.0136 0.0105 Uranus 67828-07-19 12:58 G 26494927.82 26494928.04 26494928.27 0.0136 0.0062 Uranus 67829-07-23 23:03 G 26495297.21 26495297.46 26495297.72 0.0136 0.0018 Uranus 67830-07-28 09:22 G 26495666.65 26495666.89 26495667.14 0.0137 0.0026 Uranus 67831-08-01 20:39 G 26496036.15 26496036.36 26496036.58 0.0137 0.0070 Jupiter 67832-01-15 08:10 G 26496202.69 26496202.84 26496202.99 0.0484 0.0365 Uranus 67832-08-05 08:24 G 26496405.71 26496405.85 26496405.99 0.0138 0.0115 Saturn 67840-06-09 06:15 G 26499270.56 26499270.76 26499270.97 0.0276 0.0153 Jupiter 67849-07-04 04:19 G 26502582.60 26502582.68 26502582.77 0.0544 0.0504 Saturn 67854-12-06 22:34 G 26504564.20 26504564.44 26504564.69 0.0283 0.0031

Jupiter 67861-07-09 06:15 G 26506970.53 26506970.76 26506970.99 0.0545 0.0031 Uranus 67868-01-17 06:58 G 26509353.63 26509353.79 26509353.95 0.0142 0.0110 Uranus 67869-01-21 05:31 G 26509723.50 26509723.73 26509723.97 0.0142 0.0059 Saturn 67869-06-04 10:19 G 26509857.70 26509857.93 26509858.17 0.0276 0.0072 Uranus 67870-01-26 03:51 G 26510093.41 26510093.66 26510093.92 0.0142 0.0009 Uranus 67871-01-31 01:12 G 26510463.31 26510463.55 26510463.80 0.0141 0.0041 Uranus 67872-02-04 21:36 G 26510833.22 26510833.40 26510833.61 0.0141 0.0090 Uranus 67873-02-08 17:17 G 26511203.18 26511203.22 26511203.27 0.0141 0.0138 Jupiter 67873-07-14 13:55 G 26511358.97 26511359.08 26511359.21 0.0545 0.0466 Saturn 67883-11-30 23:03 G 26515150.34 26515150.46 26515150.60 0.0283 0.0242 Jupiter 67891-01-06 02:24 G 26517743.45 26517743.60 26517743.77 0.0483 0.0355 Saturn 67899-06-11 12:29 G 26520821.88 26520822.02 26520822.18 0.0276 0.0212 Jupiter 67903-01-11 07:55 G 26522130.59 26522130.83 26522131.06 0.0484 0.0023 Neptune 67904-01-14 21:07 G 26522499.35 26522499.38 26522499.48 0.0088 0.0085 Neptune 67905-01-16 09:22 G 26522866.70 26522866.89 26522867.10 0.0088 0.0056 Neptune 67906-01-18 20:53 G 26523234.14 26523234.37 26523234.64 0.0088 0.0028 Neptune 67907-01-21 09:07 G 26523601.62 26523601.88 26523602.14 0.0088 0.0001 Neptune 67908-01-23 20:24 G 26523969.12 26523969.35 26523969.61 0.0088 0.0030 Neptune 67909-01-25 07:55 G 26524336.65 26524336.83 26524337.04 0.0088 0.0058 Neptune 67910-01-27 19:12 G 26524704.29 26524704.30 26524704.37 0.0088 0.0087 Uranus 67911-07-17 15:36 G 26525239.99 26525240.15 26525240.34 0.0136 0.0099 Uranus 67912-07-21 00:58 G 26525609.32 26525609.54 26525609.78 0.0136 0.0056 Uranus 67913-07-25 11:03 G 26525978.71 26525978.96 26525979.22 0.0136 0.0013 Saturn 67913-12-09 05:03 G 26526115.48 26526115.71 26526115.95 0.0283 0.0092 Uranus 67914-07-29 21:22 G 26526348.15 26526348.39 26526348.64 0.0137 0.0032 Jupiter 67915-01-15 14:10 G 26526517.92 26526518.09 26526518.28 0.0483 0.0318 Uranus 67915-08-03 08:10 G 26526717.65 26526717.84 26526718.07 0.0137 0.0077 Uranus 67916-08-06 19:55 G 26527087.23 26527087.33 26527087.47 0.0138 0.0121 Saturn 67928-06-06 17:17 G 26531408.98 26531409.22 26531409.46 0.0276 0.0011 Saturn 67942-12-03 06:00 G 26536701.56 26536701.75 26536701.94 0.0283 0.0180

Jupiter 67944-07-09 11:03 G 26537285.73 26537285.96 26537286.19 0.0545 0.0098 Pluto 67950-07-06 19:55 G 26539474.07 26539474.33 26539474.59 0.0065 0.0000 Uranus 67952-01-18 17:31 G 26540035.06 26540035.23 26540035.41 0.0142 0.0104 Uranus 67953-01-22 16:19 G 26540404.95 26540405.18 26540405.43 0.0142 0.0053 Uranus 67954-01-27 14:39 G 26540774.86 26540775.11 26540775.37 0.0142 0.0003 Uranus 67955-02-01 11:46 G 26541144.76 26541144.99 26541145.24 0.0141 0.0048 Uranus 67956-02-06 08:24 G 26541514.67 26541514.85 26541515.05 0.0141 0.0096 Jupiter 67956-07-14 18:29 G 26541674.12 26541674.27 26541674.43 0.0545 0.0398 Saturn 67957-06-01 08:24 G 26541995.78 26541995.85 26541995.95 0.0276 0.0258 Saturn 67958-06-13 17:31 G 26542373.19 26542373.23 26542373.29 0.0276 0.0269 Saturn 67972-12-10 09:36 G 26547666.69 26547666.90 26547667.12 0.0283 0.0149 Jupiter 67974-01-06 09:36 G 26548058.77 26548058.90 26548059.03 0.0484 0.0400 Neptune 67985-07-13 17:17 G 26552265.17 26552265.22 26552265.31 0.0089 0.0086 Jupiter 67986-01-10 17:17 G 26552445.99 26552446.22 26552446.46 0.0483 0.0059 Neptune 67986-07-16 04:34 G 26552632.52 26552632.69 26552632.91 0.0089 0.0057 Saturn 67987-06-08 22:19 G 26552960.19 26552960.43 26552960.67 0.0276 0.0047 Neptune 67987-07-18 16:34 G 26552999.95 26553000.19 26553000.44 0.0089 0.0027 Neptune 67988-07-20 04:05 G 26553367.42 26553367.67 26553367.93 0.0089 0.0003 Neptune 67989-07-22 15:22 G 26553734.92 26553735.14 26553735.39 0.0089 0.0033 Neptune 67990-07-25 02:39 G 26554102.45 26554102.61 26554102.82 0.0089 0.0063 Uranus 67994-07-13 18:29 G 26555552.26 26555552.27 26555552.33 0.0136 0.0135 Uranus 67995-07-18 03:51 G 26555921.48 26555921.66 26555921.85 0.0136 0.0092 Uranus 67996-07-21 13:12 G 26556290.82 26556291.05 26556291.29 0.0136 0.0050 Uranus 67997-07-25 23:03 G 26556660.21 26556660.46 26556660.72 0.0136 0.0006 Jupiter 67998-01-14 22:48 G 26556833.26 26556833.45 26556833.65 0.0483 0.0274 Uranus 67998-07-30 09:07 G 26557029.65 26557029.88 26557030.14 0.0137 0.0038 Uranus 67999-08-03 20:10 G 26557399.16 26557399.34 26557399.56 0.0137 0.0082 Uranus 68000-08-07 07:55 G 26557768.75 26557768.83 26557768.95 0.0137 0.0127

# 69TH MILLENNIUM CE

### This is a list of transits of Earth in the 69th millennium CE.

FROM MAX- C START MAX END SUNRAD DEPTH S
TRANSIT

TIME

Saturn 68001-12-04 10:05 G 26558252.70 26558252.92 26558253.15 0.0283 0.0122 Mars 68012-11-01 18:00 G 26562238.24 26562238.25 26562238.27 0.1803 0.1791 Saturn 68016-06-02 12:58 G 26563546.88 26563547.04 26563547.21 0.0276 0.0201 Jupiter 68027-07-09 13:41 G 26567600.85 26567601.07 26567601.29 0.0545 0.0172 Saturn 68031-12-12 11:46 G 26569217.82 26569217.99 26569218.17 0.0283 0.0202 Uranus 68036-01-19 02:39 G 26570716.45 26570716.61 26570716.82 0.0142 0.0099 Uranus 68037-01-23 01:27 G 26571086.33 26571086.56 26571086.82 0.0142 0.0048 Uranus 68038-01-28 00:00 G 26571456.24 26571456.50 26571456.75 0.0142 0.0003 Pluto 68039-01-07 17:46 G 26571800.98 26571801.24 26571801.50 0.0079 0.0007 Uranus 68039-02-01 20:53 G 26571826.15 26571826.37 26571826.62 0.0141 0.0053 Jupiter 68039-07-14 14:24 G 26571988.91 26571989.10 26571989.30 0.0545 0.0298 Uranus 68040-02-06 17:17 G 26572196.06 26572196.22 26572196.41 0.0141 0.0101 Saturn 68046-06-10 02:10 G 26574511.37 26574511.59 26574511.82 0.0276 0.0103 Jupiter 68057-01-05 19:27 G 26578374.22 26578374.31 26578374.41 0.0483 0.0440 Saturn 68060-12-05 13:12 G 26579803.81 26579804.05 26579804.29 0.0283 0.0066 Mars 68066-05-04 08:39 G 26581779.67 26581779.86 26581780.04 0.1724 0.0361 Jupiter 68069-01-10 02:10 G 26582761.36 26582761.59 26582761.82 0.0483 0.0102 Neptune 68069-01-15 17:31 G 26582767.08 26582767.23 26582767.39 0.0088 0.0069 Neptune 68070-01-18 05:03 G 26583134.50 26583134.71 26583134.96 0.0088 0.0041 Neptune 68071-01-20 17:17 G 26583501.97 26583502.22 26583502.48 0.0088 0.0012

Neptune 68072-01-23 04:48 G 26583869.46 26583869.70 26583869.97 0.0088 0.0017 Neptune 68073-01-24 16:34 G 26584236.98 26584237.19 26584237.42 0.0088 0.0045 Neptune 68074-01-27 04:34 G 26584604.55 26584604.69 26584604.83 0.0088 0.0073 Saturn 68075-06-04 15:51 G 26585097.97 26585098.16 26585098.38 0.0275 0.0147 Uranus 68078-07-14 05:46 G 26586233.68 26586233.74 26586233.84 0.0136 0.0129 Uranus 68079-07-18 14:39 G 26586602.93 26586603.11 26586603.32 0.0136 0.0087 Uranus 68080-07-22 00:00 G 26586972.28 26586972.50 26586972.75 0.0136 0.0045 Jupiter 68081-01-14 07:41 G 26587148.62 26587148.82 26587149.03 0.0483 0.0235 Uranus 68081-07-26 10:05 G 26587341.67 26587341.92 26587342.17 0.0136 0.0001 Uranus 68082-07-30 20:39 G 26587711.12 26587711.36 26587711.60 0.0137 0.0043 Uranus 68083-08-04 07:27 G 26588080.63 26588080.81 26588081.01 0.0137 0.0087 Uranus 68084-08-07 19:27 G 26588450.24 26588450.31 26588450.38 0.0137 0.0132 Saturn 68090-12-13 12:15 G 26590768.91 26590769.01 26590769.13 0.0283 0.0253 Saturn 68105-06-12 05:17 G 26596062.52 26596062.72 26596062.92 0.0276 0.0158 Jupiter 68110-07-09 11:17 G 26597915.78 26597915.97 26597916.18 0.0545 0.0267 Saturn 68119-12-08 14:53 G 26601354.87 26601355.12 26601355.37 0.0283 0.0013 Uranus 68120-01-20 13:12 G 26601397.86 26601398.05 26601398.25 0.0142 0.0092 Uranus 68121-01-24 11:46 G 26601767.76 26601767.99 26601768.25 0.0142 0.0042 Uranus 68122-01-29 10:05 G 26602137.67 26602137.92 26602138.18 0.0142 0.0008 Jupiter 68122-07-14 20:53 G 26602304.17 26602304.37 26602304.58 0.0546 0.0238 Uranus 68123-02-03 07:12 G 26602507.57 26602507.80 26602508.04 0.0141 0.0057 Uranus 68124-02-08 03:22 G 26602877.49 26602877.64 26602877.83 0.0141 0.0106 Saturn 68134-06-06 18:29 G 26606649.05 26606649.27 26606649.51 0.0275 0.0093 Jupiter 68140-01-07 04:34 G 26608689.68 26608689.69 26608689.72 0.0484 0.0481 Neptune 68150-07-16 13:27 G 26612532.92 26612533.06 26612533.23 0.0089 0.0070 Neptune 68151-07-19 00:58 G 26612900.33 26612900.54 26612900.78 0.0089 0.0041 Jupiter 68152-01-11 12:15 G 26613076.79 26613077.01 26613077.24 0.0483 0.0138 Neptune 68152-07-20 12:29 G 26613267.78 26613268.02 26613268.28 0.0089 0.0012 Neptune 68153-07-22 23:46 G 26613635.25 26613635.49 26613635.75 0.0089 0.0019 Neptune 68154-07-25 11:17 G 26614002.76 26614002.97 26614003.19 0.0089 0.0048

Neptune 68155-07-27 22:19 G 26614370.33 26614370.43 26614370.59 0.0089 0.0078 Uranus 68162-07-15 16:48 G 26616915.12 26616915.20 26616915.32 0.0136 0.0124 Uranus 68163-07-20 01:27 G 26617284.38 26617284.56 26617284.78 0.0136 0.0082 Jupiter 68164-01-15 19:55 G 26617464.12 26617464.33 26617464.55 0.0483 0.0204 Saturn 68164-06-13 07:12 G 26617613.66 26617613.80 26617613.96 0.0276 0.0212 Uranus 68164-07-23 11:03 G 26617653.73 26617653.96 26617654.21 0.0136 0.0039 Uranus 68165-07-27 21:07 G 26618023.13 26618023.38 26618023.63 0.0136 0.0005 Uranus 68166-08-01 07:12 G 26618392.58 26618392.80 26618393.05 0.0137 0.0049 Uranus 68167-08-05 18:15 G 26618762.09 26618762.26 26618762.46 0.0137 0.0093 Uranus 68168-08-09 06:29 G 26619131.76 26619131.77 26619131.80 0.0137 0.0137 Saturn 68178-12-09 16:34 G 26622905.94 26622906.19 26622906.44 0.0283 0.0041 Saturn 68193-06-07 21:07 G 26628200.14 26628200.38 26628200.62 0.0275 0.0038 Jupiter 68193-07-08 20:10 G 26628231.15 26628231.34 26628231.52 0.0545 0.0319 68198-07-09 15:07 G 26630057.92 26630058.13 26630058.38 0.0065 0.0030 Pluto Uranus 68203-01-16 22:19 G 26631709.40 26631709.43 26631709.52 0.0143 0.0139 Uranus 68204-01-21 21:51 G 26632079.23 26632079.41 26632079.63 0.0142 0.0088 Uranus 68205-01-25 20:39 G 26632449.12 26632449.36 26632449.62 0.0142 0.0038 Jupiter 68205-07-15 02:53 G 26632619.40 26632619.62 26632619.84 0.0545 0.0175 Uranus 68206-01-30 18:58 G 26632819.03 26632819.29 26632819.54 0.0142 0.0012 Uranus 68207-02-04 16:05 G 26633188.94 26633189.17 26633189.40 0.0141 0.0062 Saturn 68207-12-04 16:05 G 26633492.04 26633492.17 26633492.31 0.0283 0.0235 Uranus 68208-02-09 12:15 G 26633558.86 26633559.01 26633559.18 0.0141 0.0110 Saturn 68222-06-03 23:31 G 26638787.42 26638787.48 26638787.58 0.0276 0.0260 Saturn 68223-06-16 09:22 G 26639164.83 26639164.89 26639164.96 0.0276 0.0265 Neptune 68233-01-17 01:27 G 26642667.49 26642667.56 26642667.66 0.0088 0.0082 Neptune 68234-01-19 13:12 G 26643034.87 26643035.05 26643035.28 0.0088 0.0054 Jupiter 68235-01-11 22:34 G 26643392.22 26643392.44 26643392.66 0.0483 0.0178 Neptune 68235-01-22 01:27 G 26643402.32 26643402.56 26643402.81 0.0088 0.0025 Neptune 68236-01-24 13:12 G 26643769.80 26643770.05 26643770.32 0.0088 0.0004 Neptune 68237-01-26 00:58 G 26644137.31 26644137.54 26644137.80 0.0088 0.0032 Saturn 68237-12-11 18:43 G 26644457.05 26644457.28 26644457.52 0.0283 0.0095 Neptune 68238-01-28 12:58 G 26644504.86 26644505.04 26644505.23 0.0088 0.0060 Uranus 68246-07-17 03:07 G 26647596.53 26647596.63 26647596.77 0.0136 0.0119 Jupiter 68247-01-16 05:17 G 26647779.50 26647779.72 26647779.95 0.0483 0.0163 Uranus 68247-07-21 12:00 G 26647965.80 26647966.00 26647966.22 0.0136 0.0077 Uranus 68248-07-24 21:22 G 26648335.16 26648335.39 26648335.64 0.0136 0.0035 Uranus 68249-07-29 07:12 G 26648704.55 26648704.80 26648705.06 0.0137 0.0010 Uranus 68250-08-02 17:46 G 26649074.01 26649074.24 26649074.48 0.0137 0.0053 Uranus 68251-08-07 04:48 G 26649443.54 26649443.70 26649443.89 0.0137 0.0097 Saturn 68252-06-09 23:46 G 26649751.25 26649751.49 26649751.74 0.0276 0.0017 Saturn 68266-12-05 17:46 G 26655043.06 26655043.24 26655043.44 0.0283 0.0181 Jupiter 68276-07-08 17:46 G 26658546.10 26658546.24 26658546.39 0.0545 0.0417 Saturn 68281-06-05 01:41 G 26660338.42 26660338.57 26660338.74 0.0277 0.0206 68287-01-11 17:31 G 26662385.04 26662385.23 26662385.45 0.0079 0.0049 Pluto Uranus 68287-01-17 07:55 G 26662390.77 26662390.83 26662390.95 0.0143 0.0134 Uranus 68288-01-22 07:27 G 26662760.61 26662760.81 26662761.03 0.0142 0.0083 Jupiter 68288-07-13 23:17 G 26662934.24 26662934.47 26662934.70 0.0545 0.0073 Uranus 68289-01-26 06:15 G 26663130.52 26663130.76 26663131.02 0.0142 0.0033 Uranus 68290-01-31 04:19 G 26663500.43 26663500.68 26663500.94 0.0142 0.0017 Uranus 68291-02-05 01:12 G 26663870.34 26663870.55 26663870.79 0.0141 0.0067 Uranus 68292-02-09 22:05 G 26664240.27 26664240.42 26664240.57 0.0141 0.0114 68296-11-03 16:19 G 26665969.05 26665969.18 26665969.32 0.1795 0.1299 Mars Saturn 68296-12-12 22:19 G 26666008.22 26666008.43 26666008.64 0.0283 0.0152 Saturn 68311-06-13 03:22 G 26671302.41 26671302.64 26671302.87 0.0276 0.0072 Neptune 68314-07-17 22:19 G 26672433.37 26672433.43 26672433.55 0.0089 0.0084 Neptune 68315-07-20 10:19 G 26672800.73 26672800.93 26672801.14 0.0089 0.0054 Neptune 68316-07-21 21:36 G 26673168.17 26673168.40 26673168.66 0.0089 0.0025 Neptune 68317-07-24 09:22 G 26673535.63 26673535.89 26673536.15 0.0089 0.0005 Jupiter 68318-01-12 07:12 G 26673707.59 26673707.80 26673708.01 0.0483 0.0220 Neptune 68318-07-26 20:39 G 26673903.13 26673903.36 26673903.61 0.0089 0.0034

Neptune 68319-07-29 07:55 G 26674270.67 26674270.83 26674271.02 0.0089 0.0064 Saturn 68325-12-07 21:07 G 26676594.16 26676594.38 26676594.61 0.0283 0.0124 Jupiter 68330-01-16 14:53 G 26678094.89 26678095.12 26678095.35 0.0483 0.0124 Uranus 68330-07-18 13:55 G 26678277.95 26678278.08 26678278.22 0.0136 0.0114 Uranus 68331-07-22 22:34 G 26678647.24 26678647.44 26678647.66 0.0136 0.0072 Uranus 68332-07-26 07:55 G 26679016.59 26679016.83 26679017.08 0.0136 0.0029 Uranus 68333-07-30 17:46 G 26679385.99 26679386.24 26679386.50 0.0137 0.0014 Uranus 68334-08-04 04:19 G 26679755.46 26679755.68 26679755.91 0.0137 0.0058 Uranus 68335-08-08 15:22 G 26680124.99 26680125.14 26680125.32 0.0137 0.0102 Saturn 68340-06-07 04:34 G 26681889.49 26681889.69 26681889.90 0.0277 0.0151 Jupiter 68342-01-20 21:36 G 26682482.34 26682482.40 26682482.47 0.0484 0.0464 68350-05-08 02:10 G 26685511.43 26685511.59 26685511.76 0.1731 0.0788 Mars Saturn 68355-12-16 03:36 G 26687559.50 26687559.65 26687559.83 0.0283 0.0213 Jupiter 68359-07-09 20:24 G 26688861.26 26688861.35 26688861.44 0.0545 0.0494 Saturn 68370-06-14 07:41 G 26692853.61 26692853.82 26692854.04 0.0276 0.0130 Uranus 68371-01-18 17:03 G 26693072.12 26693072.21 26693072.34 0.0143 0.0129 Jupiter 68371-07-15 05:31 G 26693249.50 26693249.73 26693249.96 0.0545 0.0016 Uranus 68372-01-23 16:34 G 26693441.98 26693442.19 26693442.41 0.0142 0.0079 Uranus 68373-01-27 15:07 G 26693811.89 26693812.13 26693812.39 0.0142 0.0029 Uranus 68374-02-01 12:58 G 26694181.80 26694182.04 26694182.30 0.0142 0.0022 Uranus 68375-02-06 10:05 G 26694551.71 26694551.92 26694552.16 0.0141 0.0071 Uranus 68376-02-11 06:29 G 26694921.66 26694921.77 26694921.93 0.0141 0.0119 Jupiter 68383-07-20 12:43 G 26697637.96 26697638.03 26697638.12 0.0545 0.0510 Saturn 68384-12-09 03:07 G 26698145.39 26698145.63 26698145.87 0.0283 0.0062 Neptune 68398-01-19 22:34 G 26702935.28 26702935.44 26702935.62 0.0088 0.0066 Neptune 68399-01-22 10:19 G 26703302.71 26703302.93 26703303.18 0.0088 0.0038 Saturn 68399-06-09 08:24 G 26703440.63 26703440.85 26703441.08 0.0277 0.0095 Neptune 68400-01-24 22:34 G 26703670.18 26703670.44 26703670.70 0.0088 0.0009 Jupiter 68401-01-11 16:19 G 26704022.99 26704023.18 26704023.38 0.0484 0.0265 Neptune 68401-01-26 10:19 G 26704037.68 26704037.93 26704038.18 0.0088 0.0019

Neptune 68402-01-28 21:51 G 26704405.21 26704405.41 26704405.65 0.0088 0.0048 Neptune 68403-01-31 09:36 G 26704772.79 26704772.90 26704773.04 0.0088 0.0076 Jupiter 68413-01-15 21:51 G 26708410.18 26708410.41 26708410.65 0.0483 0.0074 Uranus 68414-07-19 00:15 G 26708959.36 26708959.51 26708959.66 0.0136 0.0109 Saturn 68414-12-17 11:31 G 26709110.94 26709110.98 26709111.04 0.0282 0.0276 Uranus 68415-07-23 08:39 G 26709328.65 26709328.86 26709329.09 0.0136 0.0067 Uranus 68416-07-26 18:15 G 26709698.01 26709698.26 26709698.51 0.0136 0.0024 Uranus 68417-07-31 04:05 G 26710067.42 26710067.67 26710067.92 0.0137 0.0019 Uranus 68418-08-04 14:39 G 26710436.90 26710437.11 26710437.34 0.0137 0.0063 Uranus 68419-08-09 02:10 G 26710806.44 26710806.59 26710806.75 0.0137 0.0107 Jupiter 68425-01-20 04:19 G 26712797.57 26712797.68 26712797.81 0.0483 0.0415 Saturn 68429-06-15 13:41 G 26714404.90 26714405.07 26714405.25 0.0276 0.0190 Saturn 68443-12-11 11:17 G 26719696.73 26719696.97 26719697.22 0.0282 0.0006 68445-07-12 03:51 G 26720275.45 26720275.66 26720275.92 0.0064 0.0024 Pluto Jupiter 68454-07-14 02:53 G 26723564.39 26723564.62 26723564.85 0.0544 0.0089 Uranus 68455-01-19 01:55 G 26723753.48 26723753.58 26723753.73 0.0142 0.0124 Uranus 68456-01-24 01:27 G 26724123.35 26724123.56 26724123.79 0.0142 0.0073 Uranus 68457-01-28 00:15 G 26724493.26 26724493.51 26724493.77 0.0142 0.0023 Uranus 68458-02-01 22:05 G 26724863.18 26724863.42 26724863.68 0.0142 0.0027 Saturn 68458-06-10 13:27 G 26724991.82 26724992.06 26724992.30 0.0277 0.0037 Uranus 68459-02-06 19:27 G 26725233.10 26725233.31 26725233.53 0.0141 0.0075 Uranus 68460-02-11 16:05 G 26725603.06 26725603.17 26725603.30 0.0141 0.0123 Jupiter 68466-07-19 06:58 G 26727952.64 26727952.79 26727952.95 0.0545 0.0398 Saturn 68472-12-05 04:05 G 26730283.54 26730283.67 26730283.80 0.0282 0.0238 Neptune 68479-07-19 19:55 G 26732701.17 26732701.33 26732701.51 0.0089 0.0067 Neptune 68480-07-21 07:27 G 26733068.58 26733068.81 26733069.05 0.0089 0.0038 Neptune 68481-07-23 18:58 G 26733436.04 26733436.29 26733436.55 0.0089 0.0008 Neptune 68482-07-26 06:15 G 26733803.52 26733803.76 26733804.02 0.0089 0.0021 Neptune 68483-07-28 17:46 G 26734171.04 26734171.24 26734171.46 0.0089 0.0051 Jupiter 68484-01-11 22:19 G 26734338.25 26734338.43 26734338.61 0.0484 0.0317

Neptune 68484-07-30 04:48 G 26734538.61 26734538.70 26734538.83 0.0089 0.0080 Saturn 68487-06-05 10:05 G 26735578.90 26735578.92 26735578.95 0.0277 0.0275 Saturn 68488-06-16 20:53 G 26735956.28 26735956.37 26735956.48 0.0276 0.0251 Jupiter 68496-01-16 03:51 G 26738725.43 26738725.66 26738725.90 0.0483 0.0024 Uranus 68498-07-19 09:51 G 26739640.77 26739640.91 26739641.09 0.0136 0.0104 Uranus 68499-07-23 18:58 G 26740010.08 26740010.29 26740010.52 0.0136 0.0062 Uranus 68500-07-28 04:19 G 26740379.44 26740379.68 26740379.94 0.0136 0.0020 Uranus 68501-08-01 14:24 G 26740748.86 26740749.10 26740749.36 0.0137 0.0025 Uranus 68502-08-06 01:12 G 26741118.34 26741118.55 26741118.78 0.0137 0.0068 Saturn 68502-12-13 21:51 G 26741248.17 26741248.41 26741248.65 0.0282 0.0072 Uranus 68503-08-10 12:15 G 26741487.88 26741488.01 26741488.17 0.0137 0.0112 Jupiter 68508-01-21 10:34 G 26743112.79 26743112.94 26743113.10 0.0483 0.0364 Saturn 68517-06-12 20:10 G 26746543.10 26746543.34 26746543.58 0.0277 0.0024 Saturn 68531-12-08 15:22 G 26751834.95 26751835.14 26751835.35 0.0282 0.0169 Pluto 68534-01-13 18:15 G 26752602.11 26752602.26 26752602.45 0.0080 0.0060 Jupiter 68537-07-14 00:00 G 26753879.28 26753879.50 26753879.71 0.0545 0.0186 Uranus 68539-01-20 10:34 G 26754434.82 26754434.94 26754435.10 0.0142 0.0118 Uranus 68540-01-25 10:05 G 26754804.70 26754804.92 26754805.15 0.0142 0.0068 Uranus 68541-01-29 08:53 G 26755174.62 26755174.87 26755175.13 0.0142 0.0019 Uranus 68542-02-03 06:43 G 26755544.54 26755544.78 26755545.04 0.0141 0.0032 Uranus 68543-02-08 04:05 G 26755914.47 26755914.67 26755914.89 0.0141 0.0080 Uranus 68544-02-13 00:43 G 26756284.44 26756284.53 26756284.65 0.0141 0.0128 Saturn 68546-06-07 18:15 G 26757130.12 26757130.26 26757130.43 0.0277 0.0212 Jupiter 68549-07-19 08:24 G 26758267.66 26758267.85 26758268.04 0.0545 0.0319 Saturn 68561-12-15 10:19 G 26762799.72 26762799.93 26762800.15 0.0282 0.0144 Neptune 68562-01-20 08:10 G 26762835.72 26762835.84 26762835.96 0.0088 0.0078 Neptune 68563-01-22 19:41 G 26763203.12 26763203.32 26763203.55 0.0088 0.0050 Neptune 68564-01-25 07:27 G 26763570.57 26763570.81 26763571.08 0.0088 0.0022 Neptune 68565-01-26 19:41 G 26763938.06 26763938.32 26763938.58 0.0088 0.0007 Neptune 68566-01-29 07:27 G 26764305.57 26764305.81 26764306.05 0.0088 0.0035 Jupiter 68567-01-12 03:22 G 26764653.50 26764653.64 26764653.80 0.0484 0.0373 Neptune 68567-01-31 18:43 G 26764673.13 26764673.28 26764673.49 0.0088 0.0064 Saturn 68576-06-14 03:22 G 26768094.41 26768094.64 26768094.87 0.0277 0.0085 Jupiter 68579-01-16 09:07 G 26769040.64 26769040.88 26769041.12 0.0484 0.0033 Mars 68580-11-05 17:17 G 26769700.06 26769700.22 26769700.39 0.1786 0.0961 Uranus 68582-07-20 19:41 G 26770322.16 26770322.32 26770322.51 0.0136 0.0099 Uranus 68583-07-25 04:48 G 26770691.47 26770691.70 26770691.93 0.0136 0.0056 Uranus 68584-07-28 14:24 G 26771060.85 26771061.10 26771061.35 0.0136 0.0014 Uranus 68585-08-02 00:29 G 26771430.28 26771430.52 26771430.77 0.0137 0.0030 Uranus 68586-08-06 11:03 G 26771799.76 26771799.96 26771800.19 0.0137 0.0074 Uranus 68587-08-10 22:19 G 26772169.32 26772169.43 26772169.58 0.0137 0.0117 Saturn 68590-12-10 03:51 G 26773386.44 26773386.66 26773386.90 0.0282 0.0098 Jupiter 68591-01-20 14:39 G 26773427.93 26773428.11 26773428.30 0.0483 0.0306 Saturn 68605-06-10 03:51 G 26778681.47 26778681.66 26778681.88 0.0277 0.0147 Jupiter 68620-07-14 02:39 G 26784194.41 26784194.61 26784194.82 0.0545 0.0263 Saturn 68620-12-17 23:03 G 26784351.31 26784351.46 26784351.63 0.0282 0.0216 Uranus 68623-01-21 19:55 G 26785116.17 26785116.33 26785116.48 0.0142 0.0113 Uranus 68624-01-26 18:58 G 26785486.07 26785486.29 26785486.53 0.0142 0.0063 Uranus 68625-01-30 18:00 G 26785855.99 26785856.25 26785856.51 0.0142 0.0013 Uranus 68626-02-04 15:51 G 26786225.92 26786226.16 26786226.42 0.0141 0.0037 Uranus 68627-02-09 13:12 G 26786595.86 26786596.05 26786596.27 0.0141 0.0086 Uranus 68628-02-14 09:51 G 26786965.85 26786965.91 26786966.01 0.0141 0.0133 Jupiter 68632-07-19 06:43 G 26788582.57 26788582.78 26788582.99 0.0544 0.0224 68634-05-10 19:41 G 26789243.19 26789243.32 26789243.46 0.1738 0.1214 Mars Saturn 68635-06-17 11:31 G 26789645.78 26789645.98 26789646.19 0.0277 0.0147 Neptune 68643-07-21 05:46 G 26792601.65 26792601.74 26792601.88 0.0089 0.0080 Neptune 68644-07-22 17:31 G 26792969.04 26792969.23 26792969.46 0.0089 0.0050 Neptune 68645-07-25 05:31 G 26793336.48 26793336.73 26793336.98 0.0089 0.0021 Neptune 68646-07-27 17:03 G 26793703.96 26793704.21 26793704.47 0.0089 0.0008 Neptune 68647-07-30 04:19 G 26794071.45 26794071.68 26794071.92 0.0089 0.0038

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Neptune 68732-02-04 16:05 G 26824941.10 26824941.17 26824941.31 0.0088 0.0080 Saturn 68737-12-09 06:00 G 26827075.61 26827075.75 26827075.91 0.0282 0.0223 Jupiter 68745-01-16 19:12 G 26829671.07 26829671.30 26829671.53 0.0484 0.0143 Uranus 68749-07-19 05:31 G 26831315.69 26831315.73 26831315.82 0.0136 0.0131 Uranus 68750-07-23 14:39 G 26831684.93 26831685.11 26831685.31 0.0136 0.0089 Uranus 68751-07-27 23:31 G 26832054.25 26832054.48 26832054.73 0.0136 0.0047 Saturn 68752-06-08 16:48 G 26832371.11 26832371.20 26832371.29 0.0277 0.0256 Uranus 68752-07-31 09:36 G 26832423.65 26832423.90 26832424.15 0.0136 0.0004 Saturn 68753-06-21 03:51 G 26832748.63 26832748.66 26832748.72 0.0277 0.0271 Uranus 68753-08-04 19:27 G 26832793.08 26832793.31 26832793.56 0.0137 0.0039 Uranus 68754-08-09 05:46 G 26833162.56 26833162.74 26833162.96 0.0137 0.0083 Uranus 68755-08-13 16:48 G 26833532.13 26833532.20 26833532.33 0.0137 0.0127 Jupiter 68757-01-21 00:29 G 26834058.30 26834058.52 26834058.73 0.0484 0.0196 Saturn 68767-12-17 13:27 G 26838040.84 26838041.06 26838041.30 0.0282 0.0108 Pluto 68782-01-18 06:00 G 26843186.55 26843186.75 26843186.99 0.0079 0.0043 Saturn 68782-06-16 08:10 G 26843335.61 26843335.84 26843336.08 0.0276 0.0049 Jupiter 68786-07-13 19:27 G 26844824.20 26844824.31 26844824.43 0.0545 0.0465 Uranus 68791-01-23 13:12 G 26846478.89 26846479.05 26846479.25 0.0142 0.0104 Uranus 68792-01-28 12:58 G 26846848.81 26846849.04 26846849.28 0.0142 0.0053 Uranus 68793-02-01 11:46 G 26847218.73 26847218.99 26847219.25 0.0142 0.0003 Uranus 68794-02-06 09:51 G 26847588.67 26847588.91 26847589.15 0.0141 0.0046 Uranus 68795-02-11 07:12 G 26847958.62 26847958.80 26847959.00 0.0141 0.0094 Saturn 68796-12-10 15:51 G 26848626.95 26848627.16 26848627.36 0.0282 0.0157 Jupiter 68798-07-19 04:05 G 26849212.44 26849212.67 26849212.90 0.0545 0.0043 Neptune 68808-07-23 03:51 G 26852869.49 26852869.66 26852869.85 0.0089 0.0063 Neptune 68809-07-25 15:36 G 26853236.92 26853237.15 26853237.39 0.0089 0.0034 Jupiter 68810-07-24 10:48 G 26853600.95 26853600.95 26853600.96 0.0545 0.0544 Neptune 68810-07-28 03:07 G 26853604.38 26853604.63 26853604.89 0.0089 0.0004 Saturn 68811-06-11 00:15 G 26853922.35 26853922.51 26853922.69 0.0277 0.0195 Neptune 68811-07-30 14:24 G 26853971.87 26853972.10 26853972.36 0.0089 0.0026

Neptune 68812-08-01 01:55 G 26854339.40 26854339.58 26854339.80 0.0089 0.0055 Neptune 68813-08-03 13:12 G 26854706.99 26854707.05 26854707.17 0.0089 0.0084 Saturn 68826-12-18 20:39 G 26859592.18 26859592.36 26859592.57 0.0282 0.0171 Jupiter 68828-01-17 00:29 G 26859986.30 26859986.52 26859986.74 0.0484 0.0194 Uranus 68833-07-19 15:22 G 26861997.06 26861997.14 26861997.24 0.0136 0.0126 Uranus 68834-07-23 23:46 G 26862366.31 26862366.49 26862366.70 0.0136 0.0085 Uranus 68835-07-28 08:53 G 26862735.64 26862735.87 26862736.12 0.0136 0.0043 Uranus 68836-07-31 18:43 G 26863105.03 26863105.28 26863105.53 0.0136 0.0001 Uranus 68837-08-05 04:34 G 26863474.46 26863474.69 26863474.94 0.0137 0.0044 Uranus 68838-08-09 14:53 G 26863843.95 26863844.12 26863844.34 0.0137 0.0087 68839-05-09 23:46 G 26864117.42 26864117.49 26864117.56 0.1750 0.1629 Mars Uranus 68839-08-14 01:55 G 26864213.52 26864213.58 26864213.68 0.0137 0.0130 Jupiter 68840-01-21 08:10 G 26864373.62 26864373.84 26864374.07 0.0483 0.0153 Saturn 68841-06-17 15:51 G 26864886.94 26864887.16 26864887.39 0.0276 0.0111 Saturn 68855-12-12 23:03 G 26870178.23 26870178.46 26870178.70 0.0282 0.0095 Mars 68864-11-07 20:10 G 26873431.16 26873431.34 26873431.52 0.1778 0.0736 Jupiter 68869-07-13 00:29 G 26875139.47 26875139.52 26875139.56 0.0544 0.0531 Saturn 68870-06-12 06:43 G 26875473.57 26875473.78 26875474.00 0.0277 0.0135 Uranus 68875-01-23 22:34 G 26877160.27 26877160.44 26877160.64 0.0142 0.0098 Uranus 68876-01-28 22:05 G 26877530.18 26877530.42 26877530.66 0.0142 0.0049 Uranus 68877-02-01 20:53 G 26877900.11 26877900.37 26877900.63 0.0142 0.0001 Uranus 68878-02-06 18:29 G 26878270.04 26878270.27 26878270.52 0.0141 0.0051 Uranus 68879-02-11 16:05 G 26878639.99 26878640.17 26878640.36 0.0141 0.0098 Jupiter 68881-07-18 05:17 G 26879527.49 26879527.72 26879527.94 0.0545 0.0042 Saturn 68885-12-20 01:41 G 26881143.44 26881143.57 26881143.73 0.0282 0.0228 Neptune 68891-01-23 15:22 G 26883004.03 26883004.14 26883004.31 0.0088 0.0074 Neptune 68892-01-26 03:22 G 26883371.44 26883371.64 26883371.89 0.0088 0.0046 Neptune 68893-01-27 15:36 G 26883738.90 26883739.15 26883739.41 0.0088 0.0017 Jupiter 68893-07-23 05:31 G 26883915.60 26883915.73 26883915.87 0.0545 0.0439 Neptune 68894-01-30 03:22 G 26884106.39 26884106.64 26884106.91 0.0088 0.0011

Neptune 68895-02-01 15:22 G 26884473.91 26884474.14 26884474.37 0.0088 0.0039 Neptune 68896-02-04 02:39 G 26884841.47 26884841.61 26884841.80 0.0088 0.0068 Saturn 68900-06-19 21:51 G 26886438.23 26886438.41 26886438.61 0.0276 0.0171 Jupiter 68911-01-17 09:07 G 26890301.68 26890301.88 26890302.09 0.0484 0.0239 68914-12-15 04:19 G 26891729.43 26891729.68 26891729.93 0.0282 0.0036 Saturn Uranus 68917-07-21 00:00 G 26892678.41 26892678.50 26892678.63 0.0136 0.0122 68918-05-13 12:00 G 26892974.92 26892975.00 26892975.08 0.1745 0.1584 Mars Uranus 68918-07-25 09:22 G 26893047.68 26893047.89 26893048.09 0.0136 0.0080 Uranus 68919-07-29 18:00 G 26893417.01 26893417.25 26893417.50 0.0136 0.0038 Uranus 68920-08-02 03:36 G 26893786.40 26893786.65 26893786.91 0.0136 0.0005 Uranus 68921-08-06 13:27 G 26894155.83 26894156.06 26894156.30 0.0137 0.0047 Uranus 68922-08-11 00:00 G 26894525.32 26894525.50 26894525.69 0.0137 0.0090 Jupiter 68923-01-21 16:05 G 26894688.94 26894689.17 26894689.40 0.0483 0.0105 Uranus 68923-08-15 10:48 G 26894894.91 26894894.95 26894895.02 0.0137 0.0133 Saturn 68929-06-14 12:00 G 26897024.77 26897025.00 26897025.23 0.0276 0.0078 Jupiter 68935-01-25 21:07 G 26899076.31 26899076.38 26899076.48 0.0483 0.0447 Pluto 68940-07-19 01:55 G 26901077.33 26901077.58 26901077.84 0.0064 0.0003 Saturn 68944-12-22 04:34 G 26902694.68 26902694.69 26902694.72 0.0282 0.0281 Uranus 68959-01-25 07:27 G 26907841.63 26907841.81 26907842.01 0.0142 0.0093 Saturn 68959-06-22 02:24 G 26907989.47 26907989.60 26907989.74 0.0276 0.0227 Uranus 68960-01-30 06:58 G 26908211.55 26908211.79 26908212.04 0.0142 0.0044 Uranus 68961-02-03 05:31 G 26908581.48 26908581.73 26908581.99 0.0142 0.0007 Uranus 68962-02-08 03:22 G 26908951.41 26908951.64 26908951.89 0.0141 0.0055 Uranus 68963-02-13 00:29 G 26909321.37 26909321.52 26909321.71 0.0141 0.0103 Jupiter 68964-07-18 02:10 G 26909842.37 26909842.59 26909842.81 0.0545 0.0139 Neptune 68972-07-23 14:39 G 26912770.00 26912770.11 26912770.27 0.0090 0.0076 Neptune 68973-07-26 02:39 G 26913137.39 26913137.61 26913137.83 0.0089 0.0046 Saturn 68973-12-16 07:55 G 26913280.58 26913280.83 26913281.07 0.0282 0.0020 Neptune 68974-07-28 13:55 G 26913504.83 26913505.08 26913505.34 0.0089 0.0017 Neptune 68975-07-31 01:27 G 26913872.31 26913872.56 26913872.81 0.0089 0.0012 Jupiter 68976-07-23 11:17 G 26914230.81 26914230.97 26914231.14 0.0545 0.0374

Neptune 68976-08-01 12:43 G 26914239.82 26914240.03 26914240.27 0.0089 0.0042

Neptune 68977-08-04 00:29 G 26914607.37 26914607.52 26914607.68 0.0089 0.0071

Saturn 68988-06-15 15:51 G 26918575.91 26918576.16 26918576.40 0.0276 0.0023

Jupiter 68994-01-16 17:03 G 26920617.02 26920617.21 26920617.40 0.0484 0.0284

## 70TH MILLENNIUM CE

### This is a list of transits of Earth in the 70th millennium CE.

FROM MAX- C START MAX END SUNRAD DEPTH S
TRANSIT

TIME

Uranus 69001-07-22 09:36 G 26923359.80 26923359.90 26923360.05 0.0136 0.0117
Uranus 69002-07-26 18:29 G 26923729.07 26923729.27 26923729.49 0.0136 0.0075
Saturn 69002-12-11 11:03 G 26923866.85 26923866.96 26923867.09 0.0282 0.0246
Uranus 69003-07-31 03:22 G 26924098.40 26924098.64 26924098.89 0.0136 0.0034
Uranus 69004-08-03 12:58 G 26924467.79 26924468.04 26924468.29 0.0136 0.0009
Uranus 69005-08-07 22:34 G 26924837.21 26924837.44 26924837.68 0.0137 0.0052
Jupiter 69006-01-22 00:58 G 26925004.31 26925004.54 26925004.77 0.0484 0.0066
Uranus 69006-08-12 08:53 G 26925206.71 26925206.87 26925207.07 0.0137 0.0095
Saturn 69017-06-11 18:58 G 26929163.18 26929163.29 26929163.42 0.0277 0.0241
Jupiter 69018-01-26 08:39 G 2692391.74 26929391.86 26929391.99 0.0483 0.0413
Pluto 69029-01-20 17:03 G 26933403.97 26933404.21 26933404.47 0.0079 0.0025
Saturn 69032-12-18 09:51 G 26934831.67 26934831.91 26934832.15 0.0282 0.0073
Uranus 69042-01-21 15:51 G 26938153.12 26938153.16 26938153.25 0.0143 0.0138
Uranus 69043-01-26 16:34 G 26938522.99 26938523.19 26938523.39 0.0142 0.0088

Uranus 69044-01-31 15:36 G 26938892.91 26938893.15 26938893.40 0.0142 0.0038 Uranus 69045-02-04 14:24 G 26939262.85 26939263.10 26939263.36 0.0142 0.0011 Uranus 69046-02-09 12:15 G 26939632.78 26939633.01 26939633.25 0.0141 0.0060 Uranus 69047-02-14 09:07 G 26940002.73 26940002.88 26940003.06 0.0141 0.0108 Saturn 69047-06-18 18:29 G 26940127.03 26940127.27 26940127.51 0.0276 0.0032 Jupiter 69047-07-19 10:34 G 26940157.72 26940157.94 26940158.15 0.0545 0.0193 Neptune 69055-01-25 01:55 G 26942904.53 26942904.58 26942904.64 0.0088 0.0085 Neptune 69056-01-27 13:41 G 26943271.88 26943272.07 26943272.28 0.0088 0.0057 Neptune 69057-01-29 01:27 G 26943639.33 26943639.56 26943639.82 0.0088 0.0029 Neptune 69058-01-31 13:27 G 26944006.81 26944007.06 26944007.33 0.0088 0.0002 Neptune 69059-02-03 01:12 G 26944374.32 26944374.55 26944374.81 0.0088 0.0028 Jupiter 69059-07-24 16:48 G 26944546.01 26944546.20 26944546.39 0.0545 0.0309 Neptune 69060-02-05 12:29 G 26944741.85 26944742.02 26944742.25 0.0088 0.0056 Neptune 69061-02-07 00:29 G 26945109.47 26945109.52 26945109.62 0.0088 0.0084 Saturn 69061-12-12 11:31 G 26945417.81 26945417.98 26945418.16 0.0282 0.0195 Saturn 69076-06-12 20:53 G 26950714.19 26950714.37 26950714.55 0.0277 0.0188 Jupiter 69077-01-17 04:48 G 26950932.53 26950932.70 26950932.89 0.0484 0.0319 Uranus 69085-07-22 18:29 G 26954041.15 26954041.27 26954041.43 0.0136 0.0112 Uranus 69086-07-27 03:07 G 26954410.43 26954410.63 26954410.86 0.0136 0.0071 Uranus 69087-07-31 12:15 G 26954779.77 26954780.01 26954780.26 0.0136 0.0028 Uranus 69088-08-03 21:36 G 26955149.15 26955149.40 26955149.66 0.0136 0.0014 Jupiter 69089-01-21 11:17 G 26955319.74 26955319.97 26955320.21 0.0484 0.0029 Uranus 69089-08-08 07:12 G 26955518.59 26955518.80 26955519.05 0.0137 0.0057 Uranus 69090-08-12 17:46 G 26955888.08 26955888.24 26955888.43 0.0137 0.0099 Saturn 69091-12-20 11:03 G 26956382.75 26956382.96 26956383.19 0.0282 0.0125 Jupiter 69101-01-26 18:29 G 26959707.12 26959707.27 26959707.42 0.0483 0.0372 Saturn 69106-06-20 20:53 G 26961678.15 26961678.37 26961678.61 0.0276 0.0086 Saturn 69120-12-14 11:31 G 26966968.77 26966968.98 26966969.20 0.0282 0.0145 69123-05-13 13:12 G 26967848.94 26967849.05 26967849.16 0.1758 0.1423 Mars Uranus 69126-01-23 00:58 G 26968834.46 26968834.54 26968834.65 0.0142 0.0132

Uranus 69127-01-28 00:58 G 26969204.34 26969204.54 26969204.76 0.0142 0.0083 Uranus 69128-02-02 00:15 G 26969574.27 26969574.51 26969574.77 0.0142 0.0033 Uranus 69129-02-05 22:48 G 26969944.20 26969944.45 26969944.71 0.0142 0.0017 Uranus 69130-02-10 20:39 G 26970314.14 26970314.36 26970314.60 0.0141 0.0065 Jupiter 69130-07-19 08:24 G 26970472.66 26970472.85 26970473.05 0.0544 0.0291 Uranus 69131-02-15 17:46 G 26970684.10 26970684.24 26970684.41 0.0141 0.0112 Saturn 69135-06-15 22:05 G 26972265.22 26972265.42 26972265.64 0.0277 0.0137 Neptune 69136-07-25 01:27 G 26972670.54 26972670.56 26972670.65 0.0090 0.0088 Neptune 69137-07-27 12:58 G 26973037.87 26973038.04 26973038.26 0.0089 0.0059 Neptune 69138-07-30 00:29 G 26973405.30 26973405.52 26973405.78 0.0089 0.0030 Neptune 69139-08-01 12:15 G 26973772.76 26973773.01 26973773.27 0.0089 0.0001 Neptune 69140-08-02 23:31 G 26974140.25 26974140.48 26974140.74 0.0089 0.0030 Neptune 69141-08-05 10:48 G 26974507.77 26974507.95 26974508.16 0.0089 0.0059 Jupiter 69142-07-24 13:55 G 26974860.87 26974861.08 26974861.29 0.0545 0.0208 Neptune 69142-08-07 22:19 G 26974875.40 26974875.43 26974875.51 0.0089 0.0087 Mars 69148-11-11 00:00 G 26977162.31 26977162.50 26977162.68 0.1769 0.0574 Saturn 69150-12-22 13:12 G 26977933.87 26977934.05 26977934.25 0.0282 0.0178 Jupiter 69160-01-18 14:39 G 26981247.96 26981248.11 26981248.28 0.0484 0.0359 Saturn 69165-06-21 23:03 G 26983229.26 26983229.46 26983229.68 0.0276 0.0139 Uranus 69169-07-24 03:36 G 26984722.51 26984722.65 26984722.82 0.0136 0.0107 Uranus 69170-07-28 12:29 G 26985091.80 26985092.02 26985092.24 0.0136 0.0065 Uranus 69171-08-01 21:07 G 26985461.14 26985461.38 26985461.64 0.0136 0.0024 Jupiter 69172-01-22 20:39 G 26985635.13 26985635.36 26985635.60 0.0484 0.0015 Uranus 69172-08-05 06:43 G 26985830.53 26985830.78 26985831.03 0.0136 0.0019 Uranus 69173-08-09 16:34 G 26986199.96 26986200.19 26986200.41 0.0137 0.0061 Uranus 69174-08-14 02:39 G 26986569.47 26986569.61 26986569.80 0.0137 0.0104 Saturn 69179-12-16 12:29 G 26988519.79 26988520.02 26988520.26 0.0282 0.0093 Jupiter 69184-01-27 04:34 G 26990022.52 26990022.69 26990022.86 0.0484 0.0336 Pluto 69187-07-22 22:48 G 26991295.23 26991295.45 26991295.70 0.0064 0.0026 Saturn 69194-06-16 23:46 G 26993816.26 26993816.49 26993816.73 0.0278 0.0084

Saturn 69209-12-23 15:51 G 26999485.04 26999485.16 26999485.31 0.0282 0.0233 Uranus 69210-01-23 10:05 G 26999515.82 26999515.92 26999516.05 0.0142 0.0127 Uranus 69211-01-28 10:05 G 26999885.72 26999885.92 26999886.15 0.0142 0.0077 Uranus 69212-02-02 09:07 G 27000255.64 27000255.88 27000256.14 0.0142 0.0028 Uranus 69213-02-06 07:55 G 27000625.58 27000625.83 27000626.09 0.0142 0.0021 Jupiter 69213-07-18 12:43 G 27000787.86 27000788.03 27000788.20 0.0545 0.0364 Uranus 69214-02-11 05:31 G 27000995.52 27000995.73 27000995.96 0.0141 0.0070 Uranus 69215-02-16 02:53 G 27001365.48 27001365.62 27001365.76 0.0141 0.0116 Neptune 69220-01-27 23:31 G 27003172.34 27003172.48 27003172.66 0.0088 0.0069 Neptune 69221-01-29 11:31 G 27003539.77 27003539.98 27003540.23 0.0088 0.0041 Neptune 69222-02-01 00:00 G 27003907.25 27003907.50 27003907.77 0.0088 0.0013 Neptune 69223-02-03 11:46 G 27004274.74 27004274.99 27004275.25 0.0088 0.0016 Neptune 69224-02-05 23:31 G 27004642.27 27004642.48 27004642.72 0.0088 0.0044 Saturn 69224-06-23 01:55 G 27004780.41 27004780.58 27004780.76 0.0277 0.0193 Neptune 69225-02-07 11:03 G 27005009.84 27005009.96 27005010.13 0.0088 0.0072 Jupiter 69225-07-23 21:51 G 27005176.19 27005176.41 27005176.63 0.0545 0.0152 Saturn 69238-12-17 15:22 G 27010070.90 27010071.14 27010071.39 0.0282 0.0038 Jupiter 69243-01-17 23:46 G 27011563.37 27011563.49 27011563.62 0.0484 0.0402 Saturn 69253-06-18 01:55 G 27015367.34 27015367.58 27015367.82 0.0278 0.0032 Uranus 69253-07-24 12:15 G 27015403.85 27015404.01 27015404.18 0.0136 0.0102 Uranus 69254-07-28 20:39 G 27015773.14 27015773.36 27015773.59 0.0136 0.0061 Jupiter 69255-01-22 07:12 G 27015950.57 27015950.80 27015951.04 0.0484 0.0055 Uranus 69255-08-02 05:31 G 27016142.48 27016142.73 27016142.98 0.0136 0.0019 Uranus 69256-08-05 14:53 G 27016511.88 27016512.12 27016512.37 0.0136 0.0023 Uranus 69257-08-10 00:29 G 27016881.32 27016881.52 27016881.76 0.0137 0.0066 Uranus 69258-08-14 11:17 G 27017250.83 27017250.97 27017251.13 0.0137 0.0108 Jupiter 69267-01-26 13:27 G 27020337.87 27020338.06 27020338.25 0.0484 0.0292 Saturn 69267-12-12 04:34 G 27020657.68 27020657.69 27020657.72 0.0281 0.0280 Pluto 69276-01-23 10:05 G 27023621.80 27023621.92 27023622.09 0.0080 0.0067 Saturn 69282-06-12 17:17 G 27025954.22 27025954.22 27025954.25 0.0277 0.0277

Saturn 69283-06-25 05:46 G 27026331.65 27026331.74 27026331.86 0.0277 0.0249 Uranus 69294-01-23 18:58 G 27030197.18 27030197.29 27030197.45 0.0143 0.0122 Uranus 69295-01-28 18:58 G 27030567.08 27030567.29 27030567.52 0.0142 0.0072 Uranus 69296-02-02 18:15 G 27030937.01 27030937.26 27030937.52 0.0142 0.0023 Jupiter 69296-07-17 19:12 G 27031103.16 27031103.30 27031103.44 0.0544 0.0426 Uranus 69297-02-06 16:48 G 27031306.95 27031307.20 27031307.46 0.0142 0.0026 Saturn 69297-12-18 20:10 G 27031622.09 27031622.34 27031622.59 0.0282 0.0021 Uranus 69298-02-11 14:10 G 27031676.89 27031677.09 27031677.33 0.0141 0.0075 Uranus 69299-02-16 11:46 G 27032046.87 27032046.99 27032047.12 0.0141 0.0121 Neptune 69301-07-28 00:00 G 27032938.38 27032938.50 27032938.69 0.0090 0.0071 Neptune 69302-07-30 11:31 G 27033305.78 27033305.98 27033306.23 0.0089 0.0042 Neptune 69303-08-01 23:17 G 27033673.22 27033673.47 27033673.73 0.0089 0.0013 Neptune 69304-08-03 10:34 G 27034040.69 27034040.94 27034041.19 0.0089 0.0017 Neptune 69305-08-05 21:51 G 27034408.20 27034408.41 27034408.64 0.0089 0.0046 Neptune 69306-08-08 09:07 G 27034775.75 27034775.88 27034776.03 0.0089 0.0075 Jupiter 69308-07-23 20:10 G 27035491.11 27035491.34 27035491.57 0.0544 0.0055 Saturn 69312-06-20 05:03 G 27036918.47 27036918.71 27036918.95 0.0278 0.0024 Jupiter 69326-01-18 07:12 G 27041878.73 27041878.80 27041878.89 0.0485 0.0452 Saturn 69326-12-14 11:31 G 27042208.84 27042208.98 27042209.15 0.0281 0.0219 Uranus 69337-07-25 20:53 G 27046085.20 27046085.37 27046085.55 0.0136 0.0098 Jupiter 69338-01-22 14:53 G 27046265.89 27046266.12 27046266.35 0.0484 0.0101 Uranus 69338-07-30 05:03 G 27046454.50 27046454.71 27046454.95 0.0136 0.0057 Uranus 69339-08-03 14:10 G 27046823.84 27046824.09 27046824.34 0.0136 0.0015 Uranus 69340-08-06 23:31 G 27047193.24 27047193.48 27047193.73 0.0136 0.0027 Saturn 69341-06-14 22:34 G 27047505.30 27047505.44 27047505.59 0.0278 0.0219 Uranus 69341-08-11 09:07 G 27047562.68 27047562.88 27047563.11 0.0137 0.0070 Uranus 69342-08-15 20:10 G 27047932.20 27047932.34 27047932.49 0.0137 0.0112 Jupiter 69350-01-26 20:53 G 27050653.17 27050653.37 27050653.58 0.0484 0.0244 Saturn 69356-12-21 03:22 G 27053173.41 27053173.64 27053173.88 0.0281 0.0083 Saturn 69371-06-22 09:22 G 27058469.66 27058469.89 27058470.13 0.0278 0.0080

Uranus 69378-01-25 04:19 G 27060878.55 27060878.68 27060878.84 0.0143 0.0117 Uranus 69379-01-30 04:05 G 27061248.46 27061248.67 27061248.91 0.0142 0.0068 Jupiter 69379-07-18 14:53 G 27061418.08 27061418.12 27061418.16 0.0543 0.0533 Uranus 69380-02-04 03:22 G 27061618.39 27061618.64 27061618.90 0.0142 0.0018 Uranus 69381-02-08 01:55 G 27061988.33 27061988.58 27061988.84 0.0142 0.0031 Uranus 69382-02-12 23:46 G 27062358.28 27062358.49 27062358.71 0.0141 0.0079 Uranus 69383-02-17 20:24 G 27062728.26 27062728.35 27062728.49 0.0141 0.0126 Neptune 69384-01-28 08:53 G 27063072.80 27063072.87 27063073.01 0.0088 0.0081 Neptune 69385-01-29 21:22 G 27063440.20 27063440.39 27063440.62 0.0088 0.0053 Saturn 69385-12-15 20:39 G 27063760.16 27063760.36 27063760.58 0.0281 0.0155 Neptune 69386-02-01 09:36 G 27063807.66 27063807.90 27063808.16 0.0088 0.0024 Neptune 69387-02-03 21:51 G 27064175.15 27064175.41 27064175.67 0.0088 0.0004 Neptune 69388-02-06 09:36 G 27064542.66 27064542.90 27064543.15 0.0088 0.0032 Neptune 69389-02-07 21:36 G 27064910.22 27064910.40 27064910.60 0.0088 0.0060 Jupiter 69391-07-23 19:27 G 27065806.08 27065806.31 27065806.54 0.0545 0.0036 Saturn 69400-06-17 05:17 G 27069056.53 27069056.72 27069056.92 0.0278 0.0159 Jupiter 69403-07-30 03:36 G 27070194.54 27070194.65 27070194.76 0.0545 0.0477 69407-05-16 00:15 G 27071580.39 27071580.51 27071580.63 0.1766 0.1328 Mars Saturn 69415-12-24 12:58 G 27074724.84 27074725.04 27074725.26 0.0281 0.0150 Uranus 69420-07-22 20:53 G 27076397.36 27076397.37 27076397.42 0.0135 0.0135 Jupiter 69421-01-22 21:07 G 27076581.16 27076581.38 27076581.61 0.0484 0.0154 Uranus 69421-07-27 05:03 G 27076766.53 27076766.71 27076766.89 0.0136 0.0094 Uranus 69422-07-31 13:27 G 27077135.83 27077136.06 27077136.29 0.0136 0.0053 Uranus 69423-08-04 22:19 G 27077505.18 27077505.43 27077505.68 0.0136 0.0011 Uranus 69424-08-08 07:41 G 27077874.58 27077874.82 27077875.07 0.0136 0.0031 Uranus 69425-08-12 17:17 G 27078244.03 27078244.22 27078244.45 0.0137 0.0074 Uranus 69426-08-17 04:05 G 27078613.56 27078613.67 27078613.82 0.0137 0.0116 Saturn 69430-06-24 15:22 G 27080020.93 27080021.14 27080021.35 0.0278 0.0138 69432-11-13 04:48 G 27080893.52 27080893.70 27080893.89 0.1761 0.0469 Mars Jupiter 69433-01-27 03:07 G 27080968.42 27080968.63 27080968.85 0.0484 0.0192

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Saturn 69518-06-21 22:48 G 27112159.21 27112159.45 27112159.69 0.0278 0.0032 Jupiter 69528-02-01 13:55 G 27115671.08 27115671.08 27115671.09 0.0483 0.0483 Saturn 69532-12-14 22:34 G 27117449.42 27117449.44 27117449.50 0.0281 0.0277 Uranus 69546-01-27 22:19 G 27122241.27 27122241.43 27122241.61 0.0143 0.0107 Uranus 69547-02-01 22:19 G 27122611.20 27122611.43 27122611.67 0.0142 0.0057 Saturn 69547-06-16 16:19 G 27122746.14 27122746.18 27122746.24 0.0278 0.0271 Uranus 69548-02-06 21:36 G 27122981.15 27122981.40 27122981.66 0.0142 0.0009 Saturn 69548-06-28 06:29 G 27123123.70 27123123.77 27123123.87 0.0278 0.0260 Neptune 69549-01-31 07:27 G 27123340.64 27123340.81 27123340.99 0.0088 0.0064 Uranus 69549-02-10 20:10 G 27123351.10 27123351.34 27123351.59 0.0142 0.0040 Neptune 69550-02-02 19:27 G 27123708.08 27123708.31 27123708.56 0.0088 0.0036 Uranus 69550-02-15 18:00 G 27123721.06 27123721.25 27123721.46 0.0141 0.0088 Neptune 69551-02-05 07:27 G 27124075.55 27124075.81 27124076.07 0.0088 0.0008 Uranus 69551-02-20 15:07 G 27124091.08 27124091.13 27124091.22 0.0141 0.0135 Neptune 69552-02-07 19:27 G 27124443.06 27124443.31 27124443.57 0.0088 0.0020 Neptune 69553-02-09 07:27 G 27124810.60 27124810.81 27124811.03 0.0088 0.0048 Neptune 69554-02-11 18:58 G 27125178.18 27125178.29 27125178.44 0.0088 0.0076 Jupiter 69557-07-23 18:29 G 27126436.06 27126436.27 27126436.49 0.0543 0.0217 Saturn 69562-12-23 07:55 G 27128414.59 27128414.83 27128415.08 0.0281 0.0051 Jupiter 69569-07-28 20:39 G 27130824.16 27130824.36 27130824.56 0.0545 0.0273 Saturn 69577-06-23 08:39 G 27133710.62 27133710.86 27133711.10 0.0278 0.0033 Jupiter 69587-01-23 05:46 G 27137211.55 27137211.74 27137211.94 0.0484 0.0271 Uranus 69588-07-24 14:24 G 27137760.03 27137760.10 27137760.22 0.0135 0.0126 Uranus 69589-07-28 22:34 G 27138129.26 27138129.44 27138129.65 0.0136 0.0085 Uranus 69590-08-02 06:58 G 27138498.56 27138498.79 27138499.04 0.0136 0.0044 Uranus 69591-08-06 16:05 G 27138867.92 27138868.17 27138868.42 0.0136 0.0002 Saturn 69591-12-17 11:17 G 27139000.82 27139000.97 27139001.15 0.0281 0.0207 Uranus 69592-08-10 01:12 G 27139237.32 27139237.55 27139237.80 0.0136 0.0040 Uranus 69593-08-14 11:17 G 27139606.79 27139606.97 27139607.19 0.0137 0.0083 Uranus 69594-08-18 21:51 G 27139976.33 27139976.41 27139976.54 0.0137 0.0125

Jupiter 69599-01-27 12:43 G 27141598.80 27141599.03 27141599.27 0.0484 0.0081 Saturn 69606-06-18 01:27 G 27144297.42 27144297.56 27144297.74 0.0278 0.0208 Jupiter 69611-01-31 18:00 G 27145986.14 27145986.25 27145986.36 0.0484 0.0425 Saturn 69621-12-24 19:41 G 27149966.10 27149966.32 27149966.55 0.0281 0.0119 Uranus 69630-01-28 07:27 G 27152922.64 27152922.81 27152923.00 0.0143 0.0101 Neptune 69630-07-31 09:07 G 27153106.73 27153106.88 27153107.07 0.0089 0.0066 Uranus 69631-02-02 07:12 G 27153292.57 27153292.80 27153293.05 0.0142 0.0052 Neptune 69631-08-02 20:53 G 27153474.15 27153474.37 27153474.61 0.0089 0.0037 Uranus 69632-02-07 06:58 G 27153662.53 27153662.79 27153663.05 0.0142 0.0003 Neptune 69632-08-04 08:24 G 27153841.59 27153841.85 27153842.10 0.0089 0.0008 Uranus 69633-02-11 05:31 G 27154032.49 27154032.73 27154032.98 0.0142 0.0046 Neptune 69633-08-06 19:27 G 27154209.07 27154209.31 27154209.57 0.0089 0.0021 Uranus 69634-02-16 03:22 G 27154402.46 27154402.64 27154402.84 0.0141 0.0094 Neptune 69634-08-09 06:29 G 27154576.58 27154576.77 27154577.01 0.0089 0.0051 Uranus 69635-02-21 00:58 G 27154772.53 27154772.54 27154772.57 0.0141 0.0140 Neptune 69635-08-11 17:46 G 27154944.14 27154944.24 27154944.38 0.0089 0.0079 Saturn 69636-06-24 18:15 G 27155262.04 27155262.26 27155262.50 0.0278 0.0099 Jupiter 69640-07-22 15:07 G 27156750.95 27156751.13 27156751.32 0.0544 0.0317 Saturn 69650-12-18 23:31 G 27160552.27 27160552.48 27160552.71 0.0281 0.0138 Jupiter 69652-07-27 23:03 G 27161139.25 27161139.46 27161139.68 0.0545 0.0195 Saturn 69665-06-19 10:34 G 27165848.74 27165848.94 27165849.15 0.0278 0.0144 Jupiter 69670-01-22 09:22 G 27167526.71 27167526.89 27167527.06 0.0485 0.0331 Uranus 69672-07-25 00:15 G 27168441.40 27168441.51 27168441.63 0.0135 0.0120 Uranus 69673-07-29 07:55 G 27168810.64 27168810.83 27168811.05 0.0136 0.0080 Uranus 69674-08-02 16:34 G 27169179.96 27169180.19 27169180.44 0.0136 0.0039 Uranus 69675-08-07 01:41 G 27169549.32 27169549.57 27169549.82 0.0136 0.0003 Uranus 69676-08-10 11:03 G 27169918.73 27169918.96 27169919.21 0.0136 0.0046 Uranus 69677-08-14 21:07 G 27170288.20 27170288.38 27170288.59 0.0137 0.0088 Uranus 69678-08-19 07:27 G 27170657.76 27170657.81 27170657.91 0.0137 0.0130 Saturn 69680-12-26 05:46 G 27171517.56 27171517.74 27171517.93 0.0281 0.0185

69681-07-28 04:05 G 27171731.49 27171731.67 27171731.90 0.0064 0.0038 Pluto Jupiter 69682-01-26 16:19 G 27171913.95 27171914.18 27171914.42 0.0484 0.0024 69682-07-29 15:07 G 27172098.05 27172098.13 27172098.27 0.0065 0.0058 Pluto 69691-05-17 09:51 G 27175311.78 27175311.91 27175312.04 0.1774 0.1305 Mars Jupiter 69694-01-31 00:15 G 27176301.36 27176301.51 27176301.66 0.0484 0.0376 Saturn 69695-06-27 04:05 G 27176813.48 27176813.67 27176813.87 0.0278 0.0163 Saturn 69709-12-21 09:51 G 27182103.68 27182103.91 27182104.16 0.0281 0.0072 Neptune 69713-01-31 16:48 G 27183241.09 27183241.20 27183241.35 0.0088 0.0076 Uranus 69714-01-29 16:19 G 27183604.01 27183604.18 27183604.39 0.0143 0.0096 Neptune 69714-02-03 04:48 G 27183608.49 27183608.70 27183608.92 0.0088 0.0048 Uranus 69715-02-03 16:34 G 27183973.96 27183974.19 27183974.44 0.0142 0.0046 Neptune 69715-02-05 16:48 G 27183975.95 27183976.20 27183976.46 0.0088 0.0020 Neptune 69716-02-08 05:03 G 27184343.45 27184343.71 27184343.97 0.0088 0.0008 Uranus 69716-02-08 16:19 G 27184343.92 27184344.18 27184344.44 0.0142 0.0003 \* Mars 69716-11-15 11:17 G 27184624.79 27184624.97 27184625.16 0.1753 0.0453 Neptune 69717-02-09 16:48 G 27184710.97 27184711.20 27184711.44 0.0088 0.0036 Uranus 69717-02-12 14:53 G 27184713.89 27184714.12 27184714.37 0.0142 0.0052 Neptune 69718-02-12 04:34 G 27185078.53 27185078.69 27185078.88 0.0088 0.0064 Uranus 69718-02-17 12:43 G 27185083.87 27185084.03 27185084.23 0.0141 0.0100 Jupiter 69723-07-23 18:15 G 27187066.11 27187066.26 27187066.42 0.0543 0.0392 Saturn 69724-06-21 18:43 G 27187400.06 27187400.28 27187400.52 0.0278 0.0082 Jupiter 69735-07-28 22:19 G 27191454.20 27191454.43 27191454.65 0.0544 0.0104 Saturn 69739-12-29 13:55 G 27193068.98 27193069.08 27193069.21 0.0281 0.0247 Jupiter 69753-01-22 16:48 G 27197842.05 27197842.20 27197842.35 0.0485 0.0378 Saturn 69754-06-29 12:15 G 27198364.88 27198365.01 27198365.16 0.0277 0.0226 Uranus 69756-07-26 08:39 G 27199122.75 27199122.86 27199123.01 0.0135 0.0115 Uranus 69757-07-30 16:48 G 27199492.01 27199492.20 27199492.42 0.0136 0.0075 Uranus 69758-08-04 01:12 G 27199861.32 27199861.55 27199861.81 0.0136 0.0034 Uranus 69759-08-08 10:34 G 27200230.69 27200230.94 27200231.19 0.0136 0.0008 Uranus 69760-08-11 19:55 G 27200600.10 27200600.33 27200600.57 0.0136 0.0050

Uranus 69761-08-16 05:46 G 27200969.58 27200969.74 27200969.95 0.0137 0.0093 Uranus 69762-08-20 16:34 G 27201339.16 27201339.19 27201339.25 0.0137 0.0134 Jupiter 69765-01-26 23:31 G 27202229.25 27202229.48 27202229.72 0.0484 0.0028 Saturn 69768-12-22 18:15 G 27203655.01 27203655.26 27203655.51 0.0281 0.0009 Jupiter 69777-01-31 06:43 G 27206616.60 27206616.78 27206616.95 0.0484 0.0324 Saturn 69783-06-24 02:24 G 27208951.36 27208951.60 27208951.84 0.0278 0.0020 Neptune 69794-07-31 19:55 G 27213007.21 27213007.33 27213007.46 0.0089 0.0078 Neptune 69795-08-03 06:58 G 27213374.60 27213374.79 27213375.02 0.0089 0.0050 Neptune 69796-08-04 18:43 G 27213742.04 27213742.28 27213742.54 0.0089 0.0021 Uranus 69797-01-25 01:41 G 27213915.53 27213915.57 27213915.65 0.0143 0.0139 Neptune 69797-08-07 06:15 G 27214109.51 27214109.76 27214110.02 0.0089 0.0009 Saturn 69797-12-17 03:51 G 27214241.58 27214241.66 27214241.76 0.0281 0.0260 Uranus 69798-01-30 02:39 G 27214285.42 27214285.61 27214285.82 0.0143 0.0090 Neptune 69798-08-09 17:17 G 27214477.00 27214477.22 27214477.46 0.0089 0.0038 Uranus 69799-02-04 02:39 G 27214655.37 27214655.61 27214655.87 0.0142 0.0041 Neptune 69799-08-12 04:19 G 27214844.54 27214844.68 27214844.88 0.0089 0.0067 Uranus 69800-02-09 02:24 G 27215025.34 27215025.60 27215025.86 0.0142 0.0009 Uranus 69801-02-14 01:12 G 27215395.32 27215395.55 27215395.79 0.0142 0.0057 Uranus 69802-02-18 23:17 G 27215765.30 27215765.47 27215765.65 0.0141 0.0105 Jupiter 69806-07-23 12:43 G 27217380.95 27217381.03 27217381.12 0.0543 0.0503 Saturn 69812-06-19 06:15 G 27219538.64 27219538.76 27219538.89 0.0278 0.0238 Jupiter 69818-07-28 18:15 G 27221769.03 27221769.26 27221769.49 0.0544 0.0001 Saturn 69827-12-26 00:29 G 27225206.27 27225206.52 27225206.76 0.0281 0.0050 Jupiter 69830-08-03 02:53 G 27226157.55 27226157.62 27226157.69 0.0545 0.0517 Jupiter 69836-01-24 00:00 G 27228157.40 27228157.50 27228157.62 0.0485 0.0428 Uranus 69840-07-27 18:15 G 27229804.14 27229804.26 27229804.43 0.0135 0.0111 Uranus 69841-08-01 02:39 G 27230173.40 27230173.61 27230173.83 0.0136 0.0070 Saturn 69842-06-26 08:24 G 27230502.61 27230502.85 27230503.09 0.0277 0.0039 Uranus 69842-08-05 11:17 G 27230542.73 27230542.97 27230543.22 0.0136 0.0028 Uranus 69843-08-09 20:24 G 27230912.10 27230912.35 27230912.60 0.0136 0.0013

Uranus 69844-08-13 05:31 G 27231281.51 27231281.73 27231281.97 0.0136 0.0056 Uranus 69845-08-17 15:51 G 27231650.99 27231651.16 27231651.34 0.0137 0.0097 Jupiter 69848-01-28 06:00 G 27232544.51 27232544.75 27232544.98 0.0485 0.0078 Saturn 69856-12-19 07:12 G 27235792.64 27235792.80 27235792.98 0.0281 0.0205 Jupiter 69860-02-01 13:55 G 27236931.88 27236932.08 27236932.27 0.0484 0.0278 Saturn 69871-06-21 11:31 G 27241089.80 27241089.98 27241090.17 0.0278 0.0179 Neptune 69877-02-01 02:10 G 27243141.59 27243141.59 27243141.59 0.0088 0.0088 Neptune 69878-02-03 13:41 G 27243508.89 27243509.07 27243509.27 0.0088 0.0060 Neptune 69879-02-06 01:55 G 27243876.34 27243876.58 27243876.82 0.0088 0.0032 Neptune 69880-02-08 13:41 G 27244243.81 27244244.07 27244244.33 0.0088 0.0004 Uranus 69881-01-26 11:46 G 27244596.91 27244596.99 27244597.09 0.0143 0.0133 Neptune 69881-02-10 01:27 G 27244611.32 27244611.56 27244611.82 0.0088 0.0024 Uranus 69882-01-31 12:43 G 27244966.83 27244967.03 27244967.24 0.0143 0.0084 Neptune 69882-02-12 13:12 G 27244978.86 27244979.05 27244979.27 0.0088 0.0052 Uranus 69883-02-05 12:58 G 27245336.79 27245337.04 27245337.29 0.0142 0.0035 Neptune 69883-02-15 00:58 G 27245346.46 27245346.54 27245346.68 0.0088 0.0080 Uranus 69884-02-10 12:29 G 27245706.77 27245707.02 27245707.28 0.0142 0.0014 Uranus 69885-02-14 11:03 G 27246076.74 27246076.96 27246077.20 0.0142 0.0063 Uranus 69886-02-19 09:07 G 27246446.74 27246446.88 27246447.06 0.0141 0.0111 Saturn 69886-12-27 04:05 G 27246757.44 27246757.67 27246757.90 0.0281 0.0105 Saturn 69901-06-28 13:12 G 27252053.82 27252054.05 27252054.28 0.0277 0.0095 Jupiter 69901-07-29 01:41 G 27252084.34 27252084.57 27252084.80 0.0544 0.0059 Jupiter 69913-08-03 06:58 G 27256472.66 27256472.79 27256472.92 0.0544 0.0447 Saturn 69915-12-22 08:39 G 27257343.66 27257343.86 27257344.07 0.0281 0.0154 Jupiter 69919-01-24 07:41 G 27258472.78 27258472.82 27258472.88 0.0485 0.0474 Uranus 69924-07-29 03:22 G 27260485.50 27260485.64 27260485.81 0.0135 0.0106 Uranus 69925-08-02 11:31 G 27260854.77 27260854.98 27260855.21 0.0136 0.0066 Uranus 69926-08-06 20:10 G 27261224.09 27261224.34 27261224.59 0.0136 0.0024 Uranus 69927-08-11 05:03 G 27261593.46 27261593.71 27261593.96 0.0136 0.0018 Pluto 69928-08-01 12:29 G 27261949.79 27261950.02 27261950.26 0.0064 0.0027

Uranus 69928-08-14 14:10 G 27261962.87 27261963.09 27261963.33 0.0136 0.0059 Uranus 69929-08-18 23:46 G 27262332.35 27262332.49 27262332.68 0.0137 0.0102 Saturn 69930-06-23 15:22 G 27262640.93 27262641.14 27262641.36 0.0278 0.0123 Jupiter 69931-01-28 16:48 G 27262859.98 27262860.20 27262860.44 0.0485 0.0115 Jupiter 69943-02-01 23:46 G 27267247.29 27267247.49 27267247.70 0.0484 0.0238 Saturn 69945-12-29 06:15 G 27268308.56 27268308.76 27268308.97 0.0281 0.0158 Neptune 69959-08-04 16:48 G 27273275.03 27273275.20 27273275.39 0.0089 0.0062 Saturn 69960-06-29 16:19 G 27273604.99 27273605.18 27273605.39 0.0277 0.0151 Neptune 69960-08-06 04:05 G 27273642.45 27273642.67 27273642.93 0.0089 0.0034 Neptune 69961-08-08 15:51 G 27274009.91 27274010.16 27274010.42 0.0089 0.0004 Neptune 69962-08-11 03:22 G 27274377.40 27274377.64 27274377.89 0.0089 0.0025 Neptune 69963-08-13 14:24 G 27274744.91 27274745.10 27274745.32 0.0089 0.0054 Neptune 69964-08-15 01:41 G 27275112.50 27275112.57 27275112.69 0.0089 0.0083 Uranus 69965-01-27 22:05 G 27275278.33 27275278.42 27275278.56 0.0143 0.0128 Uranus 69966-02-01 23:03 G 27275648.26 27275648.46 27275648.69 0.0143 0.0079 Uranus 69967-02-06 23:31 G 27276018.23 27276018.48 27276018.74 0.0142 0.0030 Uranus 69968-02-11 23:03 G 27276388.21 27276388.46 27276388.72 0.0142 0.0020 Uranus 69969-02-15 21:51 G 27276758.20 27276758.41 27276758.65 0.0142 0.0068 Uranus 69970-02-20 19:55 G 27277128.20 27277128.33 27277128.50 0.0141 0.0116 Saturn 69974-12-23 08:53 G 27278894.64 27278894.87 27278895.10 0.0281 0.0104 69975-05-20 18:58 G 27279043.16 27279043.29 27279043.41 0.1782 0.1314 Mars Jupiter 69984-07-27 23:03 G 27282399.24 27282399.46 27282399.68 0.0544 0.0161 Saturn 69989-06-24 17:46 G 27284192.01 27284192.24 27284192.48 0.0278 0.0070 Jupiter 69996-08-02 04:05 G 27286787.50 27286787.67 27286787.85 0.0544 0.0345 Mars 70000-11-17 19:55 G 27288356.14 27288356.33 27288356.51 0.1745 0.0528

# 71ST MILLENNIUM CE

#### This is a list of transits of Earth in the 71st millennium CE.

FROM MAX- C START MAX END SUNRAD DEPTH S

TRANSIT

TIME

Saturn 70004-12-30 07:41 G 27289859.66 27289859.82 27289859.99 0.0281 0.0209 Uranus 70008-07-29 13:55 G 27291166.92 27291167.08 27291167.25 0.0135 0.0101 Uranus 70009-08-02 21:36 G 27291536.19 27291536.40 27291536.64 0.0136 0.0061 Uranus 70010-08-07 06:15 G 27291905.51 27291905.76 27291906.01 0.0136 0.0019 Uranus 70011-08-11 14:53 G 27292274.88 27292275.12 27292275.37 0.0136 0.0022 Uranus 70012-08-14 23:46 G 27292644.29 27292644.49 27292644.73 0.0136 0.0065 Uranus 70013-08-19 09:36 G 27293013.76 27293013.90 27293014.08 0.0137 0.0106 Jupiter 70014-01-28 02:39 G 27293175.39 27293175.61 27293175.84 0.0485 0.0156 Saturn 70019-07-01 19:12 G 27295156.14 27295156.30 27295156.47 0.0277 0.0204 Jupiter 70026-02-01 08:53 G 27297562.65 27297562.87 27297563.09 0.0484 0.0196 Saturn 70033-12-24 09:07 G 27300445.63 27300445.88 27300446.12 0.0281 0.0054 Neptune 70042-02-03 22:19 G 27303409.30 27303409.43 27303409.60 0.0088 0.0072 Neptune 70043-02-06 10:34 G 27303776.72 27303776.94 27303777.17 0.0088 0.0044 Neptune 70044-02-08 22:19 G 27304144.19 27304144.43 27304144.70 0.0088 0.0017 Neptune 70045-02-10 10:19 G 27304511.67 27304511.93 27304512.19 0.0088 0.0011 Neptune 70046-02-12 22:19 G 27304879.20 27304879.43 27304879.67 0.0088 0.0039 Neptune 70047-02-15 09:51 G 27305246.76 27305246.91 27305247.10 0.0088 0.0067 Saturn 70048-06-25 19:12 G 27305743.06 27305743.30 27305743.54 0.0279 0.0018 Uranus 70049-01-28 08:24 G 27305959.74 27305959.85 27305960.00 0.0143 0.0122 Uranus 70050-02-02 09:36 G 27306329.69 27306329.90 27306330.13 0.0143 0.0073 Uranus 70051-02-07 09:51 G 27306699.66 27306699.91 27306700.17 0.0142 0.0024 Uranus 70052-02-12 09:36 G 27307069.65 27307069.90 27307070.16 0.0142 0.0025

Uranus 70053-02-16 07:55 G 27307439.63 27307439.83 27307440.07 0.0142 0.0074 Uranus 70054-02-21 06:15 G 27307809.65 27307809.76 27307809.91 0.0142 0.0121 Saturn 70064-01-01 09:07 G 27311410.81 27311410.88 27311410.99 0.0281 0.0261 Jupiter 70067-07-28 04:05 G 27312714.46 27312714.67 27312714.88 0.0544 0.0231 Saturn 70077-06-20 06:58 G 27316329.74 27316329.79 27316329.86 0.0278 0.0268 Saturn 70078-07-02 21:22 G 27316707.31 27316707.39 27316707.49 0.0277 0.0256 Jupiter 70079-08-02 12:43 G 27317102.84 27317103.03 27317103.23 0.0545 0.0291 Uranus 70091-07-26 16:19 G 27321479.18 27321479.18 27321479.18 0.0135 0.0135 Uranus 70092-07-29 23:31 G 27321848.31 27321848.48 27321848.67 0.0135 0.0095 Saturn 70092-12-25 09:36 G 27321996.65 27321996.90 27321997.14 0.0281 0.0006 Uranus 70093-08-03 07:27 G 27322217.59 27322217.81 27322218.05 0.0135 0.0055 Uranus 70094-08-07 15:36 G 27322586.90 27322587.15 27322587.40 0.0136 0.0014 Uranus 70095-08-12 00:15 G 27322956.27 27322956.51 27322956.76 0.0136 0.0027 Uranus 70096-08-15 09:07 G 27323325.67 27323325.88 27323326.11 0.0136 0.0068 Jupiter 70097-01-27 12:00 G 27323490.79 27323491.00 27323491.22 0.0485 0.0198 Uranus 70097-08-19 18:43 G 27323695.14 27323695.28 27323695.44 0.0137 0.0110 Saturn 70107-06-28 20:39 G 27327294.12 27327294.36 27327294.60 0.0279 0.0033 Jupiter 70109-02-01 20:10 G 27327878.12 27327878.34 27327878.57 0.0485 0.0160 Saturn 70121-12-20 22:34 G 27332583.32 27332583.44 27332583.57 0.0280 0.0243 Neptune 70123-08-05 02:24 G 27333175.48 27333175.60 27333175.76 0.0090 0.0075 Neptune 70124-08-06 13:41 G 27333542.86 27333543.07 27333543.30 0.0089 0.0046 Neptune 70125-08-09 01:12 G 27333910.31 27333910.55 27333910.81 0.0089 0.0017 Neptune 70126-08-11 12:43 G 27334277.77 27334278.03 27334278.28 0.0089 0.0012 Neptune 70127-08-14 00:00 G 27334645.28 27334645.50 27334645.74 0.0089 0.0040 Neptune 70128-08-15 11:03 G 27335012.83 27335012.96 27335013.15 0.0089 0.0070 Uranus 70133-01-29 18:43 G 27336641.15 27336641.28 27336641.45 0.0143 0.0116 Uranus 70134-02-03 20:10 G 27337011.12 27337011.34 27337011.58 0.0143 0.0067 Uranus 70135-02-08 20:39 G 27337381.10 27337381.36 27337381.62 0.0142 0.0018 Uranus 70136-02-13 20:10 G 27337751.09 27337751.34 27337751.59 0.0142 0.0031 Saturn 70136-06-22 08:53 G 27337880.74 27337880.87 27337881.04 0.0279 0.0217

Uranus 70137-02-17 18:58 G 27338121.09 27338121.29 27338121.51 0.0142 0.0079 Uranus 70138-02-22 17:17 G 27338491.11 27338491.22 27338491.34 0.0142 0.0126 Jupiter 70150-07-28 11:31 G 27343029.79 27343029.98 27343030.18 0.0543 0.0290 Saturn 70151-12-28 11:46 G 27343547.75 27343547.99 27343548.24 0.0280 0.0049 Jupiter 70162-08-02 12:00 G 27347417.79 27347418.00 27347418.22 0.0544 0.0196 Saturn 70166-06-29 21:51 G 27348845.18 27348845.41 27348845.64 0.0279 0.0084 Uranus 70175-07-28 03:07 G 27352160.58 27352160.63 27352160.72 0.0135 0.0129 Pluto 70175-08-04 23:46 G 27352168.24 27352168.49 27352168.75 0.0064 0.0005 Uranus 70176-07-31 10:48 G 27352529.77 27352529.95 27352530.14 0.0135 0.0090 Uranus 70177-08-04 18:15 G 27352899.04 27352899.26 27352899.51 0.0135 0.0050 Uranus 70178-08-09 02:39 G 27353268.36 27353268.61 27353268.86 0.0136 0.0009 Uranus 70179-08-13 11:03 G 27353637.72 27353637.96 27353638.21 0.0136 0.0032 Jupiter 70180-01-28 21:07 G 27353806.18 27353806.38 27353806.59 0.0485 0.0242 Uranus 70180-08-16 19:55 G 27354007.13 27354007.33 27354007.55 0.0136 0.0074 Saturn 70180-12-22 02:10 G 27354134.42 27354134.59 27354134.79 0.0280 0.0189 Uranus 70181-08-21 05:31 G 27354376.61 27354376.73 27354376.88 0.0137 0.0115 Jupiter 70192-02-02 05:17 G 27358193.49 27358193.72 27358193.95 0.0484 0.0117 Saturn 70195-06-24 12:29 G 27359431.83 27359432.02 27359432.22 0.0279 0.0162 Jupiter 70204-02-07 11:31 G 27362580.92 27362580.98 27362581.04 0.0484 0.0467 Neptune 70206-02-05 05:31 G 27363309.70 27363309.73 27363309.83 0.0088 0.0085 Neptune 70207-02-07 18:00 G 27363677.07 27363677.25 27363677.46 0.0088 0.0057 Neptune 70208-02-10 06:00 G 27364044.51 27364044.75 27364045.00 0.0088 0.0029 Neptune 70209-02-11 18:00 G 27364411.99 27364412.25 27364412.52 0.0088 0.0002 Neptune 70210-02-14 05:46 G 27364779.50 27364779.74 27364780.00 0.0088 0.0027 Saturn 70210-12-30 15:51 G 27365098.94 27365099.16 27365099.40 0.0280 0.0105 Neptune 70211-02-16 17:46 G 27365147.04 27365147.24 27365147.45 0.0088 0.0054 Neptune 70212-02-19 05:17 G 27365514.65 27365514.72 27365514.83 0.0088 0.0082 Uranus 70217-01-31 05:03 G 27367322.57 27367322.71 27367322.89 0.0143 0.0110 Uranus 70218-02-05 06:15 G 27367692.54 27367692.76 27367693.01 0.0143 0.0061 Uranus 70219-02-10 06:43 G 27368062.53 27368062.78 27368063.04 0.0142 0.0011

Uranus 70220-02-15 06:15 G 27368432.52 27368432.76 27368433.02 0.0142 0.0038 Uranus 70221-02-19 05:17 G 27368802.52 27368802.72 27368802.93 0.0142 0.0085 Uranus 70222-02-24 03:22 G 27369172.57 27369172.64 27369172.75 0.0142 0.0132 Saturn 70225-07-02 00:00 G 27370396.29 27370396.50 27370396.72 0.0279 0.0136 Jupiter 70233-07-28 08:53 G 27373344.71 27373344.87 27373345.03 0.0542 0.0393 Saturn 70239-12-25 08:39 G 27375685.64 27375685.86 27375686.08 0.0279 0.0130 Jupiter 70245-08-02 13:27 G 27377732.84 27377733.06 27377733.29 0.0544 0.0113 Saturn 70254-06-26 16:34 G 27380982.97 27380983.19 27380983.42 0.0279 0.0107 70259-05-23 02:53 G 27382774.50 27382774.62 27382774.74 0.1790 0.1375 Mars Uranus 70259-07-29 13:27 G 27382841.98 27382842.06 27382842.18 0.0135 0.0124 Uranus 70260-08-01 20:39 G 27383211.18 27383211.36 27383211.57 0.0135 0.0084 Uranus 70261-08-06 04:34 G 27383580.46 27383580.69 27383580.93 0.0135 0.0044 Uranus 70262-08-10 12:29 G 27383949.77 27383950.02 27383950.28 0.0136 0.0004 Jupiter 70263-01-29 04:34 G 27384121.51 27384121.69 27384121.89 0.0485 0.0292 Uranus 70263-08-14 20:53 G 27384319.14 27384319.37 27384319.62 0.0136 0.0038 Pluto 70264-02-06 09:07 G 27384494.67 27384494.88 27384495.12 0.0080 0.0039 Uranus 70264-08-18 05:46 G 27384688.55 27384688.74 27384688.96 0.0136 0.0079 Uranus 70265-08-22 15:22 G 27385058.03 27385058.14 27385058.27 0.0137 0.0120 Saturn 70269-12-31 22:19 G 27386650.23 27386650.43 27386650.64 0.0280 0.0164 Jupiter 70275-02-02 12:43 G 27388508.80 27388509.03 27388509.27 0.0485 0.0068 Saturn 70284-07-03 04:05 G 27391947.50 27391947.67 27391947.85 0.0279 0.0190 70284-11-20 06:29 G 27392087.59 27392087.77 27392087.94 0.1737 0.0703 Mars Jupiter 70287-02-06 19:27 G 27392896.20 27392896.31 27392896.43 0.0485 0.0421 Neptune 70287-08-05 11:03 G 27393075.94 27393075.96 27393076.04 0.0090 0.0088 Neptune 70288-08-06 22:48 G 27393443.27 27393443.45 27393443.66 0.0090 0.0059 Neptune 70289-08-09 09:51 G 27393810.69 27393810.91 27393811.17 0.0089 0.0031 Neptune 70290-08-11 21:36 G 27394178.15 27394178.40 27394178.66 0.0089 0.0002 Neptune 70291-08-14 08:39 G 27394545.63 27394545.86 27394546.12 0.0089 0.0028 Neptune 70292-08-15 19:55 G 27394913.15 27394913.33 27394913.55 0.0089 0.0056 Neptune 70293-08-18 07:27 G 27395280.75 27395280.81 27395280.91 0.0089 0.0085 Saturn 70298-12-26 16:34 G 27397236.95 27397237.19 27397237.43 0.0279 0.0069 Uranus 70301-02-01 16:34 G 27398004.02 27398004.19 27398004.37 0.0143 0.0103 Uranus 70302-02-06 17:46 G 27398374.00 27398374.24 27398374.47 0.0143 0.0054 Uranus 70303-02-11 18:00 G 27398743.99 27398744.25 27398744.50 0.0143 0.0006 Uranus 70304-02-16 17:31 G 27399113.99 27399114.23 27399114.48 0.0142 0.0043 Uranus 70305-02-20 16:05 G 27399483.99 27399484.17 27399484.38 0.0142 0.0091 Uranus 70306-02-25 14:24 G 27399854.06 27399854.10 27399854.18 0.0142 0.0138 Saturn 70313-06-28 22:34 G 27402534.20 27402534.44 27402534.68 0.0279 0.0049 Jupiter 70316-07-28 11:46 G 27403659.89 27403659.99 27403660.11 0.0543 0.0470 Jupiter 70328-08-02 18:43 G 27408048.05 27408048.28 27408048.51 0.0544 0.0044 Saturn 70329-01-03 07:12 G 27408201.67 27408201.80 27408201.95 0.0280 0.0228 Jupiter 70340-08-07 20:53 G 27412436.36 27412436.37 27412436.40 0.0544 0.0541 Saturn 70343-07-06 09:07 G 27413498.77 27413498.88 27413499.00 0.0279 0.0246 Uranus 70343-07-31 00:58 G 27413523.44 27413523.54 27413523.68 0.0135 0.0118 Uranus 70344-08-03 08:24 G 27413892.65 27413892.85 27413893.06 0.0135 0.0078 Uranus 70345-08-07 15:51 G 27414261.93 27414262.16 27414262.41 0.0135 0.0038 Jupiter 70346-01-29 10:34 G 27414436.78 27414436.94 27414437.11 0.0486 0.0347 Uranus 70346-08-12 00:00 G 27414631.25 27414631.50 27414631.75 0.0136 0.0003 Uranus 70347-08-16 08:24 G 27415000.62 27415000.85 27415001.09 0.0136 0.0043 Uranus 70348-08-19 17:03 G 27415370.02 27415370.21 27415370.42 0.0136 0.0084 Uranus 70349-08-24 02:24 G 27415739.53 27415739.60 27415739.72 0.0137 0.0126 Saturn 70357-12-29 02:39 G 27418788.36 27418788.61 27418788.86 0.0279 0.0005 Jupiter 70358-02-02 18:00 G 27418824.01 27418824.25 27418824.48 0.0485 0.0014 Jupiter 70370-02-07 01:55 G 27423211.43 27423211.58 27423211.73 0.0484 0.0370 Neptune 70371-02-08 00:43 G 27423577.40 27423577.53 27423577.71 0.0088 0.0070 Neptune 70372-02-10 13:12 G 27423944.83 27423945.05 27423945.29 0.0088 0.0042 Saturn 70372-06-30 06:15 G 27424085.51 27424085.76 27424086.00 0.0279 0.0013 Neptune 70373-02-12 01:27 G 27424312.30 27424312.56 27424312.82 0.0088 0.0014 Neptune 70374-02-14 13:12 G 27424679.80 27424680.05 27424680.31 0.0088 0.0014 Neptune 70375-02-17 01:12 G 27425047.32 27425047.55 27425047.78 0.0088 0.0041 Neptune 70376-02-19 12:29 G 27425414.88 27425415.02 27425415.20 0.0088 0.0069 Uranus 70385-02-02 03:36 G 27428685.47 27428685.65 27428685.85 0.0143 0.0097 Uranus 70386-02-07 04:48 G 27429055.46 27429055.70 27429055.95 0.0143 0.0048 Saturn 70386-12-23 06:15 G 27429374.68 27429374.76 27429374.87 0.0279 0.0257 Uranus 70387-02-12 05:03 G 27429425.45 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27445312.68 27445312.93 27445313.18 0.0136 0.0007 Saturn 70431-07-02 14:53 G 27445636.90 27445637.12 27445637.36 0.0279 0.0076 Uranus 70431-08-16 18:29 G 27445682.04 27445682.27 27445682.51 0.0136 0.0048 Uranus 70432-08-20 03:07 G 27446051.46 27446051.63 27446051.84 0.0136 0.0089 Uranus 70433-08-24 12:43 G 27446420.98 27446421.03 27446421.12 0.0136 0.0130 Jupiter 70441-02-01 23:17 G 27449139.23 27449139.47 27449139.71 0.0485 0.0044 Saturn 70445-12-24 18:29 G 27450926.10 27450926.27 27450926.46 0.0279 0.0189 Neptune 70452-08-07 07:12 G 27453343.65 27453343.80 27453343.95 0.0090 0.0072 Jupiter 70453-02-06 06:29 G 27453526.60 27453526.77 27453526.96 0.0485 0.0313 Neptune 70453-08-09 18:15 G 27453711.05 27453711.26 27453711.50 0.0090 0.0044 Neptune 70454-08-12 05:46 G 27454078.49 27454078.74 27454078.99 0.0089 0.0015 Neptune 70455-08-14 17:03 G 27454445.96 27454446.21 27454446.46 0.0089 0.0014 Neptune 70456-08-16 03:51 G 27454813.46 27454813.66 27454813.91 0.0089 0.0043 Neptune 70457-08-18 15:36 G 27455181.00 27455181.15 27455181.30 0.0089 0.0071 Saturn 70460-06-26 07:27 G 27456223.62 27456223.81 27456224.01 0.0280 0.0165 Uranus 70468-01-29 13:41 G 27458997.04 27458997.07 27458997.13 0.0143 0.0141 Uranus 70469-02-02 15:22 G 27459366.95 27459367.14 27459367.35 0.0143 0.0091 Uranus 70470-02-07 16:34 G 27459736.94 27459737.19 27459737.43 0.0143 0.0042 Uranus 70471-02-12 16:48 G 27460106.94 27460107.20 27460107.46 0.0143 0.0006 Uranus 70472-02-17 16:19 G 27460476.96 27460477.18 27460477.43 0.0142 0.0056 Uranus 70473-02-21 15:36 G 27460846.98 27460847.15 27460847.33 0.0142 0.0102 Saturn 70476-01-02 01:41 G 27461891.35 27461891.57 27461891.79 0.0280 0.0129 Saturn 70490-07-04 01:12 G 27467188.35 27467188.55 27467188.77 0.0279 0.0141 Jupiter 70494-08-01 12:29 G 27468677.80 27468678.02 27468678.24 0.0543 0.0160 Saturn 70504-12-27 07:12 G 27472477.58 27472477.80 27472478.03 0.0279 0.0121 Jupiter 70506-08-07 19:27 G 27473066.15 27473066.31 27473066.49 0.0544 0.0358 Pluto 70511-02-10 05:03 G 27474713.47 27474713.71 27474713.97 0.0080 0.0024 Uranus 70511-08-01 23:31 G 27474886.34 27474886.48 27474886.64 0.0135 0.0107 Jupiter 70512-01-29 20:24 G 27475067.28 27475067.35 27475067.42 0.0486 0.0462 Uranus 70512-08-05 06:29 G 27475255.56 27475255.77 27475256.00 0.0135 0.0068 Uranus 70513-08-09 13:55 G 27475624.84 27475625.08 27475625.33 0.0135 0.0028 Uranus 70514-08-13 21:51 G 27475994.16 27475994.41 27475994.66 0.0136 0.0012 Uranus 70515-08-18 06:15 G 27476363.53 27476363.76 27476363.99 0.0136 0.0053 Uranus 70516-08-21 14:53 G 27476732.95 27476733.12 27476733.31 0.0136 0.0095 Uranus 70517-08-26 00:29 G 27477102.51 27477102.52 27477102.56 0.0136 0.0136 Saturn 70519-06-29 16:34 G 27477774.97 27477775.19 27477775.43 0.0280 0.0102 Jupiter 70524-02-03 02:10 G 27479454.35 27479454.59 27479454.82 0.0486 0.0108 Saturn 70535-01-04 13:12 G 27483442.88 27483443.05 27483443.23 0.0280 0.0196 Neptune 70535-02-08 06:43 G 27483477.73 27483477.78 27483477.90 0.0088 0.0083 Jupiter 70536-02-07 09:36 G 27483841.70 27483841.90 27483842.10 0.0485 0.0252 Neptune 70536-02-10 19:12 G 27483845.11 27483845.30 27483845.52 0.0088 0.0055 Neptune 70537-02-12 07:41 G 27484212.57 27484212.82 27484213.07 0.0088 0.0027 Neptune 70538-02-14 19:41 G 27484580.06 27484580.32 27484580.58 0.0088 0.0001

Neptune 70539-02-17 07:27 G 27484947.57 27484947.81 27484948.06 0.0088 0.0028 Neptune 70540-02-19 19:12 G 27485315.12 27485315.30 27485315.52 0.0088 0.0056 Neptune 70541-02-21 07:27 G 27485682.73 27485682.81 27485682.89 0.0088 0.0083 70543-05-25 10:05 G 27486505.82 27486505.92 27486506.03 0.1798 0.1488 Mars Saturn 70549-07-06 11:31 G 27488739.83 27488739.98 27488740.15 0.0279 0.0206 Uranus 70552-01-31 01:27 G 27489678.49 27489678.56 27489678.67 0.0143 0.0134 Uranus 70553-02-04 03:07 G 27490048.43 27490048.63 27490048.85 0.0143 0.0085 Uranus 70554-02-09 04:19 G 27490418.43 27490418.68 27490418.93 0.0143 0.0036 Uranus 70555-02-14 04:34 G 27490788.44 27490788.69 27490788.95 0.0143 0.0013 Uranus 70556-02-19 04:34 G 27491158.46 27491158.69 27491158.92 0.0142 0.0061 Uranus 70557-02-23 03:51 G 27491528.49 27491528.66 27491528.82 0.0142 0.0108 Saturn 70563-12-29 19:27 G 27494029.07 27494029.31 27494029.56 0.0280 0.0053 Mars 70568-11-22 18:58 G 27495819.13 27495819.29 27495819.45 0.1730 0.0966 Jupiter 70577-08-01 14:39 G 27498992.90 27498993.11 27498993.32 0.0542 0.0240 Saturn 70578-07-01 02:24 G 27499326.36 27499326.60 27499326.84 0.0279 0.0037 Jupiter 70589-08-06 17:31 G 27503381.03 27503381.23 27503381.43 0.0543 0.0260 Saturn 70594-01-05 23:31 G 27504994.41 27504994.48 27504994.58 0.0280 0.0261 Uranus 70595-08-02 11:03 G 27505567.80 27505567.96 27505568.13 0.0135 0.0102 Uranus 70596-08-05 17:31 G 27505937.02 27505937.23 27505937.47 0.0135 0.0063 Uranus 70597-08-10 00:58 G 27506306.30 27506306.54 27506306.80 0.0135 0.0024 Uranus 70598-08-14 08:53 G 27506675.62 27506675.87 27506676.12 0.0136 0.0017 Uranus 70599-08-18 17:03 G 27507044.99 27507045.21 27507045.44 0.0136 0.0058 Uranus 70600-08-23 01:41 G 27507414.41 27507414.57 27507414.76 0.0136 0.0099 Jupiter 70607-02-03 08:10 G 27509769.62 27509769.84 27509770.07 0.0486 0.0160 Saturn 70607-06-27 05:31 G 27509913.64 27509913.73 27509913.84 0.0280 0.0256 Saturn 70608-07-08 22:05 G 27510291.37 27510291.42 27510291.48 0.0279 0.0271 Neptune 70616-08-08 14:24 G 27513244.05 27513244.10 27513244.20 0.0090 0.0086 Neptune 70617-08-11 02:10 G 27513611.40 27513611.59 27513611.80 0.0090 0.0057 Neptune 70618-08-13 13:12 G 27513978.83 27513979.05 27513979.31 0.0090 0.0029 Jupiter 70619-02-07 15:07 G 27514156.92 27514157.13 27514157.35 0.0485 0.0198

Neptune 70619-08-16 00:58 G 27514346.28 27514346.54 27514346.79 0.0090 0.0000 Neptune 70620-08-17 11:46 G 27514713.76 27514713.99 27514714.24 0.0089 0.0029 Neptune 70621-08-19 22:48 G 27515081.28 27515081.45 27515081.67 0.0089 0.0058 Neptune 70622-08-22 10:05 G 27515448.87 27515448.92 27515449.02 0.0089 0.0086 Saturn 70623-01-01 06:15 G 27515580.51 27515580.76 27515581.01 0.0280 0.0013 Uranus 70636-02-01 12:43 G 27520359.93 27520360.03 27520360.16 0.0144 0.0129 Uranus 70637-02-05 14:24 G 27520729.90 27520730.10 27520730.33 0.0143 0.0080 Saturn 70637-07-03 11:31 G 27520877.74 27520877.98 27520878.22 0.0279 0.0027 Uranus 70638-02-10 15:36 G 27521099.90 27521100.15 27521100.41 0.0143 0.0031 Uranus 70639-02-15 16:19 G 27521469.93 27521470.18 27521470.44 0.0143 0.0018 Uranus 70640-02-20 16:34 G 27521839.96 27521840.19 27521840.42 0.0142 0.0067 Uranus 70641-02-24 15:36 G 27522210.01 27522210.15 27522210.31 0.0142 0.0114 Saturn 70651-12-26 20:10 G 27526167.20 27526167.34 27526167.49 0.0279 0.0226 Jupiter 70660-08-01 07:55 G 27529307.66 27529307.83 27529308.00 0.0542 0.0357 Saturn 70666-06-28 14:53 G 27531464.96 27531465.12 27531465.31 0.0280 0.0191 Pluto 70668-08-10 22:05 G 27532239.20 27532239.42 27532239.69 0.0064 0.0019 Jupiter 70672-08-06 12:43 G 27533695.81 27533696.03 27533696.25 0.0543 0.0151 Uranus 70678-07-30 17:03 G 27535880.21 27535880.21 27535880.24 0.0135 0.0135 Uranus 70679-08-03 23:31 G 27536249.32 27536249.48 27536249.67 0.0135 0.0096 Uranus 70680-08-07 06:15 G 27536618.55 27536618.76 27536619.00 0.0135 0.0057 Uranus 70681-08-11 13:55 G 27536987.83 27536988.08 27536988.33 0.0135 0.0017 Saturn 70682-01-02 15:07 G 27537131.89 27537132.13 27537132.37 0.0280 0.0075 Uranus 70682-08-15 21:36 G 27537357.15 27537357.40 27537357.65 0.0135 0.0024 Uranus 70683-08-20 05:31 G 27537726.53 27537726.73 27537726.97 0.0136 0.0065 Uranus 70684-08-23 14:24 G 27538095.96 27538096.10 27538096.27 0.0136 0.0105 Jupiter 70690-02-02 13:55 G 27540084.87 27540085.08 27540085.30 0.0486 0.0216 Saturn 70696-07-04 20:10 G 27542429.11 27542429.34 27542429.57 0.0279 0.0089 Neptune 70700-02-11 01:12 G 27543745.39 27543745.55 27543745.71 0.0088 0.0068 Neptune 70701-02-13 12:58 G 27544112.82 27544113.04 27544113.28 0.0088 0.0041 Jupiter 70702-02-07 19:41 G 27544472.10 27544472.32 27544472.55 0.0485 0.0141

Neptune 70702-02-16 00:58 G 27544480.29 27544480.54 27544480.80 0.0088 0.0013 Neptune 70703-02-18 12:58 G 27544847.79 27544848.04 27544848.31 0.0088 0.0015 Neptune 70704-02-21 00:58 G 27545215.32 27545215.54 27545215.78 0.0088 0.0042 Neptune 70705-02-22 12:29 G 27545582.89 27545583.02 27545583.20 0.0088 0.0070 Saturn 70710-12-29 02:24 G 27547718.41 27547718.60 27547718.80 0.0279 0.0169 Uranus 70720-02-03 00:15 G 27551041.39 27551041.51 27551041.66 0.0144 0.0122 Uranus 70721-02-07 01:55 G 27551411.37 27551411.58 27551411.81 0.0143 0.0073 Uranus 70722-02-12 03:22 G 27551781.39 27551781.64 27551781.90 0.0143 0.0024 Uranus 70723-02-17 04:05 G 27552151.42 27552151.67 27552151.93 0.0143 0.0026 Uranus 70724-02-22 04:19 G 27552521.47 27552521.68 27552521.91 0.0142 0.0074 Uranus 70725-02-26 03:36 G 27552891.54 27552891.65 27552891.80 0.0142 0.0121 Saturn 70725-06-30 22:48 G 27553016.24 27553016.45 27553016.67 0.0280 0.0129 Saturn 70741-01-04 21:51 G 27558683.20 27558683.41 27558683.63 0.0280 0.0134 Jupiter 70743-08-02 11:31 G 27559622.84 27559622.98 27559623.11 0.0542 0.0434 Saturn 70755-07-08 02:39 G 27563980.42 27563980.61 27563980.83 0.0279 0.0149 Jupiter 70755-08-07 18:43 G 27564011.05 27564011.28 27564011.50 0.0543 0.0086 Pluto 70757-02-12 02:53 G 27564565.52 27564565.62 27564565.75 0.0080 0.0071 Uranus 70762-08-01 05:17 G 27566561.67 27566561.72 27566561.81 0.0135 0.0129 Uranus 70763-08-05 12:00 G 27566930.82 27566931.00 27566931.19 0.0135 0.0090 Uranus 70764-08-08 18:58 G 27567300.05 27567300.29 27567300.52 0.0135 0.0050 Uranus 70765-08-13 02:10 G 27567669.34 27567669.59 27567669.84 0.0135 0.0011 Uranus 70766-08-17 09:36 G 27568038.67 27568038.90 27568039.16 0.0135 0.0031 Uranus 70767-08-21 17:46 G 27568408.04 27568408.24 27568408.47 0.0136 0.0071 Uranus 70768-08-25 02:39 G 27568777.48 27568777.61 27568777.77 0.0136 0.0111 Saturn 70769-12-30 06:00 G 27569269.54 27569269.75 27569269.99 0.0279 0.0115 Jupiter 70773-02-02 19:55 G 27570400.13 27570400.33 27570400.53 0.0486 0.0269 Neptune 70781-08-11 08:24 G 27573511.71 27573511.85 27573512.02 0.0090 0.0071 Neptune 70782-08-13 19:41 G 27573879.12 27573879.32 27573879.57 0.0090 0.0043 Neptune 70783-08-16 07:27 G 27574246.56 27574246.81 27574247.06 0.0090 0.0014 Saturn 70784-07-02 05:17 G 27574567.49 27574567.72 27574567.95 0.0280 0.0069

Neptune 70784-08-17 18:43 G 27574614.03 27574614.28 27574614.54 0.0090 0.0015 Jupiter 70785-02-07 05:17 G 27574787.49 27574787.72 27574787.95 0.0485 0.0098 Neptune 70785-08-20 06:00 G 27574981.53 27574981.75 27574981.98 0.0089 0.0043 Neptune 70786-08-22 16:48 G 27575349.07 27575349.20 27575349.37 0.0089 0.0072 Jupiter 70797-02-11 12:29 G 27579174.95 27579175.02 27579175.10 0.0484 0.0457 Saturn 70800-01-07 02:24 G 27580234.42 27580234.60 27580234.78 0.0280 0.0189 Uranus 70804-02-03 11:17 G 27581722.83 27581722.97 27581723.13 0.0144 0.0116 Uranus 70805-02-07 13:12 G 27582092.83 27582093.05 27582093.28 0.0143 0.0067 Uranus 70806-02-12 14:39 G 27582462.86 27582463.11 27582463.37 0.0143 0.0018 Uranus 70807-02-17 15:36 G 27582832.90 27582833.15 27582833.41 0.0143 0.0032 Uranus 70808-02-22 16:19 G 27583202.96 27583203.18 27583203.39 0.0142 0.0080 Uranus 70809-02-26 15:22 G 27583573.04 27583573.14 27583573.27 0.0142 0.0127 Saturn 70814-07-09 07:55 G 27585531.68 27585531.83 27585532.01 0.0279 0.0206 Jupiter 70826-08-01 16:34 G 27589938.11 27589938.19 27589938.28 0.0542 0.0502 Mars 70827-05-27 15:36 G 27590237.10 27590237.15 27590237.20 0.1806 0.1725 Saturn 70828-12-31 08:24 G 27590820.61 27590820.85 27590821.09 0.0279 0.0062 Jupiter 70838-08-06 15:07 G 27594325.90 27594326.13 27594326.36 0.0543 0.0023 Saturn 70843-07-04 09:22 G 27596118.65 27596118.89 27596119.13 0.0280 0.0013 Uranus 70846-08-01 18:58 G 27597243.20 27597243.29 27597243.40 0.0135 0.0122 Uranus 70847-08-06 01:12 G 27597612.37 27597612.55 27597612.76 0.0135 0.0083 Uranus 70848-08-09 08:10 G 27597981.61 27597981.84 27597982.09 0.0135 0.0044 Uranus 70849-08-13 15:51 G 27598350.90 27598351.16 27598351.41 0.0135 0.0004 Jupiter 70850-08-11 19:27 G 27598714.22 27598714.31 27598714.42 0.0544 0.0489 Uranus 70850-08-17 23:17 G 27598720.24 27598720.47 27598720.72 0.0135 0.0037 Uranus 70851-08-22 07:27 G 27599089.62 27599089.81 27599090.03 0.0136 0.0078 Uranus 70852-08-25 16:05 G 27599459.07 27599459.17 27599459.32 0.0136 0.0118 70852-11-25 08:10 G 27599550.71 27599550.84 27599550.97 0.1722 0.1259 Mars Jupiter 70856-02-03 05:46 G 27600715.57 27600715.74 27600715.93 0.0486 0.0312 Saturn 70859-01-08 05:03 G 27601785.59 27601785.71 27601785.83 0.0280 0.0241 Neptune 70864-02-11 06:15 G 27603645.69 27603645.76 27603645.88 0.0082

Neptune 70865-02-12 18:29 G 27604013.07 27604013.27 27604013.48 0.0088 0.0054 Neptune 70866-02-15 06:15 G 27604380.53 27604380.76 27604381.02 0.0088 0.0027 Neptune 70867-02-17 18:29 G 27604748.01 27604748.27 27604748.53 0.0088 0.0001 Jupiter 70868-02-07 14:24 G 27605102.87 27605103.10 27605103.34 0.0485 0.0055 Neptune 70868-02-20 06:15 G 27605115.53 27605115.76 27605116.02 0.0088 0.0029 Neptune 70869-02-21 18:15 G 27605483.07 27605483.26 27605483.47 0.0088 0.0056 Neptune 70870-02-24 05:46 G 27605850.69 27605850.74 27605850.85 0.0088 0.0084 Saturn 70872-06-27 19:12 G 27606705.23 27606705.30 27606705.38 0.0280 0.0265 Saturn 70873-07-10 12:00 G 27607082.93 27607083.00 27607083.10 0.0279 0.0261 Jupiter 70880-02-11 20:53 G 27609490.25 27609490.37 27609490.49 0.0485 0.0412 Saturn 70888-01-02 08:53 G 27612371.62 27612371.87 27612372.12 0.0279 0.0013 Uranus 70888-02-03 23:46 G 27612404.33 27612404.49 27612404.66 0.0144 0.0109 Uranus 70889-02-08 01:41 G 27612774.34 27612774.57 27612774.81 0.0143 0.0060 Uranus 70890-02-13 03:22 G 27613144.38 27613144.64 27613144.90 0.0143 0.0010 Uranus 70891-02-18 04:19 G 27613514.44 27613514.68 27613514.93 0.0143 0.0039 Uranus 70892-02-23 04:48 G 27613884.50 27613884.70 27613884.91 0.0142 0.0087 Uranus 70893-02-27 04:19 G 27614254.61 27614254.68 27614254.78 0.0142 0.0134 Saturn 70902-07-06 12:00 G 27617669.77 27617670.00 27617670.24 0.0280 0.0041 Pluto 70914-08-14 09:51 G 27622091.79 27622091.91 27622092.08 0.0064 0.0053 Pluto 70915-08-15 21:07 G 27622458.21 27622458.38 27622458.59 0.0065 0.0042 Saturn 70916-12-27 20:10 G 27622958.24 27622958.34 27622958.45 0.0279 0.0251 Jupiter 70921-08-06 19:55 G 27624641.11 27624641.33 27624641.56 0.0543 0.0093 Uranus 70930-08-03 07:41 G 27627924.71 27627924.82 27627924.97 0.0134 0.0116 Saturn 70931-06-30 21:51 G 27628256.26 27628256.41 27628256.57 0.0280 0.0212 Uranus 70931-08-07 14:24 G 27628293.90 27628294.10 27628294.31 0.0135 0.0077 Uranus 70932-08-10 21:22 G 27628663.15 27628663.39 27628663.64 0.0135 0.0037 Jupiter 70933-08-12 03:51 G 27629029.53 27629029.66 27629029.81 0.0544 0.0435 Uranus 70933-08-15 04:48 G 27629032.45 27629032.70 27629032.95 0.0135 0.0003 Uranus 70934-08-19 12:15 G 27629401.78 27629402.01 27629402.26 0.0135 0.0043 Uranus 70935-08-23 20:10 G 27629771.16 27629771.34 27629771.56 0.0136 0.0084

Uranus 70936-08-27 04:48 G 27630140.62 27630140.70 27630140.82 0.0136 0.0124 Jupiter 70939-02-03 14:10 G 27631030.94 27631031.09 27631031.26 0.0487 0.0358 Neptune 70945-08-11 13:55 G 27633412.04 27633412.08 27633412.19 0.0090 0.0086 Neptune 70946-08-14 01:41 G 27633779.39 27633779.57 27633779.78 0.0090 0.0057 Saturn 70947-01-04 08:39 G 27633922.62 27633922.86 27633923.11 0.0279 0.0036 Neptune 70947-08-16 13:12 G 27634146.82 27634147.05 27634147.30 0.0090 0.0029 Neptune 70948-08-18 00:43 G 27634514.28 27634514.53 27634514.79 0.0090 0.0001 Neptune 70949-08-20 11:46 G 27634881.76 27634881.99 27634882.25 0.0090 0.0029 Neptune 70950-08-22 23:17 G 27635249.28 27635249.47 27635249.67 0.0090 0.0057 Jupiter 70951-02-07 23:17 G 27635418.24 27635418.47 27635418.71 0.0486 0.0015 Neptune 70951-08-25 09:51 G 27635616.87 27635616.91 27635617.02 0.0089 0.0086 Saturn 70961-07-07 13:27 G 27639220.84 27639221.06 27639221.30 0.0280 0.0092 Jupiter 70963-02-12 08:10 G 27639805.70 27639805.84 27639805.99 0.0485 0.0376 Uranus 70972-02-05 11:17 G 27643085.80 27643085.97 27643086.16 0.0144 0.0103 Uranus 70973-02-09 13:27 G 27643455.83 27643456.06 27643456.31 0.0143 0.0054 Uranus 70974-02-14 15:22 G 27643825.89 27643826.14 27643826.40 0.0143 0.0005 Uranus 70975-02-19 16:34 G 27644195.95 27644196.19 27644196.44 0.0143 0.0045 Saturn 70975-12-29 21:36 G 27644509.23 27644509.40 27644509.57 0.0278 0.0201 Uranus 70976-02-24 16:48 G 27644566.03 27644566.20 27644566.42 0.0143 0.0094 Uranus 70977-02-28 16:34 G 27644936.17 27644936.19 27644936.25 0.0142 0.0141 Saturn 70990-07-02 00:00 G 27649807.31 27649807.50 27649807.71 0.0280 0.0160

### 72ND MILLENNIUM CE

This is a list of transits of Earth in the 72nd millennium CE.

FROM MAX- C START MAX END SUNRAD DEPTH S

71004-02-17 10:34 G 27654784.72 27654784.94 27654785.17 0.0080 0.0039 Pluto Jupiter 71004-08-07 04:05 G 27654956.45 27654956.67 27654956.89 0.0542 0.0150 Saturn 71006-01-06 08:53 G 27655473.64 27655473.87 27655474.12 0.0279 0.0085 Uranus 71014-08-04 21:22 G 27658606.27 27658606.39 27658606.56 0.0134 0.0110 Uranus 71015-08-09 03:51 G 27658975.46 27658975.66 27658975.89 0.0135 0.0071 Jupiter 71016-08-12 03:36 G 27659344.48 27659344.65 27659344.84 0.0543 0.0340 Uranus 71016-08-12 11:03 G 27659344.72 27659344.96 27659345.21 0.0135 0.0031 \* Uranus 71017-08-16 18:29 G 27659714.02 27659714.27 27659714.52 0.0135 0.0009 Uranus 71018-08-21 01:41 G 27660083.35 27660083.57 27660083.82 0.0135 0.0050 Uranus 71019-08-25 09:51 G 27660452.73 27660452.91 27660453.11 0.0136 0.0090 Saturn 71020-07-09 14:24 G 27660771.90 27660772.10 27660772.31 0.0280 0.0141 Uranus 71020-08-28 18:15 G 27660822.21 27660822.26 27660822.35 0.0136 0.0130 Jupiter 71022-02-04 00:58 G 27661346.41 27661346.54 27661346.67 0.0487 0.0399 Neptune 71029-02-13 23:03 G 27663913.32 27663913.46 27663913.65 0.0088 0.0068 Neptune 71030-02-16 11:03 G 27664280.74 27664280.96 27664281.21 0.0088 0.0041 Neptune 71031-02-18 23:17 G 27664648.21 27664648.47 27664648.73 0.0088 0.0013 Neptune 71032-02-21 11:03 G 27665015.71 27665015.96 27665016.22 0.0088 0.0015 Neptune 71033-02-22 22:48 G 27665383.23 27665383.45 27665383.69 0.0088 0.0042 Jupiter 71034-02-08 09:36 G 27665733.66 27665733.90 27665734.14 0.0486 0.0030 Neptune 71034-02-25 10:34 G 27665750.81 27665750.94 27665751.12 0.0088 0.0070 Saturn 71034-12-31 23:17 G 27666060.27 27666060.47 27666060.69 0.0278 0.0150 Jupiter 71046-02-12 18:15 G 27670121.09 27670121.26 27670121.43 0.0485 0.0337 Saturn 71049-07-04 02:10 G 27671358.37 27671358.59 27671358.82 0.0280 0.0108 Uranus 71056-02-07 00:58 G 27673767.36 27673767.54 27673767.74 0.0144 0.0096 Uranus 71057-02-11 03:07 G 27674137.40 27674137.63 27674137.88 0.0143 0.0047 Mars 71057-11-25 10:34 G 27674424.85 27674424.94 27674425.04 0.1711 0.1466 Uranus 71058-02-16 05:03 G 27674507.46 27674507.71 27674507.97 0.0143 0.0004 Uranus 71059-02-21 06:15 G 27674877.53 27674877.76 27674878.01 0.0143 0.0052

Uranus 71060-02-26 06:43 G 27675247.60 27675247.78 27675247.97 0.0143 0.0100 Saturn 71065-01-07 10:19 G 27677024.72 27677024.93 27677025.15 0.0279 0.0134 Saturn 71079-07-11 15:22 G 27682322.98 27682323.14 27682323.33 0.0280 0.0192 Jupiter 71087-08-07 02:24 G 27685271.40 27685271.60 27685271.81 0.0541 0.0250 Saturn 71094-01-02 02:24 G 27687611.37 27687611.60 27687611.84 0.0278 0.0098 Uranus 71098-08-05 11:17 G 27689287.81 27689287.97 27689288.13 0.0134 0.0103 Uranus 71099-08-09 17:31 G 27689657.02 27689657.23 27689657.46 0.0135 0.0065 Jupiter 71099-08-12 06:43 G 27689659.59 27689659.78 27689659.99 0.0543 0.0262 Uranus 71100-08-14 00:29 G 27690026.28 27690026.52 27690026.77 0.0135 0.0025 Uranus 71101-08-18 07:41 G 27690395.57 27690395.82 27690396.07 0.0135 0.0015 Uranus 71102-08-22 14:53 G 27690764.90 27690765.12 27690765.36 0.0135 0.0055 Uranus 71103-08-26 23:03 G 27691134.28 27691134.46 27691134.64 0.0136 0.0095 Uranus 71104-08-30 06:58 G 27691503.78 27691503.79 27691503.83 0.0136 0.0135 Jupiter 71105-02-04 10:19 G 27691661.84 27691661.93 27691662.03 0.0487 0.0440 Saturn 71108-07-06 04:48 G 27692909.47 27692909.70 27692909.94 0.0280 0.0056 Neptune 71110-08-15 06:15 G 27693679.64 27693679.76 27693679.94 0.0090 0.0072 Neptune 71111-08-17 18:15 G 27694047.04 27694047.26 27694047.49 0.0090 0.0043 Neptune 71112-08-19 05:46 G 27694414.49 27694414.74 27694415.00 0.0090 0.0015 Neptune 71113-08-21 17:17 G 27694781.97 27694782.22 27694782.47 0.0090 0.0014 Neptune 71114-08-24 04:19 G 27695149.47 27695149.68 27695149.92 0.0090 0.0043 Neptune 71115-08-26 15:36 G 27695517.02 27695517.15 27695517.33 0.0089 0.0071 Jupiter 71117-02-08 18:15 G 27696049.02 27696049.26 27696049.49 0.0486 0.0076 Saturn 71124-01-10 13:27 G 27698575.89 27698576.06 27698576.25 0.0279 0.0187 Jupiter 71129-02-13 02:39 G 27700436.42 27700436.61 27700436.80 0.0485 0.0292 Mars 71136-11-28 21:51 G 27703282.33 27703282.41 27703282.49 0.1715 0.1555 Saturn 71138-07-13 17:03 G 27703874.10 27703874.21 27703874.35 0.0280 0.0242 Uranus 71139-02-03 09:36 G 27704078.86 27704078.90 27704078.99 0.0144 0.0139 Uranus 71140-02-08 12:29 G 27704448.83 27704449.02 27704449.23 0.0144 0.0090 Uranus 71141-02-12 14:53 G 27704818.88 27704819.12 27704819.38 0.0144 0.0041 Uranus 71142-02-17 17:03 G 27705188.95 27705189.21 27705189.47 0.0143 0.0009

Uranus 71143-02-22 18:00 G 27705559.02 27705559.25 27705559.49 0.0143 0.0058 Uranus 71144-02-27 18:29 G 27705929.11 27705929.27 27705929.46 0.0143 0.0106 Saturn 71153-01-04 07:27 G 27709162.57 27709162.81 27709163.06 0.0278 0.0043 Pluto 71161-08-18 10:34 G 27712310.69 27712310.94 27712311.20 0.0064 0.0012 Saturn 71167-07-08 08:39 G 27714460.62 27714460.86 27714461.10 0.0280 0.0003 Jupiter 71170-08-07 07:27 G 27715586.63 27715586.81 27715587.00 0.0542 0.0319 Uranus 71182-08-07 01:12 G 27719969.39 27719969.55 27719969.74 0.0134 0.0096 Jupiter 71182-08-12 13:41 G 27719974.86 27719975.07 27719975.29 0.0543 0.0199 Saturn 71183-01-11 18:58 G 27720127.18 27720127.29 27720127.42 0.0279 0.0243 Uranus 71183-08-11 07:41 G 27720338.60 27720338.82 27720339.06 0.0135 0.0057 Uranus 71184-08-14 14:24 G 27720707.86 27720708.10 27720708.35 0.0135 0.0018 Uranus 71185-08-18 21:22 G 27721077.15 27721077.39 27721077.64 0.0135 0.0022 Uranus 71186-08-23 04:34 G 27721446.47 27721446.69 27721446.92 0.0135 0.0061 Uranus 71187-08-27 12:00 G 27721815.85 27721816.00 27721816.19 0.0136 0.0102 71190-06-02 11:46 G 27722825.94 27722825.99 27722826.05 0.1810 0.1732 Mars Neptune 71193-02-14 04:19 G 27723813.61 27723813.68 27723813.81 0.0088 0.0081 Neptune 71194-02-16 16:19 G 27724181.00 27724181.18 27724181.41 0.0088 0.0054 Neptune 71195-02-19 04:19 G 27724548.45 27724548.68 27724548.94 0.0088 0.0027 Neptune 71196-02-21 16:19 G 27724915.92 27724916.18 27724916.44 0.0088 0.0001 Saturn 71196-07-02 00:15 G 27725047.39 27725047.51 27725047.64 0.0281 0.0240 Neptune 71197-02-23 03:51 G 27725283.43 27725283.66 27725283.93 0.0088 0.0029 Neptune 71198-02-25 15:36 G 27725650.97 27725651.15 27725651.37 0.0088 0.0056 Neptune 71199-02-28 03:36 G 27726018.58 27726018.65 27726018.75 0.0088 0.0083 Jupiter 71200-02-09 01:12 G 27726364.33 27726364.55 27726364.79 0.0487 0.0127 Saturn 71212-01-06 14:39 G 27730713.87 27730714.11 27730714.36 0.0278 0.0016 Jupiter 71212-02-13 09:22 G 27730751.69 27730751.89 27730752.10 0.0486 0.0242 Uranus 71223-02-03 22:34 G 27734760.36 27734760.44 27734760.56 0.0144 0.0132 Uranus 71224-02-09 01:27 G 27735130.36 27735130.56 27735130.78 0.0144 0.0083 Uranus 71225-02-13 04:05 G 27735500.43 27735500.67 27735500.93 0.0144 0.0033 Uranus 71226-02-18 06:00 G 27735870.50 27735870.75 27735871.01 0.0143 0.0017

Saturn 71226-07-09 13:41 G 27736011.83 27736012.07 27736012.31 0.0280 0.0054 Uranus 71227-02-23 07:12 G 27736240.58 27736240.80 27736241.04 0.0143 0.0065 Uranus 71228-02-28 07:41 G 27736610.68 27736610.82 27736610.99 0.0143 0.0113 Saturn 71240-12-30 18:58 G 27741300.17 27741300.29 27741300.44 0.0278 0.0232 Pluto 71250-02-18 18:15 G 27744637.01 27744637.26 27744637.53 0.0080 0.0017 Jupiter 71253-08-06 09:22 G 27745901.74 27745901.89 27745902.05 0.0540 0.0401 Saturn 71255-07-04 04:34 G 27746598.52 27746598.69 27746598.89 0.0281 0.0187 Uranus 71265-08-03 09:22 G 27750281.83 27750281.89 27750281.98 0.0134 0.0127 Jupiter 71265-08-11 11:17 G 27750289.75 27750289.97 27750290.20 0.0542 0.0097 Uranus 71266-08-07 15:22 G 27750650.97 27750651.14 27750651.34 0.0134 0.0089 Uranus 71267-08-11 21:51 G 27751020.18 27751020.41 27751020.65 0.0135 0.0051 Uranus 71268-08-15 04:34 G 27751389.44 27751389.69 27751389.94 0.0135 0.0011 Uranus 71269-08-19 11:03 G 27751758.72 27751758.96 27751759.21 0.0135 0.0028 Uranus 71270-08-23 18:00 G 27752128.05 27752128.25 27752128.49 0.0135 0.0069 Saturn 71271-01-07 23:31 G 27752265.25 27752265.48 27752265.73 0.0278 0.0077 Uranus 71271-08-28 01:41 G 27752497.44 27752497.57 27752497.74 0.0136 0.0108 Neptune 71274-08-14 10:48 G 27753579.91 27753579.95 27753580.04 0.0090 0.0087 Neptune 71275-08-16 22:48 G 27753947.26 27753947.45 27753947.65 0.0090 0.0058 Neptune 71276-08-18 10:05 G 27754314.69 27754314.92 27754315.17 0.0090 0.0030 Neptune 71277-08-20 21:36 G 27754682.15 27754682.40 27754682.66 0.0090 0.0002 Neptune 71278-08-23 09:07 G 27755049.64 27755049.88 27755050.13 0.0090 0.0027 Neptune 71279-08-25 20:10 G 27755417.16 27755417.34 27755417.56 0.0090 0.0056 Neptune 71280-08-27 07:27 G 27755784.75 27755784.81 27755784.93 0.0090 0.0084 Jupiter 71283-02-08 08:10 G 27756679.62 27756679.84 27756680.06 0.0487 0.0177 Saturn 71285-07-10 20:53 G 27757563.16 27757563.37 27757563.60 0.0280 0.0114 Jupiter 71295-02-12 15:36 G 27761066.94 27761067.15 27761067.37 0.0486 0.0188 Saturn 71300-01-02 05:31 G 27762851.53 27762851.73 27762851.92 0.0278 0.0168 Uranus 71307-02-05 08:53 G 27765441.77 27765441.87 27765442.02 0.0144 0.0126 Uranus 71308-02-10 11:46 G 27765811.79 27765811.99 27765812.23 0.0144 0.0077 Uranus 71309-02-14 14:53 G 27766181.87 27766182.12 27766182.37 0.0144 0.0027

Uranus 71310-02-19 16:48 G 27766551.95 27766552.20 27766552.45 0.0143 0.0022 Uranus 71311-02-24 17:46 G 27766922.03 27766922.24 27766922.48 0.0143 0.0071 Uranus 71312-02-29 18:15 G 27767292.14 27767292.26 27767292.42 0.0143 0.0119 Saturn 71314-07-06 11:03 G 27768149.75 27768149.96 27768150.18 0.0281 0.0129 Saturn 71330-01-10 10:34 G 27773816.73 27773816.94 27773817.16 0.0278 0.0141 Jupiter 71336-08-06 05:31 G 27776216.66 27776216.73 27776216.82 0.0540 0.0507 71341-11-28 02:10 G 27778156.44 27778156.59 27778156.74 0.1704 0.1055 Mars Saturn 71344-07-13 05:31 G 27779114.55 27779114.73 27779114.92 0.0280 0.0175 Jupiter 71348-08-11 10:19 G 27780604.70 27780604.93 27780605.16 0.0542 0.0008 Uranus 71349-08-04 23:31 G 27780963.39 27780963.48 27780963.61 0.0134 0.0121 Uranus 71350-08-09 05:31 G 27781332.55 27781332.73 27781332.95 0.0134 0.0083 Uranus 71351-08-13 12:00 G 27781701.77 27781702.00 27781702.25 0.0135 0.0043 Uranus 71352-08-16 18:29 G 27782071.02 27782071.27 27782071.53 0.0135 0.0005 Uranus 71353-08-21 01:12 G 27782440.31 27782440.55 27782440.80 0.0135 0.0035 Uranus 71354-08-25 08:24 G 27782809.65 27782809.85 27782810.07 0.0135 0.0075 Uranus 71355-08-29 15:36 G 27783179.04 27783179.15 27783179.30 0.0135 0.0115 Neptune 71358-02-16 21:22 G 27784081.25 27784081.39 27784081.58 0.0088 0.0067 Saturn 71359-01-04 17:03 G 27784402.99 27784403.21 27784403.45 0.0278 0.0103 Neptune 71359-02-19 09:07 G 27784448.67 27784448.88 27784449.13 0.0088 0.0040 Neptune 71360-02-21 21:22 G 27784816.14 27784816.39 27784816.65 0.0088 0.0013 Jupiter 71360-08-16 16:48 G 27784993.15 27784993.20 27784993.26 0.0543 0.0526 Neptune 71361-02-23 09:07 G 27785183.63 27785183.88 27785184.15 0.0088 0.0015 Neptune 71362-02-25 20:53 G 27785551.15 27785551.37 27785551.61 0.0088 0.0042 Neptune 71363-02-28 08:39 G 27785918.71 27785918.86 27785919.03 0.0088 0.0069 Jupiter 71366-02-08 12:43 G 27786994.83 27786995.03 27786995.24 0.0487 0.0237 Saturn 71373-07-07 19:41 G 27789701.08 27789701.32 27789701.55 0.0281 0.0067 Jupiter 71378-02-12 18:43 G 27791382.05 27791382.28 27791382.51 0.0487 0.0125 Saturn 71389-01-11 21:51 G 27795368.26 27795368.41 27795368.59 0.0278 0.0207 Uranus 71391-02-05 21:51 G 27796123.27 27796123.41 27796123.56 0.0144 0.0118 Uranus 71392-02-11 00:43 G 27796493.31 27796493.53 27796493.76 0.0144 0.0069

Uranus 71393-02-15 03:22 G 27796863.39 27796863.64 27796863.90 0.0144 0.0020 Uranus 71394-02-20 05:03 G 27797233.46 27797233.71 27797233.97 0.0143 0.0030 Uranus 71395-02-25 06:15 G 27797603.56 27797603.76 27797603.99 0.0143 0.0078 Uranus 71396-03-01 07:12 G 27797973.68 27797973.80 27797973.92 0.0143 0.0125 Saturn 71403-07-16 15:07 G 27800666.02 27800666.13 27800666.27 0.0280 0.0240 Pluto 71407-08-22 03:22 G 27802163.38 27802163.64 27802163.89 0.0064 0.0007 Saturn 71418-01-07 06:00 G 27805954.50 27805954.75 27805955.00 0.0278 0.0036 Jupiter 71431-08-12 12:29 G 27810919.79 27810920.02 27810920.25 0.0541 0.0077 Saturn 71432-07-10 05:03 G 27811252.47 27811252.71 27811252.95 0.0281 0.0005 Uranus 71433-08-06 13:55 G 27811644.97 27811645.08 27811645.23 0.0134 0.0114 Uranus 71434-08-10 19:55 G 27812014.14 27812014.33 27812014.55 0.0134 0.0075 Uranus 71435-08-15 02:10 G 27812383.35 27812383.59 27812383.84 0.0135 0.0036 Uranus 71436-08-18 08:39 G 27812752.61 27812752.86 27812753.12 0.0135 0.0004 Uranus 71437-08-22 15:07 G 27813121.90 27813122.13 27813122.38 0.0135 0.0042 Uranus 71438-08-26 22:34 G 27813491.24 27813491.44 27813491.64 0.0135 0.0081 Neptune 71439-08-18 03:22 G 27813847.51 27813847.64 27813847.80 0.0090 0.0073 Uranus 71439-08-31 06:00 G 27813860.65 27813860.75 27813860.87 0.0135 0.0121 Neptune 71440-08-19 14:39 G 27814214.90 27814215.11 27814215.34 0.0090 0.0045 Neptune 71441-08-22 02:10 G 27814582.35 27814582.59 27814582.85 0.0090 0.0017 Neptune 71442-08-24 13:55 G 27814949.82 27814950.08 27814950.33 0.0090 0.0012 Jupiter 71443-08-17 14:10 G 27815307.95 27815308.09 27815308.24 0.0542 0.0426 Neptune 71443-08-27 00:58 G 27815317.33 27815317.54 27815317.78 0.0090 0.0041 Neptune 71444-08-28 12:15 G 27815684.87 27815685.01 27815685.20 0.0090 0.0069 Saturn 71447-01-02 01:27 G 27816541.49 27816541.56 27816541.65 0.0278 0.0261 Saturn 71448-01-15 09:22 G 27816919.85 27816919.89 27816919.96 0.0278 0.0271 Jupiter 71449-02-08 14:24 G 27817309.92 27817310.10 27817310.29 0.0488 0.0304 Jupiter 71461-02-13 00:15 G 27821697.28 27821697.51 27821697.75 0.0487 0.0071 Saturn 71461-07-05 06:29 G 27821839.62 27821839.77 27821839.91 0.0281 0.0225 Jupiter 71473-02-17 07:41 G 27826084.72 27826084.82 27826084.93 0.0486 0.0433 71474-06-04 12:29 G 27826556.89 27826557.02 27826557.16 0.1819 0.1299 Mars

Uranus 71475-02-07 08:39 G 27826804.71 27826804.86 27826805.03 0.0144 0.0112 Uranus 71476-02-12 11:31 G 27827174.76 27827174.98 27827175.22 0.0144 0.0063 Saturn 71477-01-08 18:00 G 27827506.00 27827506.25 27827506.50 0.0278 0.0031 Uranus 71477-02-16 14:10 G 27827544.84 27827545.09 27827545.35 0.0144 0.0013 Uranus 71478-02-21 15:51 G 27827914.92 27827915.16 27827915.42 0.0143 0.0036 Uranus 71479-02-26 16:48 G 27828285.01 27828285.20 27828285.43 0.0143 0.0085 Uranus 71480-03-02 17:46 G 27828655.15 27828655.24 27828655.35 0.0143 0.0131 Saturn 71491-07-12 15:22 G 27832803.90 27832804.14 27832804.38 0.0281 0.0060 Pluto 71496-02-22 04:19 G 27834489.54 27834489.68 27834489.87 0.0080 0.0061 Saturn 71506-01-04 11:46 G 27838092.83 27838092.99 27838093.17 0.0278 0.0198 Jupiter 71514-08-12 05:17 G 27841234.51 27841234.72 27841234.94 0.0541 0.0197 Uranus 71517-08-08 04:05 G 27842326.53 27842326.67 27842326.83 0.0134 0.0107 Uranus 71518-08-12 09:51 G 27842695.71 27842695.91 27842696.14 0.0134 0.0069 Uranus 71519-08-16 16:05 G 27843064.93 27843065.17 27843065.42 0.0135 0.0030 Saturn 71520-07-07 17:17 G 27843391.03 27843391.22 27843391.43 0.0281 0.0158 Uranus 71520-08-19 22:19 G 27843434.19 27843434.43 27843434.69 0.0135 0.0010 Uranus 71521-08-24 04:48 G 27843803.48 27843803.70 27843803.95 0.0135 0.0049 Neptune 71522-02-18 02:39 G 27843981.53 27843981.61 27843981.74 0.0088 0.0080 Uranus 71522-08-28 12:00 G 27844172.83 27844173.00 27844173.21 0.0135 0.0088 Neptune 71523-02-20 14:53 G 27844348.92 27844349.12 27844349.34 0.0088 0.0053 Uranus 71523-09-01 19:27 G 27844542.25 27844542.31 27844542.41 0.0135 0.0128 Neptune 71524-02-23 02:39 G 27844716.37 27844716.61 27844716.87 0.0088 0.0026 Neptune 71525-02-24 14:53 G 27845083.86 27845084.12 27845084.38 0.0088 0.0001 Neptune 71526-02-27 02:10 G 27845451.36 27845451.59 27845451.85 0.0088 0.0029 Jupiter 71526-08-17 09:22 G 27845622.71 27845622.89 27845623.08 0.0542 0.0316 Neptune 71527-03-01 13:55 G 27845818.90 27845819.08 27845819.30 0.0088 0.0056 Neptune 71528-03-03 01:41 G 27846186.51 27846186.57 27846186.67 0.0088 0.0083 Jupiter 71532-02-09 20:24 G 27847625.19 27847625.35 27847625.50 0.0488 0.0361 Saturn 71536-01-12 04:48 G 27849057.47 27849057.70 27849057.94 0.0278 0.0096 Jupiter 71544-02-14 04:48 G 27852012.47 27852012.70 27852012.94 0.0487 0.0012

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Saturn 71948-01-12 03:07 G 27999537.40 27999537.63 27999537.88 0.0277 0.0058
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Jupiter 71959-02-14 21:07 G 28003589.17 28003589.38 28003589.59 0.0488 0.0231
Saturn 71962-07-15 16:48 G 28004835.96 28004836.20 28004836.45 0.0282 0.0009
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Saturn 71978-01-18 12:00 G 28010501.85 28010502.00 28010502.16 0.0278 0.0219
Uranus 71978-02-09 01:12 G 28010523.43 28010523.55 28010523.70 0.0144 0.0123
Uranus 71979-02-14 04:19 G 28010893.47 28010893.68 28010893.91 0.0144 0.0074
Uranus 71980-02-19 06:58 G 28011263.54 28011263.79 28011264.05 0.0144 0.0024
Uranus 71982-02-28 11:31 G 28012003.76 28012003.98 28012004.20 0.0143 0.0073
Uranus 71983-03-05 12:43 G 28012373.92 28012374.03 28012374.19 0.0143 0.0121
Saturn 71991-07-10 07:27 G 28015422.70 28015422.81 28015422.94 0.0283 0.0246

## 73RD MILLENNIUM CE

### This is a list of transits of Earth in the 73rd millennium CE.

FROM MAX- C START MAX END SUNRAD DEPTH S

TRANSIT

TIME

Saturn 72007-01-13 06:00 G 28021088.51 28021088.75 28021089.00 0.0277 0.0009

Neptune 72016-02-23 20:39 G 28024417.20 28024417.36 28024417.56 0.0088 0.0064

Neptune 72017-02-25 08:53 G 28024784.64 28024784.87 28024785.12 0.0088 0.0037

Neptune 72018-02-27 21:07 G 28025152.12 28025152.38 28025152.64 0.0088 0.0010

Neptune 72019-03-02 09:07 G 28025519.63 28025519.88 28025520.14 0.0088 0.0017 Neptune 72020-03-03 20:53 G 28025887.15 28025887.37 28025887.60 0.0088 0.0044 Uranus 72020-08-10 05:31 G 28026046.59 28026046.73 28026046.90 0.0134 0.0107 Neptune 72021-03-06 08:53 G 28026254.73 28026254.87 28026255.03 0.0088 0.0071 Saturn 72021-07-16 18:29 G 28026387.04 28026387.27 28026387.52 0.0282 0.0043 Uranus 72021-08-14 11:17 G 28026415.77 28026415.97 28026416.20 0.0134 0.0069 Uranus 72022-08-18 17:31 G 28026784.98 28026785.23 28026785.47 0.0134 0.0030 Uranus 72023-08-22 23:46 G 28027154.24 28027154.49 28027154.74 0.0135 0.0009 Jupiter 72024-08-16 02:24 G 28027513.38 28027513.60 28027513.82 0.0540 0.0166 Uranus 72024-08-26 06:29 G 28027523.54 28027523.77 28027524.01 0.0135 0.0048 Uranus 72025-08-30 12:58 G 28027892.87 28027893.04 28027893.25 0.0135 0.0088 Uranus 72026-09-03 20:24 G 28028262.28 28028262.35 28028262.45 0.0135 0.0126 Saturn 72036-01-07 09:51 G 28031674.81 28031674.91 28031675.02 0.0276 0.0251 Jupiter 72036-08-21 07:55 G 28031901.66 28031901.83 28031902.01 0.0542 0.0355 Saturn 72037-01-19 14:24 G 28032053.05 28032053.10 28032053.17 0.0278 0.0269 Jupiter 72042-02-14 05:17 G 28033904.53 28033904.72 28033904.92 0.0489 0.0280 Mars 72042-06-08 10:19 G 28034018.74 28034018.93 28034019.12 0.1836 0.0147 Saturn 72050-07-11 08:24 G 28036973.69 28036973.85 28036974.03 0.0283 0.0198 Jupiter 72054-02-18 13:55 G 28038291.85 28038292.08 28038292.31 0.0488 0.0096 Uranus 72062-02-09 12:29 G 28041204.89 28041205.02 28041205.19 0.0144 0.0117 Uranus 72063-02-14 15:36 G 28041574.94 28041575.15 28041575.39 0.0144 0.0068 Uranus 72064-02-19 18:29 G 28041945.02 28041945.27 28041945.53 0.0144 0.0018 Uranus 72065-02-23 21:07 G 28042315.13 28042315.38 28042315.63 0.0144 0.0031 Saturn 72066-01-14 09:51 G 28042639.67 28042639.91 28042640.16 0.0277 0.0045 Jupiter 72066-02-22 23:03 G 28042679.41 28042679.46 28042679.52 0.0487 0.0471 Uranus 72066-02-28 23:03 G 28042685.25 28042685.46 28042685.68 0.0143 0.0080 Uranus 72067-03-06 00:29 G 28043055.42 28043055.52 28043055.65 0.0143 0.0127 Saturn 72080-07-17 21:51 G 28047938.18 28047938.41 28047938.63 0.0282 0.0094 Saturn 72095-01-08 14:39 G 28053225.95 28053226.11 28053226.29 0.0276 0.0198 Neptune 72097-08-23 01:41 G 28054183.44 28054183.57 28054183.73 0.0090 0.0073

Neptune 72098-08-25 13:12 G 28054550.84 28054551.05 28054551.28 0.0090 0.0045 Neptune 72099-08-28 00:29 G 28054918.28 28054918.52 28054918.78 0.0090 0.0017 Neptune 72100-08-30 12:00 G 28055285.75 28055286.00 28055286.25 0.0090 0.0011 Neptune 72101-09-01 23:03 G 28055653.24 28055653.46 28055653.69 0.0090 0.0039 Neptune 72102-09-04 10:05 G 28056020.77 28056020.92 28056021.10 0.0090 0.0067 Uranus 72104-08-11 17:46 G 28056728.10 28056728.24 28056728.43 0.0134 0.0101 Uranus 72105-08-15 23:46 G 28057097.28 28057097.49 28057097.72 0.0134 0.0062 Uranus 72106-08-20 06:00 G 28057466.51 28057466.75 28057467.00 0.0134 0.0024 Jupiter 72107-08-17 05:31 G 28057828.53 28057828.73 28057828.94 0.0539 0.0245 Uranus 72107-08-24 12:15 G 28057835.77 28057836.01 28057836.27 0.0135 0.0016 Uranus 72108-08-27 18:58 G 28058205.07 28058205.29 28058205.53 0.0135 0.0055 Saturn 72109-07-13 10:34 G 28058524.74 28058524.94 28058525.15 0.0283 0.0148 Uranus 72109-09-01 01:41 G 28058574.41 28058574.57 28058574.77 0.0135 0.0094 Uranus 72110-09-05 09:22 G 28058943.85 28058943.89 28058943.94 0.0135 0.0133 Jupiter 72119-08-22 06:58 G 28062216.59 28062216.79 28062216.99 0.0540 0.0258 Saturn 72125-01-16 15:36 G 28064190.92 28064191.15 28064191.39 0.0277 0.0100 Jupiter 72125-02-14 11:31 G 28064219.81 28064219.98 28064220.16 0.0489 0.0333 Jupiter 72137-02-18 22:19 G 28068607.19 28068607.43 28068607.66 0.0488 0.0050 Saturn 72139-07-21 02:10 G 28069489.39 28069489.59 28069489.80 0.0282 0.0149 Pluto 72145-08-30 17:03 G 28071721.98 28071722.21 28071722.46 0.0064 0.0023 Uranus 72146-02-10 23:31 G 28071886.33 28071886.48 28071886.65 0.0144 0.0111 Uranus 72147-02-16 02:24 G 28072256.38 28072256.60 28072256.84 0.0144 0.0062 Uranus 72148-02-21 05:17 G 28072626.46 28072626.72 28072626.97 0.0144 0.0013 Jupiter 72149-02-23 06:29 G 28072994.65 28072994.77 28072994.89 0.0487 0.0421 Uranus 72149-02-25 07:27 G 28072996.57 28072996.81 28072997.07 0.0143 0.0037 Uranus 72150-03-02 09:07 G 28073366.69 28073366.88 28073367.11 0.0143 0.0086 Uranus 72151-03-07 10:34 G 28073736.87 28073736.94 28073737.06 0.0143 0.0133 Saturn 72154-01-10 21:51 G 28074777.20 28074777.41 28074777.62 0.0276 0.0141 Saturn 72168-07-14 14:39 G 28080075.89 28080076.11 28080076.35 0.0283 0.0095 Neptune 72180-02-24 03:36 G 28084317.54 28084317.65 28084317.80 0.0088 0.0076

Neptune 72181-02-25 15:22 G 28084684.95 28084685.14 28084685.38 0.0088 0.0050 Neptune 72182-02-28 03:51 G 28085052.41 28085052.66 28085052.92 0.0088 0.0022 Neptune 72183-03-02 15:51 G 28085419.90 28085420.16 28085420.42 0.0088 0.0005 Saturn 72184-01-18 23:31 G 28085742.28 28085742.48 28085742.69 0.0277 0.0157 Neptune 72184-03-04 03:36 G 28085787.42 28085787.65 28085787.90 0.0088 0.0032 Neptune 72185-03-06 15:22 G 28086154.97 28086155.14 28086155.35 0.0088 0.0059 Neptune 72186-03-09 03:22 G 28086522.61 28086522.64 28086522.72 0.0088 0.0086 Uranus 72187-08-08 23:31 G 28087040.47 28087040.48 28087040.53 0.0134 0.0134 Uranus 72188-08-12 05:31 G 28087409.57 28087409.73 28087409.92 0.0134 0.0095 Uranus 72189-08-16 11:17 G 28087778.76 28087778.97 28087779.21 0.0134 0.0058 Jupiter 72190-08-16 04:05 G 28088143.50 28088143.67 28088143.85 0.0539 0.0341 Uranus 72190-08-20 17:46 G 28088147.99 28088148.24 28088148.49 0.0134 0.0018 Uranus 72191-08-25 00:15 G 28088517.26 28088517.51 28088517.76 0.0135 0.0021 Uranus 72192-08-28 06:43 G 28088886.57 28088886.78 28088887.02 0.0135 0.0060 Uranus 72193-09-01 13:27 G 28089255.90 28089256.06 28089256.24 0.0135 0.0099 Mars 72193-12-06 08:24 G 28089351.67 28089351.85 28089352.04 0.1685 0.0445 Saturn 72198-07-22 08:39 G 28091040.70 28091040.86 28091041.03 0.0282 0.0206 Jupiter 72202-08-22 08:24 G 28092531.63 28092531.85 28092532.07 0.0541 0.0174 Jupiter 72208-02-15 18:00 G 28094535.12 28094535.25 28094535.41 0.0489 0.0388 Saturn 72213-01-13 06:58 G 28096328.55 28096328.79 28096329.03 0.0276 0.0080 Jupiter 72220-02-20 03:51 G 28098922.43 28098922.66 28098922.90 0.0488 0.0010 Saturn 72227-07-17 20:53 G 28101627.13 28101627.37 28101627.61 0.0283 0.0039 Uranus 72230-02-12 10:48 G 28102567.79 28102567.95 28102568.14 0.0144 0.0105 Uranus 72231-02-17 13:55 G 28102937.85 28102938.08 28102938.33 0.0144 0.0056 Uranus 72232-02-22 16:34 G 28103307.94 28103308.19 28103308.45 0.0144 0.0007 Jupiter 72232-02-24 10:34 G 28103309.79 28103309.94 28103310.10 0.0488 0.0363 Uranus 72233-02-26 18:58 G 28103678.05 28103678.29 28103678.54 0.0143 0.0043 Uranus 72234-03-03 20:39 G 28104048.18 28104048.36 28104048.58 0.0143 0.0092 Pluto 72235-03-05 14:10 G 28104415.07 28104415.09 28104415.18 0.0080 0.0078 Uranus 72235-03-08 22:19 G 28104418.37 28104418.43 28104418.50 0.0143 0.0138

Saturn 72243-01-21 09:07 G 28107293.74 28107293.88 28107294.04 0.0277 0.0219 Saturn 72256-07-11 16:48 G 28112214.14 28112214.20 28112214.29 0.0283 0.0268 Saturn 72257-07-24 17:17 G 28112592.14 28112592.22 28112592.29 0.0282 0.0266 Neptune 72261-08-24 09:07 G 28114083.83 28114083.88 28114083.98 0.0090 0.0086 Neptune 72262-08-26 20:53 G 28114451.19 28114451.37 28114451.58 0.0090 0.0058 Neptune 72263-08-29 08:24 G 28114818.62 28114818.85 28114819.10 0.0090 0.0030 Neptune 72264-08-30 19:55 G 28115186.08 28115186.33 28115186.59 0.0090 0.0002 Neptune 72265-09-02 07:12 G 28115553.56 28115553.80 28115554.05 0.0090 0.0026 Neptune 72266-09-04 18:15 G 28115921.07 28115921.26 28115921.48 0.0090 0.0054 Neptune 72267-09-07 05:17 G 28116288.64 28116288.72 28116288.85 0.0090 0.0082 Uranus 72271-08-10 11:17 G 28117721.92 28117721.97 28117722.07 0.0134 0.0128 Saturn 72272-01-15 17:46 G 28117879.99 28117880.24 28117880.49 0.0276 0.0018 Uranus 72272-08-13 17:31 G 28118091.05 28118091.23 28118091.42 0.0134 0.0090 Jupiter 72273-08-16 08:10 G 28118458.70 28118458.84 28118458.99 0.0539 0.0416 Uranus 72273-08-17 23:17 G 28118460.25 28118460.47 28118460.71 0.0134 0.0051 Uranus 72274-08-22 05:46 G 28118829.49 28118829.74 28118829.99 0.0134 0.0012 Uranus 72275-08-26 12:00 G 28119198.76 28119199.00 28119199.25 0.0135 0.0027 Uranus 72276-08-29 18:29 G 28119568.06 28119568.27 28119568.50 0.0135 0.0066 Uranus 72277-09-03 01:27 G 28119937.40 28119937.56 28119937.72 0.0135 0.0104 Jupiter 72285-08-21 11:03 G 28122846.74 28122846.96 28122847.19 0.0540 0.0095 Saturn 72286-07-19 05:03 G 28123178.47 28123178.71 28123178.95 0.0283 0.0022 Jupiter 72291-02-14 20:10 G 28124850.26 28124850.34 28124850.43 0.0490 0.0456 Saturn 72301-01-10 16:05 G 28128467.06 28128467.17 28128467.31 0.0276 0.0235 Jupiter 72303-02-20 06:00 G 28129237.52 28129237.75 28129237.99 0.0489 0.0074 Uranus 72314-02-13 21:07 G 28133249.21 28133249.38 28133249.58 0.0144 0.0099 Uranus 72315-02-19 00:00 G 28133619.27 28133619.50 28133619.75 0.0144 0.0050 Jupiter 72315-02-24 16:19 G 28133625.00 28133625.18 28133625.36 0.0488 0.0308 Saturn 72315-07-15 03:07 G 28133765.47 28133765.63 28133765.80 0.0283 0.0203 Uranus 72316-02-24 02:53 G 28133989.36 28133989.62 28133989.88 0.0144 0.0001 Uranus 72317-02-28 05:03 G 28134359.47 28134359.71 28134359.96 0.0143 0.0048

Uranus 72318-03-05 06:43 G 28134729.60 28134729.78 28134729.98 0.0143 0.0097 72326-06-11 06:29 G 28137749.59 28137749.77 28137749.96 0.1844 0.0601 Mars Saturn 72331-01-18 06:00 G 28139431.50 28139431.75 28139431.99 0.0276 0.0047 Neptune 72344-02-25 11:17 G 28144217.97 28144217.97 28144218.01 0.0088 0.0088 Neptune 72345-02-26 23:31 G 28144585.31 28144585.48 28144585.68 0.0088 0.0061 Saturn 72345-07-21 14:39 G 28144729.88 28144730.11 28144730.34 0.0282 0.0084 Neptune 72346-03-01 11:31 G 28144952.75 28144952.98 28144953.23 0.0088 0.0034 Neptune 72347-03-03 23:31 G 28145320.22 28145320.48 28145320.75 0.0088 0.0007 Neptune 72348-03-05 11:17 G 28145687.73 28145687.97 28145688.24 0.0088 0.0020 Neptune 72349-03-07 23:17 G 28146055.26 28146055.47 28146055.71 0.0088 0.0047 Neptune 72350-03-10 10:48 G 28146422.84 28146422.95 28146423.12 0.0088 0.0074 Uranus 72355-08-11 22:19 G 28148403.35 28148403.43 28148403.56 0.0134 0.0122 Uranus 72356-08-15 04:19 G 28148772.50 28148772.68 28148772.89 0.0134 0.0084 Jupiter 72356-08-16 07:41 G 28148773.75 28148773.82 28148773.90 0.0538 0.0507 Uranus 72357-08-19 10:34 G 28149141.71 28149141.94 28149142.18 0.0134 0.0046 Uranus 72358-08-23 16:48 G 28149510.95 28149511.20 28149511.46 0.0134 0.0007 Uranus 72359-08-27 22:48 G 28149880.22 28149880.45 28149880.71 0.0135 0.0033 Saturn 72360-01-13 02:53 G 28150018.44 28150018.62 28150018.83 0.0276 0.0172 Uranus 72360-08-31 05:31 G 28150249.52 28150249.73 28150249.95 0.0135 0.0071 Uranus 72361-09-04 12:00 G 28150618.87 28150619.00 28150619.16 0.0135 0.0110 Jupiter 72368-08-21 05:03 G 28153161.48 28153161.71 28153161.94 0.0539 0.0024 Saturn 72374-07-16 14:39 G 28155316.91 28155317.11 28155317.33 0.0283 0.0136 Jupiter 72380-08-26 08:10 G 28157549.75 28157549.84 28157549.94 0.0541 0.0491 Jupiter 72386-02-19 11:17 G 28159552.75 28159552.97 28159553.20 0.0489 0.0133 Saturn 72390-01-19 18:00 G 28160983.03 28160983.25 28160983.49 0.0277 0.0113 Pluto 72391-09-03 19:27 G 28161575.07 28161575.31 28161575.58 0.0064 0.0011 Uranus 72397-02-09 03:36 G 28163560.62 28163560.65 28163560.71 0.0144 0.0141 Uranus 72398-02-14 06:43 G 28163930.60 28163930.78 28163930.99 0.0144 0.0093 Jupiter 72398-02-23 20:24 G 28163940.15 28163940.35 28163940.55 0.0488 0.0246 72398-12-06 21:22 G 28164226.36 28164226.39 28164226.42 0.1676 0.1646 Mars

Uranus 72399-02-19 09:36 G 28164300.67 28164300.90 28164301.16 0.0144 0.0044 Uranus 72400-02-24 12:29 G 28164670.77 28164671.02 28164671.28 0.0144 0.0006 Uranus 72401-02-28 14:39 G 28165040.88 28165041.11 28165041.36 0.0143 0.0054 Uranus 72402-03-05 16:19 G 28165411.02 28165411.18 28165411.37 0.0143 0.0103 Saturn 72404-07-23 01:12 G 28166281.35 28166281.55 28166281.76 0.0282 0.0149 Saturn 72419-01-14 13:41 G 28171569.84 28171570.07 28171570.30 0.0276 0.0109 Neptune 72426-08-27 04:48 G 28174351.57 28174351.70 28174351.89 0.0090 0.0071 Neptune 72427-08-29 16:34 G 28174718.98 28174719.19 28174719.43 0.0090 0.0043 Neptune 72428-08-31 04:05 G 28175086.43 28175086.67 28175086.93 0.0090 0.0015 Neptune 72429-09-02 15:22 G 28175453.90 28175454.14 28175454.41 0.0090 0.0014 Neptune 72430-09-05 02:39 G 28175821.40 28175821.61 28175821.86 0.0090 0.0042 Neptune 72431-09-07 13:55 G 28176188.94 28176189.08 28176189.26 0.0090 0.0069 Saturn 72433-07-18 02:24 G 28176868.37 28176868.60 28176868.83 0.0283 0.0069 Uranus 72439-08-12 10:19 G 28179084.80 28179084.93 28179085.05 0.0134 0.0116 Uranus 72440-08-15 15:51 G 28179453.97 28179454.16 28179454.38 0.0134 0.0078 Uranus 72441-08-19 21:51 G 28179823.18 28179823.41 28179823.66 0.0134 0.0040 Uranus 72442-08-24 04:05 G 28180192.42 28180192.67 28180192.93 0.0134 0.0003 Uranus 72443-08-28 10:05 G 28180561.70 28180561.92 28180562.18 0.0135 0.0039 Uranus 72444-08-31 16:34 G 28180931.00 28180931.19 28180931.41 0.0135 0.0077 Uranus 72445-09-04 23:31 G 28181300.36 28181300.48 28181300.61 0.0135 0.0115 Saturn 72449-01-21 05:31 G 28182534.55 28182534.73 28182534.93 0.0277 0.0177 Jupiter 72451-08-21 06:43 G 28183476.56 28183476.78 28183477.01 0.0539 0.0108 Saturn 72463-07-25 12:29 G 28187832.86 28187833.02 28187833.17 0.0282 0.0214 Jupiter 72463-08-26 11:31 G 28187864.83 28187864.98 28187865.12 0.0541 0.0415 Jupiter 72469-02-18 12:43 G 28189867.82 28189868.03 28189868.25 0.0490 0.0203 72477-12-09 05:17 G 28193083.57 28193083.72 28193083.87 0.1680 0.1030 Mars Saturn 72478-01-15 22:48 G 28193121.20 28193121.45 28193121.69 0.0276 0.0049 Uranus 72481-02-09 12:29 G 28194241.96 28194242.02 28194242.13 0.0144 0.0136 Jupiter 72481-02-22 22:19 G 28194255.21 28194255.43 28194255.65 0.0488 0.0179 Uranus 72482-02-14 15:51 G 28194611.97 28194612.16 28194612.38 0.0144 0.0087

Uranus 72483-02-19 18:43 G 28194982.03 28194982.28 28194982.53 0.0144 0.0038 Uranus 72484-02-24 21:22 G 28195352.13 28195352.39 28195352.65 0.0144 0.0011 Uranus 72485-02-28 23:17 G 28195722.24 28195722.47 28195722.71 0.0143 0.0060 Uranus 72486-03-06 00:43 G 28196092.37 28196092.53 28196092.71 0.0143 0.0108 Saturn 72492-07-19 13:27 G 28198419.82 28198420.06 28198420.31 0.0283 0.0004 Saturn 72507-01-11 12:15 G 28203708.00 28203708.01 28203708.05 0.0276 0.0274 Saturn 72508-01-24 15:36 G 28204086.04 28204086.15 28204086.29 0.0277 0.0239 Neptune 72509-02-27 07:41 G 28204485.69 28204485.82 28204485.98 0.0088 0.0072 Neptune 72510-03-01 19:27 G 28204853.11 28204853.31 28204853.55 0.0088 0.0046 Neptune 72511-03-04 07:41 G 28205220.57 28205220.82 28205221.08 0.0088 0.0019 Neptune 72512-03-05 19:55 G 28205588.07 28205588.33 28205588.59 0.0088 0.0008 Neptune 72513-03-08 07:41 G 28205955.59 28205955.82 28205956.07 0.0088 0.0035 Neptune 72514-03-10 19:12 G 28206323.14 28206323.30 28206323.51 0.0088 0.0062 Saturn 72521-07-14 22:05 G 28209006.32 28209006.42 28209006.53 0.0283 0.0253 Saturn 72522-07-27 22:34 G 28209384.40 28209384.44 28209384.47 0.0282 0.0278 Uranus 72523-08-13 20:39 G 28209766.23 28209766.36 28209766.51 0.0134 0.0111 Uranus 72524-08-17 02:24 G 28210135.40 28210135.60 28210135.82 0.0134 0.0072 Uranus 72525-08-21 08:24 G 28210504.62 28210504.85 28210505.10 0.0134 0.0034 Uranus 72526-08-25 14:39 G 28210873.86 28210874.11 28210874.37 0.0135 0.0006 Uranus 72527-08-29 20:39 G 28211243.14 28211243.36 28211243.61 0.0135 0.0044 Uranus 72528-09-02 03:22 G 28211612.45 28211612.64 28211612.84 0.0135 0.0082 Uranus 72529-09-06 09:51 G 28211981.82 28211981.91 28211982.04 0.0135 0.0121 Jupiter 72534-08-21 08:39 G 28213791.65 28213791.86 28213792.08 0.0539 0.0191 Saturn 72537-01-18 06:00 G 28214672.50 28214672.75 28214673.00 0.0277 0.0010 Jupiter 72546-08-26 05:17 G 28218179.53 28218179.72 28218179.92 0.0540 0.0296 Saturn 72551-07-22 23:31 G 28219971.25 28219971.48 28219971.72 0.0283 0.0063 Jupiter 72552-02-19 19:27 G 28220183.11 28220183.31 28220183.52 0.0490 0.0258 Jupiter 72564-02-24 05:17 G 28224570.50 28224570.72 28224570.96 0.0489 0.0127 Uranus 72565-02-10 22:05 G 28224923.33 28224923.42 28224923.55 0.0144 0.0130 Saturn 72566-01-12 19:55 G 28225259.18 28225259.33 28225259.49 0.0276 0.0216

Uranus 72566-02-16 01:27 G 28225293.35 28225293.56 28225293.77 0.0144 0.0081 Uranus 72567-02-21 04:05 G 28225663.42 28225663.67 28225663.92 0.0144 0.0032 Uranus 72568-02-26 06:29 G 28226033.52 28226033.77 28226034.03 0.0144 0.0017 Uranus 72569-03-02 08:10 G 28226403.63 28226403.84 28226404.08 0.0143 0.0066 Uranus 72570-03-07 09:36 G 28226773.77 28226773.90 28226774.08 0.0143 0.0114 Saturn 72580-07-16 07:41 G 28230557.64 28230557.82 28230558.00 0.0283 0.0189 Neptune 72590-08-27 15:07 G 28234252.03 28234252.13 28234252.23 0.0090 0.0082 Neptune 72591-08-30 01:55 G 28234619.40 28234619.58 28234619.80 0.0090 0.0055 Neptune 72592-08-31 13:27 G 28234986.83 28234987.06 28234987.32 0.0090 0.0027 Neptune 72593-09-03 01:12 G 28235354.29 28235354.55 28235354.80 0.0090 0.0001 Neptune 72594-09-05 12:29 G 28235721.78 28235722.02 28235722.26 0.0090 0.0029 Neptune 72595-09-07 23:31 G 28236089.30 28236089.48 28236089.69 0.0090 0.0057 Saturn 72596-01-20 11:03 G 28236223.72 28236223.96 28236224.21 0.0277 0.0064 Neptune 72596-09-09 10:34 G 28236456.89 28236456.94 28236457.05 0.0090 0.0085 Uranus 72607-08-15 06:58 G 28240447.65 28240447.79 28240447.96 0.0134 0.0105 Uranus 72608-08-18 12:58 G 28240816.84 28240817.04 28240817.27 0.0134 0.0067 Uranus 72609-08-22 19:12 G 28241186.06 28241186.30 28241186.55 0.0134 0.0028 72610-06-13 01:27 G 28241480.44 28241480.56 28241480.68 0.1852 0.1466 Mars Saturn 72610-07-25 07:12 G 28241522.59 28241522.80 28241523.02 0.0283 0.0125 Uranus 72610-08-27 01:12 G 28241555.30 28241555.55 28241555.80 0.0135 0.0010 Uranus 72611-08-31 07:27 G 28241924.58 28241924.81 28241925.05 0.0135 0.0049 Uranus 72612-09-03 13:41 G 28242293.90 28242294.07 28242294.28 0.0135 0.0088 Uranus 72613-09-07 20:39 G 28242663.29 28242663.36 28242663.46 0.0135 0.0126 Jupiter 72617-08-21 04:05 G 28244106.49 28244106.67 28244106.87 0.0538 0.0304 Saturn 72625-01-15 01:27 G 28246810.36 28246810.56 28246810.76 0.0276 0.0161 Jupiter 72629-08-26 08:10 G 28248494.63 28248494.84 28248495.05 0.0540 0.0215 Jupiter 72635-02-20 02:39 G 28250498.43 28250498.61 28250498.80 0.0490 0.0310 Pluto 72637-09-06 21:51 G 28251428.16 28251428.41 28251428.67 0.0064 0.0002 Saturn 72639-07-19 15:07 G 28252108.93 28252109.13 28252109.36 0.0283 0.0129 Jupiter 72647-02-24 10:48 G 28254885.71 28254885.95 28254886.18 0.0489 0.0068

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Pluto 72726-03-10 14:39 G 28283754.02 28283754.11 28283754.27 0.0080 0.0071 Saturn 72728-07-28 16:48 G 28284625.08 28284625.20 28284625.35 0.0283 0.0236 Jupiter 72730-02-24 20:10 G 28285201.10 28285201.34 28285201.58 0.0490 0.0023 Uranus 72733-02-13 18:00 G 28286286.13 28286286.25 28286286.42 0.0144 0.0119 Uranus 72734-02-18 21:07 G 28286656.15 28286656.38 28286656.60 0.0144 0.0070 Uranus 72735-02-23 23:17 G 28287026.22 28287026.47 28287026.73 0.0144 0.0022 Uranus 72736-02-29 01:41 G 28287396.32 28287396.57 28287396.82 0.0144 0.0027 Uranus 72737-03-05 03:07 G 28287766.42 28287766.63 28287766.86 0.0143 0.0076 Uranus 72738-03-10 04:34 G 28288136.58 28288136.69 28288136.83 0.0143 0.0123 Jupiter 72742-03-01 06:00 G 28289588.63 28289588.75 28289588.89 0.0488 0.0408 Saturn 72743-01-19 06:58 G 28289912.55 28289912.79 28289913.04 0.0276 0.0061 Neptune 72755-08-31 12:15 G 28294519.85 28294520.01 28294520.19 0.0090 0.0066 Neptune 72756-09-01 23:17 G 28294887.26 28294887.47 28294887.71 0.0090 0.0039 Saturn 72757-07-23 00:43 G 28295211.29 28295211.53 28295211.77 0.0283 0.0017 Neptune 72757-09-04 10:48 G 28295254.70 28295254.95 28295255.21 0.0090 0.0011 Neptune 72758-09-06 22:19 G 28295622.18 28295622.43 28295622.68 0.0090 0.0017 Neptune 72759-09-09 09:22 G 28295989.68 28295989.89 28295990.12 0.0090 0.0045 Neptune 72760-09-10 20:24 G 28296357.23 28296357.35 28296357.52 0.0090 0.0073 Mars 72761-12-13 02:39 G 28296815.57 28296815.61 28296815.65 0.1674 0.1624 Saturn 72773-01-25 15:22 G 28300876.99 28300877.14 28300877.31 0.0276 0.0210 Uranus 72774-08-12 20:39 G 28301441.35 28301441.36 28301441.40 0.0134 0.0134 Uranus 72775-08-17 02:24 G 28301810.44 28301810.60 28301810.79 0.0134 0.0096 Uranus 72776-08-20 08:24 G 28302179.63 28302179.85 28302180.08 0.0134 0.0058 Uranus 72777-08-24 14:24 G 28302548.86 28302549.10 28302549.36 0.0135 0.0020 Uranus 72778-08-28 20:24 G 28302918.11 28302918.35 28302918.61 0.0135 0.0020 Uranus 72779-09-02 02:53 G 28303287.40 28303287.62 28303287.85 0.0135 0.0058 Uranus 72780-09-05 09:07 G 28303656.72 28303656.88 28303657.07 0.0135 0.0097 Jupiter 72783-08-21 12:15 G 28304736.89 28304737.01 28304737.13 0.0537 0.0455 Saturn 72786-07-17 16:34 G 28305798.09 28305798.19 28305798.32 0.0284 0.0250 Jupiter 72795-08-26 13:27 G 28309124.83 28309125.06 28309125.29 0.0539 0.0048

Jupiter 72801-02-19 18:43 G 28311129.16 28311129.28 28311129.42 0.0491 0.0409 Saturn 72802-01-20 08:24 G 28311463.60 28311463.85 28311464.10 0.0275 0.0013 Jupiter 72813-02-24 06:15 G 28315516.53 28315516.76 28315517.00 0.0490 0.0020 Saturn 72816-07-24 02:53 G 28316762.38 28316762.62 28316762.86 0.0283 0.0034 Uranus 72817-02-14 04:05 G 28316967.52 28316967.67 28316967.84 0.0144 0.0113 Uranus 72818-02-19 06:43 G 28317337.56 28317337.78 28317338.02 0.0144 0.0065 Uranus 72819-02-24 09:07 G 28317707.63 28317707.88 28317708.14 0.0144 0.0016 Uranus 72820-02-29 11:17 G 28318077.72 28318077.97 28318078.22 0.0143 0.0033 Uranus 72821-03-05 12:58 G 28318447.83 28318448.04 28318448.25 0.0143 0.0081 Uranus 72822-03-10 14:10 G 28318817.99 28318818.09 28318818.22 0.0143 0.0128 Jupiter 72825-02-28 14:53 G 28319903.97 28319904.12 28319904.28 0.0488 0.0361 Saturn 72831-01-14 13:27 G 28322049.97 28322050.06 28322050.18 0.0275 0.0251 Saturn 72832-01-27 15:36 G 28322428.06 28322428.15 28322428.25 0.0276 0.0255 Neptune 72838-03-02 13:27 G 28324653.90 28324654.06 28324654.24 0.0088 0.0067 Neptune 72839-03-05 01:27 G 28325021.35 28325021.56 28325021.81 0.0088 0.0041 Neptune 72840-03-06 13:41 G 28325388.82 28325389.07 28325389.34 0.0088 0.0014 Neptune 72841-03-09 01:55 G 28325756.32 28325756.58 28325756.84 0.0088 0.0013 Neptune 72842-03-11 13:27 G 28326123.85 28326124.06 28326124.31 0.0088 0.0040 Neptune 72843-03-14 01:41 G 28326491.41 28326491.57 28326491.75 0.0088 0.0066 Saturn 72845-07-18 17:17 G 28327349.06 28327349.22 28327349.39 0.0284 0.0203 Uranus 72858-08-13 05:46 G 28332122.68 28332122.74 28332122.82 0.0134 0.0129 Uranus 72859-08-17 11:31 G 28332491.81 28332491.98 28332492.17 0.0134 0.0091 Uranus 72860-08-20 17:17 G 28332861.00 28332861.22 28332861.46 0.0134 0.0053 Saturn 72861-01-21 09:22 G 28333014.65 28333014.89 28333015.14 0.0275 0.0035 Uranus 72861-08-24 23:31 G 28333230.23 28333230.48 28333230.73 0.0135 0.0015 Uranus 72862-08-29 05:31 G 28333599.49 28333599.73 28333599.98 0.0135 0.0024 Uranus 72863-09-02 11:46 G 28333968.78 28333968.99 28333969.22 0.0135 0.0063 Uranus 72864-09-05 18:15 G 28334338.11 28334338.26 28334338.44 0.0135 0.0102 Jupiter 72866-08-20 16:34 G 28335052.16 28335052.19 28335052.22 0.0537 0.0530 Saturn 72875-07-26 04:48 G 28338313.47 28338313.70 28338313.93 0.0283 0.0084

Jupiter 72878-08-25 21:07 G 28339440.15 28339440.38 28339440.61 0.0539 0.0011 Pluto 72883-09-10 03:22 G 28341281.41 28341281.64 28341281.88 0.0064 0.0024 Jupiter 72884-02-20 03:36 G 28341444.58 28341444.65 28341444.75 0.0491 0.0457 Saturn 72890-01-15 14:53 G 28343600.96 28343601.12 28343601.29 0.0275 0.0203 Jupiter 72890-08-31 01:55 G 28343828.51 28343828.58 28343828.65 0.0540 0.0513 Jupiter 72896-02-24 14:53 G 28345831.89 28345832.12 28345832.36 0.0490 0.0066 Uranus 72901-02-15 12:43 G 28347648.87 28347649.03 28347649.21 0.0144 0.0108 Uranus 72902-02-20 15:22 G 28348018.92 28348019.14 28348019.38 0.0144 0.0060 Uranus 72903-02-25 17:46 G 28348388.99 28348389.24 28348389.50 0.0144 0.0011 Uranus 72904-03-01 20:10 G 28348759.09 28348759.34 28348759.59 0.0143 0.0038 Saturn 72904-07-20 16:48 G 28348900.01 28348900.20 28348900.41 0.0284 0.0158 Uranus 72905-03-06 21:22 G 28349129.20 28349129.39 28349129.61 0.0143 0.0087 Uranus 72906-03-11 23:31 G 28349499.39 28349499.48 28349499.57 0.0143 0.0134 Jupiter 72908-03-01 00:15 G 28350219.34 28350219.51 28350219.70 0.0489 0.0318 Neptune 72919-08-31 23:03 G 28354420.34 28354420.46 28354420.60 0.0090 0.0077 Saturn 72920-01-24 11:31 G 28354565.75 28354565.98 28354566.22 0.0275 0.0082 Neptune 72920-09-02 10:05 G 28354787.73 28354787.92 28354788.15 0.0090 0.0050 Neptune 72921-09-04 21:36 G 28355155.16 28355155.40 28355155.65 0.0090 0.0022 Neptune 72922-09-07 08:53 G 28355522.61 28355522.87 28355523.12 0.0090 0.0005 Neptune 72923-09-09 19:55 G 28355890.10 28355890.33 28355890.57 0.0090 0.0033 Neptune 72924-09-11 06:58 G 28356257.62 28356257.79 28356258.00 0.0090 0.0061 Neptune 72925-09-13 18:29 G 28356625.23 28356625.27 28356625.32 0.0090 0.0088 Saturn 72934-07-28 06:29 G 28359864.56 28359864.77 28359864.99 0.0283 0.0133 Uranus 72942-08-14 15:22 G 28362804.05 28362804.14 28362804.24 0.0134 0.0124 Uranus 72943-08-18 20:53 G 28363173.19 28363173.37 28363173.58 0.0134 0.0086 Uranus 72944-08-22 02:39 G 28363542.39 28363542.61 28363542.86 0.0134 0.0049 Uranus 72945-08-26 09:07 G 28363911.63 28363911.88 28363912.13 0.0135 0.0009 Uranus 72946-08-30 15:07 G 28364280.88 28364281.13 28364281.37 0.0135 0.0029 Uranus 72947-09-03 21:36 G 28364650.19 28364650.40 28364650.62 0.0135 0.0068 Uranus 72948-09-07 03:51 G 28365019.53 28365019.66 28365019.83 0.0135 0.0107

Saturn 72949-01-17 17:03 G 28365152.01 28365152.21 28365152.42 0.0275 0.0155 Jupiter 72961-08-26 01:12 G 28369755.33 28369755.55 28369755.78 0.0538 0.0087 Saturn 72963-07-22 17:46 G 28370451.02 28370451.24 28370451.46 0.0284 0.0110 72966-12-12 17:46 G 28371690.05 28371690.24 28371690.42 0.1665 0.0353 Mars Pluto 72972-03-12 22:19 G 28373607.21 28373607.43 28373607.69 0.0080 0.0033 Jupiter 72973-08-31 01:55 G 28374143.44 28374143.58 28374143.73 0.0539 0.0420 Saturn 72979-01-25 14:53 G 28376116.91 28376117.12 28376117.34 0.0275 0.0131 Jupiter 72979-02-24 22:48 G 28376147.22 28376147.45 28376147.68 0.0491 0.0113 Uranus 72985-02-15 20:39 G 28378330.20 28378330.36 28378330.56 0.0144 0.0103 Uranus 72986-02-20 23:46 G 28378700.25 28378700.49 28378700.73 0.0144 0.0054 Uranus 72987-02-26 02:10 G 28379070.33 28379070.59 28379070.84 0.0144 0.0006 Uranus 72988-03-02 04:05 G 28379440.43 28379440.67 28379440.92 0.0143 0.0043 Uranus 72989-03-07 05:46 G 28379810.56 28379810.74 28379810.95 0.0143 0.0092 Uranus 72990-03-12 07:12 G 28380180.77 28380180.80 28380180.89 0.0143 0.0140 Jupiter 72991-03-01 10:05 G 28380534.73 28380534.92 28380535.12 0.0489 0.0277 Saturn 72993-07-29 08:39 G 28381415.68 28381415.86 28381416.05 0.0283 0.0183

# 74TH MILLENNIUM CE

#### This is a list of transits of Earth in the 74th millennium CE.

FROM MAX- C START MAX END SUNRAD DEPTH S
TRANSIT
TIME

 Neptune
 73002-03-03 22:05 G
 28384554.33
 28384554.42
 28384554.57
 0.0088
 0.0078

 Neptune
 73003-03-06 10:48 G
 28384921.74
 28384921.95
 28384922.17
 0.0088
 0.0051

 Neptune
 73004-03-07 22:34 G
 28385289.21
 28385289.44
 28385289.71
 0.0088
 0.0025

Neptune 73005-03-10 11:03 G 28385656.70 28385656.96 28385657.22 0.0088 0.0002 Neptune 73006-03-12 23:03 G 28386024.22 28386024.46 28386024.72 0.0088 0.0029 Neptune 73007-03-15 10:34 G 28386391.77 28386391.94 28386392.17 0.0088 0.0056 Saturn 73008-01-20 21:36 G 28386703.18 28386703.40 28386703.64 0.0275 0.0104 Neptune 73008-03-16 22:48 G 28386759.38 28386759.45 28386759.56 0.0088 0.0082 Saturn 73022-07-24 18:58 G 28392002.06 28392002.29 28392002.53 0.0285 0.0063 Uranus 73026-08-15 23:46 G 28393485.39 28393485.49 28393485.62 0.0134 0.0119 Uranus 73027-08-20 05:46 G 28393854.55 28393854.74 28393854.95 0.0134 0.0082 Uranus 73028-08-23 11:46 G 28394223.76 28394223.99 28394224.24 0.0134 0.0043 Uranus 73029-08-27 18:00 G 28394593.00 28394593.25 28394593.50 0.0135 0.0005 Uranus 73030-09-01 00:00 G 28394962.27 28394962.50 28394962.75 0.0135 0.0035 Uranus 73031-09-05 06:43 G 28395331.57 28395331.78 28395331.99 0.0135 0.0073 Uranus 73032-09-08 13:12 G 28395700.93 28395701.05 28395701.21 0.0135 0.0112 Saturn 73038-01-27 19:55 G 28397668.15 28397668.33 28397668.52 0.0275 0.0183 Jupiter 73044-08-26 02:10 G 28400070.37 28400070.59 28400070.81 0.0537 0.0174 Saturn 73052-07-31 12:43 G 28402966.91 28402967.03 28402967.17 0.0284 0.0236 Jupiter 73056-08-31 05:46 G 28404458.57 28404458.74 28404458.92 0.0539 0.0346 Jupiter 73062-02-25 06:43 G 28406462.56 28406462.78 28406463.00 0.0491 0.0164 Saturn 73067-01-22 03:51 G 28408254.42 28408254.66 28408254.91 0.0275 0.0050 Uranus 73069-02-17 04:34 G 28409011.52 28409011.69 28409011.89 0.0144 0.0098 Uranus 73070-02-22 07:12 G 28409381.57 28409381.80 28409382.06 0.0144 0.0050 Uranus 73071-02-27 09:51 G 28409751.65 28409751.91 28409752.17 0.0143 0.0001 Uranus 73072-03-03 12:00 G 28410121.76 28410122.00 28410122.25 0.0143 0.0048 Uranus 73073-03-08 13:27 G 28410491.90 28410492.06 28410492.27 0.0143 0.0098 Jupiter 73074-03-01 17:03 G 28410850.00 28410850.21 28410850.42 0.0489 0.0224 Saturn 73081-07-25 22:19 G 28413553.19 28413553.43 28413553.68 0.0284 0.0013 Neptune 73083-09-01 09:36 G 28414320.88 28414320.90 28414320.98 0.0090 0.0088 Neptune 73084-09-02 20:53 G 28414688.21 28414688.37 28414688.58 0.0090 0.0061 Neptune 73085-09-05 08:39 G 28415055.63 28415055.86 28415056.10 0.0090 0.0033 Neptune 73086-09-07 19:41 G 28415423.07 28415423.32 28415423.58 0.0090 0.0006

Neptune 73087-09-10 06:58 G 28415790.55 28415790.79 28415791.04 0.0090 0.0022 Neptune 73088-09-11 17:46 G 28416158.05 28416158.24 28416158.47 0.0090 0.0050 Neptune 73089-09-14 05:03 G 28416525.60 28416525.71 28416525.86 0.0090 0.0077 Saturn 73096-01-17 03:36 G 28418841.58 28418841.65 28418841.73 0.0274 0.0260 Saturn 73097-01-29 03:07 G 28419219.52 28419219.63 28419219.76 0.0275 0.0238 Saturn 73110-07-21 14:10 G 28424139.98 28424140.09 28424140.22 0.0285 0.0247 Uranus 73110-08-17 09:07 G 28424166.77 28424166.88 28424167.03 0.0134 0.0115 Uranus 73111-08-21 15:22 G 28424535.94 28424536.14 28424536.35 0.0134 0.0077 Uranus 73112-08-24 21:07 G 28424905.15 28424905.38 28424905.63 0.0134 0.0039 Uranus 73113-08-29 03:36 G 28425274.40 28425274.65 28425274.90 0.0135 0.0001 Uranus 73114-09-02 09:36 G 28425643.67 28425643.90 28425644.15 0.0135 0.0040 Uranus 73115-09-06 16:19 G 28426012.99 28426013.18 28426013.39 0.0135 0.0079 Uranus 73116-09-09 23:17 G 28426382.36 28426382.47 28426382.60 0.0135 0.0117 Saturn 73126-01-24 12:15 G 28429805.76 28429806.01 28429806.26 0.0275 0.0008 Jupiter 73127-08-27 08:10 G 28430385.64 28430385.84 28430386.05 0.0537 0.0242 Pluto 73128-09-12 20:10 G 28430768.20 28430768.34 28430768.49 0.0064 0.0052 Pluto 73129-09-14 06:29 G 28431134.61 28431134.77 28431135.00 0.0064 0.0042 Jupiter 73139-09-01 09:51 G 28434773.71 28434773.91 28434774.11 0.0538 0.0270 Saturn 73140-07-28 04:05 G 28435104.43 28435104.67 28435104.91 0.0284 0.0043 Jupiter 73145-02-25 09:36 G 28436777.70 28436777.90 28436778.11 0.0492 0.0229 Uranus 73152-02-14 10:34 G 28439322.91 28439322.94 28439323.02 0.0144 0.0141 Uranus 73153-02-18 13:12 G 28439692.87 28439693.05 28439693.27 0.0144 0.0093 Uranus 73154-02-23 16:05 G 28440062.93 28440063.17 28440063.42 0.0144 0.0044 Saturn 73155-01-19 12:15 G 28440392.85 28440393.01 28440393.18 0.0274 0.0203 Uranus 73155-02-28 18:43 G 28440433.02 28440433.28 28440433.54 0.0143 0.0005 Uranus 73156-03-04 20:39 G 28440803.13 28440803.36 28440803.61 0.0143 0.0054 Jupiter 73157-03-01 20:10 G 28441165.12 28441165.34 28441165.57 0.0490 0.0163 Uranus 73157-03-09 22:34 G 28441173.27 28441173.44 28441173.63 0.0143 0.0102 Neptune 73167-03-06 19:55 G 28444822.17 28444822.33 28444822.54 0.0088 0.0062 Neptune 73168-03-08 08:24 G 28445189.62 28445189.85 28445190.10 0.0088 0.0035

Neptune 73169-03-10 20:53 G 28445557.11 28445557.37 28445557.63 0.0088 0.0008 Saturn 73169-07-22 22:19 G 28445691.25 28445691.43 28445691.62 0.0285 0.0187 Neptune 73170-03-13 09:07 G 28445924.62 28445924.88 28445925.13 0.0088 0.0018 Neptune 73171-03-15 20:53 G 28446292.16 28446292.37 28446292.61 0.0088 0.0045 Neptune 73172-03-17 09:07 G 28446659.73 28446659.88 28446660.03 0.0088 0.0071 Saturn 73185-01-25 22:34 G 28451357.20 28451357.44 28451357.68 0.0275 0.0068 Uranus 73194-08-17 17:31 G 28454848.11 28454848.23 28454848.39 0.0134 0.0111 Uranus 73195-08-21 23:31 G 28455217.29 28455217.48 28455217.71 0.0134 0.0073 Uranus 73196-08-25 06:00 G 28455586.51 28455586.75 28455587.00 0.0134 0.0033 Uranus 73197-08-29 12:15 G 28455955.76 28455956.01 28455956.26 0.0135 0.0006 Uranus 73198-09-02 18:29 G 28456325.05 28456325.27 28456325.52 0.0135 0.0045 Saturn 73199-07-30 11:31 G 28456655.76 28456655.98 28456656.21 0.0284 0.0102 Uranus 73199-09-07 01:27 G 28456694.37 28456694.56 28456694.77 0.0135 0.0083 Uranus 73200-09-10 08:10 G 28457063.75 28457063.84 28457063.96 0.0135 0.0122 Jupiter 73210-08-26 08:24 G 28460700.68 28460700.85 28460701.04 0.0536 0.0329 Saturn 73214-01-20 22:05 G 28461944.21 28461944.42 28461944.63 0.0274 0.0144 Pluto 73218-03-17 04:34 G 28463460.43 28463460.69 28463460.95 0.0080 0.0001 Jupiter 73222-08-31 05:17 G 28465088.51 28465088.72 28465088.94 0.0538 0.0160 Jupiter 73228-02-25 15:07 G 28467092.94 28467093.13 28467093.33 0.0492 0.0287 Saturn 73228-07-24 08:39 G 28467242.64 28467242.86 28467243.08 0.0285 0.0123 Uranus 73236-02-14 19:55 G 28470004.26 28470004.33 28470004.43 0.0144 0.0135 Uranus 73237-02-18 22:34 G 28470374.25 28470374.44 28470374.66 0.0144 0.0087 Uranus 73238-02-24 01:12 G 28470744.31 28470744.55 28470744.81 0.0144 0.0039 Uranus 73239-03-01 03:36 G 28471114.40 28471114.65 28471114.91 0.0143 0.0011 Jupiter 73240-03-01 01:41 G 28471480.34 28471480.57 28471480.81 0.0490 0.0103 Uranus 73240-03-05 05:46 G 28471484.52 28471484.74 28471484.99 0.0143 0.0060 Uranus 73241-03-10 07:55 G 28471854.67 28471854.83 28471855.00 0.0143 0.0108 Saturn 73244-01-28 09:51 G 28472908.69 28472908.91 28472909.13 0.0275 0.0130 Neptune 73248-09-03 08:39 G 28474588.71 28474588.86 28474589.01 0.0090 0.0071 Neptune 73249-09-05 19:27 G 28474956.10 28474956.31 28474956.54 0.0090 0.0044

Neptune 73250-09-08 06:43 G 28475323.54 28475323.78 28475324.04 0.0090 0.0017 73250-12-15 16:34 G 28475422.01 28475422.19 28475422.38 0.1660 0.0303 Mars Neptune 73251-09-10 18:00 G 28475691.00 28475691.25 28475691.51 0.0090 0.0011 Jupiter 73252-03-05 11:31 G 28475867.98 28475867.98 28475867.99 0.0489 0.0489 Neptune 73252-09-12 04:48 G 28476058.49 28476058.70 28476058.95 0.0090 0.0039 Neptune 73253-09-14 15:51 G 28476426.01 28476426.16 28476426.36 0.0090 0.0066 73257-06-19 10:48 G 28477799.79 28477799.95 28477800.11 0.1863 0.1060 Mars Saturn 73258-07-31 21:07 G 28478207.20 28478207.38 28478207.59 0.0284 0.0165 Saturn 73273-01-22 08:10 G 28483495.60 28483495.84 28483496.08 0.0275 0.0083 Uranus 73278-08-18 02:53 G 28485529.47 28485529.62 28485529.78 0.0134 0.0106 Uranus 73279-08-22 08:53 G 28485898.67 28485898.87 28485899.10 0.0134 0.0068 Uranus 73280-08-25 15:07 G 28486267.89 28486268.13 28486268.38 0.0135 0.0029 Uranus 73281-08-29 21:36 G 28486637.15 28486637.40 28486637.65 0.0135 0.0010 Uranus 73282-09-03 04:05 G 28487006.44 28487006.67 28487006.90 0.0135 0.0049 Uranus 73283-09-07 10:34 G 28487375.76 28487375.94 28487376.14 0.0135 0.0088 Uranus 73284-09-10 17:03 G 28487745.15 28487745.21 28487745.32 0.0135 0.0127 Saturn 73287-07-26 20:10 G 28488794.10 28488794.34 28488794.58 0.0284 0.0056 Jupiter 73293-08-25 04:19 G 28491015.56 28491015.68 28491015.82 0.0536 0.0439 Saturn 73303-01-30 21:22 G 28494460.23 28494460.39 28494460.58 0.0275 0.0193 Jupiter 73305-08-31 07:27 G 28495403.59 28495403.81 28495404.04 0.0538 0.0077 Jupiter 73311-02-25 18:58 G 28497408.13 28497408.29 28497408.46 0.0492 0.0352 Saturn 73317-08-03 08:24 G 28499758.71 28499758.85 28499759.00 0.0284 0.0229 Uranus 73320-02-16 05:46 G 28500685.64 28500685.74 28500685.86 0.0144 0.0130 Uranus 73321-02-20 08:24 G 28501055.65 28501055.85 28501056.08 0.0144 0.0082 Uranus 73322-02-25 11:03 G 28501425.72 28501425.96 28501426.22 0.0144 0.0033 Jupiter 73323-03-02 02:24 G 28501795.37 28501795.60 28501795.84 0.0491 0.0031 Uranus 73323-03-02 13:41 G 28501795.81 28501796.07 28501796.33 0.0143 0.0016 \* Uranus 73324-03-06 15:36 G 28502165.93 28502166.15 28502166.39 0.0143 0.0066 Uranus 73325-03-11 17:17 G 28502536.09 28502536.22 28502536.40 0.0143 0.0114 Neptune 73331-03-07 05:46 G 28504722.61 28504722.74 28504722.91 0.0088 0.0072

Saturn 73332-01-25 18:15 G 28505047.01 28505047.26 28505047.51 0.0275 0.0022 Neptune 73332-03-08 17:46 G 28505090.04 28505090.24 28505090.49 0.0088 0.0046 Neptune 73333-03-11 06:15 G 28505457.51 28505457.76 28505458.02 0.0088 0.0019 Neptune 73334-03-13 18:29 G 28505825.01 28505825.27 28505825.54 0.0088 0.0008 Jupiter 73335-03-06 12:15 G 28506182.89 28506183.01 28506183.14 0.0490 0.0418 Neptune 73335-03-16 06:43 G 28506192.54 28506192.78 28506193.02 0.0088 0.0034 Neptune 73336-03-17 18:15 G 28506560.10 28506560.26 28506560.47 0.0088 0.0061 Neptune 73337-03-20 06:43 G 28506927.77 28506927.78 28506927.83 0.0088 0.0087 Saturn 73346-07-29 08:24 G 28510345.61 28510345.85 28510346.09 0.0284 0.0012 Saturn 73361-01-19 09:36 G 28515633.79 28515633.90 28515634.03 0.0274 0.0241 Saturn 73362-02-01 08:53 G 28516011.79 28516011.87 28516011.97 0.0275 0.0255 Uranus 73362-08-19 11:03 G 28516210.82 28516210.96 28516211.14 0.0134 0.0102 Uranus 73363-08-23 17:17 G 28516580.01 28516580.22 28516580.46 0.0134 0.0063 Uranus 73364-08-26 23:46 G 28516949.25 28516949.49 28516949.74 0.0135 0.0024 Uranus 73365-08-31 06:00 G 28517318.51 28517318.75 28517319.01 0.0135 0.0015 Uranus 73366-09-04 12:15 G 28517687.79 28517688.01 28517688.25 0.0135 0.0054 Uranus 73367-09-08 19:12 G 28518057.12 28518057.30 28518057.49 0.0135 0.0092 Uranus 73368-09-12 01:27 G 28518426.52 28518426.56 28518426.64 0.0135 0.0131 Pluto 73374-09-16 02:24 G 28520621.38 28520621.60 28520621.84 0.0064 0.0026 Saturn 73375-07-23 15:36 G 28520932.04 28520932.15 28520932.29 0.0284 0.0240 Jupiter 73376-08-25 08:24 G 28521330.79 28521330.85 28521330.92 0.0535 0.0512 Jupiter 73388-08-30 08:39 G 28525718.63 28525718.86 28525719.09 0.0537 0.0013 Saturn 73391-01-27 03:22 G 28526598.39 28526598.64 28526598.89 0.0275 0.0038 Jupiter 73394-02-24 19:12 G 28527723.19 28527723.30 28527723.42 0.0493 0.0429 Jupiter 73400-09-05 04:19 G 28530106.58 28530106.68 28530106.79 0.0538 0.0476 Uranus 73404-02-17 15:22 G 28531367.02 28531367.14 28531367.28 0.0144 0.0124 Uranus 73405-02-21 18:00 G 28531737.04 28531737.25 28531737.48 0.0144 0.0076 Saturn 73405-07-31 20:10 G 28531897.11 28531897.34 28531897.57 0.0284 0.0080 Uranus 73406-02-26 20:53 G 28532107.12 28532107.37 28532107.62 0.0144 0.0027 Jupiter 73406-03-02 07:55 G 28532110.59 28532110.83 28532111.06 0.0491 0.0031

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Jupiter 73489-03-01 13:27 G 28562425.83 28562426.06 28562426.30 0.0491 0.0089 Uranus 73490-02-27 05:31 G 28562788.48 28562788.73 28562788.99 0.0144 0.0021 Uranus 73491-03-04 08:10 G 28563158.59 28563158.84 28563159.09 0.0143 0.0028 Uranus 73492-03-08 10:05 G 28563528.71 28563528.92 28563529.15 0.0143 0.0077 Uranus 73493-03-13 11:31 G 28563898.88 28563898.98 28563899.13 0.0143 0.0125 Saturn 73493-07-27 13:55 G 28564034.86 28564035.08 28564035.31 0.0284 0.0107 Neptune 73495-03-07 15:51 G 28564623.09 28564623.16 28564623.28 0.0088 0.0082 Neptune 73496-03-09 03:51 G 28564990.48 28564990.66 28564990.89 0.0088 0.0056 Neptune 73497-03-11 16:34 G 28565357.94 28565358.19 28565358.43 0.0088 0.0029 Neptune 73498-03-14 04:19 G 28565725.42 28565725.68 28565725.94 0.0088 0.0003 Neptune 73499-03-16 16:05 G 28566092.93 28566093.17 28566093.44 0.0088 0.0024 Neptune 73500-03-19 04:19 G 28566460.48 28566460.68 28566460.91 0.0088 0.0050 Jupiter 73501-03-06 21:22 G 28566813.21 28566813.39 28566813.59 0.0490 0.0295 Neptune 73501-03-21 15:51 G 28566828.07 28566828.16 28566828.32 0.0088 0.0077 Saturn 73509-01-31 16:34 G 28569700.99 28569701.19 28569701.41 0.0275 0.0150 Saturn 73523-08-05 16:05 G 28575000.01 28575000.17 28575000.34 0.0284 0.0207 Uranus 73529-08-17 22:48 G 28577204.41 28577204.45 28577204.54 0.0134 0.0130 Uranus 73530-08-22 05:17 G 28577573.54 28577573.72 28577573.91 0.0134 0.0091 Uranus 73531-08-26 11:17 G 28577942.75 28577942.97 28577943.21 0.0134 0.0053 Uranus 73532-08-29 17:31 G 28578311.99 28578312.23 28578312.48 0.0134 0.0015 Uranus 73533-09-02 23:46 G 28578681.25 28578681.49 28578681.74 0.0135 0.0024 Uranus 73534-09-07 05:46 G 28579050.53 28579050.74 28579050.97 0.0135 0.0064 73534-12-19 15:51 G 28579154.00 28579154.16 28579154.31 0.1656 0.0950 Mars Uranus 73535-09-11 12:00 G 28579419.86 28579420.00 28579420.19 0.0135 0.0102 Saturn 73538-01-26 09:36 G 28580287.66 28580287.90 28580288.14 0.0274 0.0068 73541-06-21 22:34 G 28581530.25 28581530.44 28581530.64 0.1871 0.0229 Mars Saturn 73552-07-29 22:48 G 28585586.21 28585586.45 28585586.69 0.0284 0.0045 Jupiter 73554-08-31 09:07 G 28586348.66 28586348.88 28586349.09 0.0536 0.0197 Jupiter 73566-09-05 11:03 G 28590736.78 28590736.96 28590737.15 0.0538 0.0317 Saturn 73568-02-02 20:10 G 28591252.18 28591252.34 28591252.52 0.0275 0.0201

Uranus 73572-02-19 08:10 G 28592729.69 28592729.84 28592730.01 0.0144 0.0113 Jupiter 73572-03-01 17:31 G 28592741.01 28592741.23 28592741.46 0.0492 0.0153 Uranus 73573-02-23 10:48 G 28593099.73 28593099.95 28593100.19 0.0144 0.0065 Uranus 73574-02-28 13:41 G 28593469.82 28593470.07 28593470.33 0.0144 0.0016 Uranus 73575-03-05 16:05 G 28593839.92 28593840.17 28593840.42 0.0143 0.0033 Uranus 73576-03-09 18:15 G 28594210.06 28594210.26 28594210.48 0.0143 0.0082 Uranus 73577-03-14 19:55 G 28594580.23 28594580.33 28594580.45 0.0143 0.0129 Neptune 73577-09-07 17:03 G 28594757.07 28594757.21 28594757.41 0.0090 0.0066 Neptune 73578-09-10 04:48 G 28595124.49 28595124.70 28595124.94 0.0090 0.0039 Neptune 73579-09-12 16:19 G 28595491.93 28595492.18 28595492.44 0.0090 0.0011 Neptune 73580-09-14 03:36 G 28595859.41 28595859.65 28595859.91 0.0090 0.0017 Saturn 73581-07-24 16:48 G 28596173.13 28596173.20 28596173.27 0.0285 0.0272 Neptune 73581-09-16 14:53 G 28596226.91 28596227.12 28596227.35 0.0090 0.0044 Saturn 73582-08-06 22:19 G 28596551.36 28596551.43 28596551.53 0.0284 0.0266 Neptune 73582-09-19 01:55 G 28596594.44 28596594.58 28596594.74 0.0090 0.0071 Jupiter 73584-03-06 05:17 G 28597128.52 28597128.72 28597128.93 0.0491 0.0244 Saturn 73597-01-27 13:55 G 28601838.84 28601839.08 28601839.33 0.0274 0.0017 Saturn 73611-08-01 04:48 G 28607137.46 28607137.70 28607137.95 0.0284 0.0013 Uranus 73613-08-18 08:24 G 28607885.78 28607885.85 28607885.97 0.0134 0.0125 Uranus 73614-08-22 14:39 G 28608254.93 28608255.11 28608255.32 0.0134 0.0086 Uranus 73615-08-26 21:07 G 28608624.14 28608624.38 28608624.61 0.0134 0.0048 Uranus 73616-08-30 02:53 G 28608993.37 28608993.62 28608993.87 0.0134 0.0009 Uranus 73617-09-03 09:07 G 28609362.64 28609362.88 28609363.13 0.0135 0.0030 Uranus 73618-09-07 14:53 G 28609731.93 28609732.12 28609732.36 0.0135 0.0069 Uranus 73619-09-11 21:22 G 28610101.25 28610101.39 28610101.56 0.0135 0.0107 Pluto 73620-09-19 08:10 G 28610474.59 28610474.84 28610475.10 0.0064 0.0004 Saturn 73626-01-21 23:17 G 28612425.36 28612425.47 28612425.58 0.0274 0.0243 Saturn 73627-02-03 22:05 G 28612803.32 28612803.42 28612803.53 0.0275 0.0248 Jupiter 73637-08-30 08:39 G 28616663.67 28616663.86 28616664.05 0.0535 0.0293 Saturn 73640-07-25 21:07 G 28617724.23 28617724.38 28617724.54 0.0285 0.0218

Jupiter 73649-09-04 08:53 G 28621051.65 28621051.87 28621052.08 0.0537 0.0211 Jupiter 73655-03-02 02:39 G 28623056.39 28623056.61 28623056.83 0.0493 0.0199 Saturn 73656-01-29 16:19 G 28623389.94 28623390.18 28623390.43 0.0274 0.0032 Uranus 73656-02-19 16:19 G 28623411.03 28623411.18 28623411.36 0.0144 0.0108 Uranus 73657-02-23 19:27 G 28623781.08 28623781.31 28623781.55 0.0144 0.0059 Uranus 73658-02-28 21:51 G 28624151.16 28624151.41 28624151.67 0.0144 0.0010 Uranus 73659-03-06 00:15 G 28624521.27 28624521.51 28624521.76 0.0143 0.0039 Neptune 73660-03-09 13:41 G 28624890.93 28624891.07 28624891.28 0.0088 0.0066 Uranus 73660-03-10 02:10 G 28624891.40 28624891.59 28624891.81 0.0143 0.0087 Neptune 73661-03-12 02:24 G 28625258.37 28625258.60 28625258.83 0.0088 0.0039 Uranus 73661-03-15 03:51 G 28625261.59 28625261.66 28625261.76 0.0143 0.0134 Neptune 73662-03-14 14:24 G 28625625.84 28625626.10 28625626.36 0.0088 0.0013 Neptune 73663-03-17 02:24 G 28625993.35 28625993.60 28625993.87 0.0088 0.0013 Neptune 73664-03-18 14:10 G 28626360.87 28626361.09 28626361.34 0.0088 0.0040 Neptune 73665-03-21 02:24 G 28626728.44 28626728.60 28626728.79 0.0088 0.0066 Jupiter 73667-03-06 14:39 G 28627443.90 28627444.11 28627444.33 0.0491 0.0200 Saturn 73670-08-02 09:07 G 28628688.64 28628688.88 28628689.11 0.0284 0.0066 Saturn 73685-01-23 00:15 G 28633976.35 28633976.51 28633976.69 0.0274 0.0197 Uranus 73697-08-18 17:31 G 28638567.13 28638567.23 28638567.36 0.0134 0.0119 Uranus 73698-08-22 23:31 G 28638936.30 28638936.48 28638936.69 0.0134 0.0082 Saturn 73699-07-27 23:03 G 28639275.27 28639275.46 28639275.65 0.0286 0.0169 Uranus 73699-08-27 05:46 G 28639305.50 28639305.74 28639305.98 0.0134 0.0043 Uranus 73700-08-31 11:46 G 28639674.74 28639674.99 28639675.24 0.0134 0.0004 Uranus 73701-09-04 17:46 G 28640044.00 28640044.24 28640044.49 0.0135 0.0034 Uranus 73702-09-09 00:00 G 28640413.29 28640413.50 28640413.71 0.0135 0.0073 Uranus 73703-09-13 06:15 G 28640782.63 28640782.76 28640782.91 0.0135 0.0111 Saturn 73715-01-31 17:31 G 28644941.00 28644941.23 28644941.47 0.0274 0.0078 Jupiter 73720-08-30 12:43 G 28646978.86 28646979.03 28646979.19 0.0535 0.0368 Saturn 73729-08-04 11:46 G 28650239.78 28650239.99 28650240.22 0.0285 0.0117 Jupiter 73732-09-04 16:34 G 28651366.97 28651367.19 28651367.41 0.0537 0.0151

Jupiter 73738-03-02 11:03 G 28653371.76 28653371.96 28653372.17 0.0493 0.0249 73739-12-19 11:03 G 28654028.80 28654028.96 28654029.13 0.1648 0.0771 Mars Uranus 73740-02-21 01:41 G 28654092.40 28654092.57 28654092.76 0.0144 0.0102 Uranus 73741-02-25 04:19 G 28654462.45 28654462.68 28654462.93 0.0144 0.0054 Neptune 73741-09-08 05:03 G 28654657.58 28654657.71 28654657.84 0.0090 0.0076 Uranus 73742-03-02 06:58 G 28654832.53 28654832.79 28654833.05 0.0144 0.0005 Neptune 73742-09-10 16:05 G 28655024.97 28655025.17 28655025.39 0.0090 0.0049 Uranus 73743-03-07 09:07 G 28655202.65 28655202.88 28655203.14 0.0143 0.0045 Neptune 73743-09-13 03:22 G 28655392.40 28655392.64 28655392.89 0.0090 0.0022 Saturn 73744-01-26 00:58 G 28655527.33 28655527.54 28655527.75 0.0274 0.0152 Uranus 73744-03-11 11:03 G 28655572.78 28655572.96 28655573.17 0.0143 0.0093 Neptune 73744-09-14 14:53 G 28655759.87 28655760.12 28655760.38 0.0090 0.0006 Uranus 73745-03-16 12:29 G 28655942.99 28655943.02 28655943.10 0.0143 0.0140 Neptune 73745-09-17 01:55 G 28656127.35 28656127.58 28656127.83 0.0090 0.0033 Neptune 73746-09-19 13:12 G 28656494.88 28656495.05 28656495.25 0.0090 0.0060 Neptune 73747-09-22 00:15 G 28656862.47 28656862.51 28656862.58 0.0090 0.0087 Jupiter 73750-03-06 22:34 G 28657759.22 28657759.44 28657759.67 0.0491 0.0150 Saturn 73758-07-29 23:31 G 28660826.26 28660826.48 28660826.70 0.0286 0.0122 Saturn 73774-02-01 18:29 G 28666492.05 28666492.27 28666492.50 0.0274 0.0122 Uranus 73781-08-20 03:07 G 28669248.51 28669248.63 28669248.77 0.0134 0.0115 Uranus 73782-08-24 08:53 G 28669617.68 28669617.87 28669618.09 0.0134 0.0077 Uranus 73783-08-28 14:53 G 28669986.89 28669987.12 28669987.37 0.0134 0.0038 Uranus 73784-08-31 20:53 G 28670356.12 28670356.37 28670356.63 0.0135 0.0003 Uranus 73785-09-05 02:53 G 28670725.39 28670725.62 28670725.87 0.0135 0.0040 Uranus 73786-09-09 08:53 G 28671094.68 28671094.87 28671095.09 0.0135 0.0078 Uranus 73787-09-13 15:36 G 28671464.03 28671464.15 28671464.28 0.0135 0.0116 Saturn 73788-08-05 13:12 G 28671790.86 28671791.05 28671791.25 0.0285 0.0165 Saturn 73803-01-28 01:27 G 28677078.34 28677078.56 28677078.80 0.0274 0.0108 Jupiter 73803-08-31 22:19 G 28677294.30 28677294.43 28677294.57 0.0535 0.0421 Jupiter 73815-09-05 20:53 G 28681682.14 28681682.37 28681682.59 0.0536 0.0076

Saturn 73817-07-31 23:03 G 28682377.24 28682377.46 28682377.70 0.0286 0.0078 73818-12-22 16:19 G 28682886.16 28682886.18 28682886.20 0.1651 0.1638 Mars Jupiter 73821-03-02 18:58 G 28683687.10 28683687.29 28683687.48 0.0494 0.0299 Uranus 73824-02-22 11:03 G 28684773.79 28684773.96 28684774.17 0.0144 0.0097 Neptune 73824-03-10 23:17 G 28684791.37 28684791.47 28684791.63 0.0088 0.0076 Uranus 73825-02-26 13:55 G 28685143.85 28685144.08 28685144.33 0.0144 0.0048 Neptune 73825-03-13 11:31 G 28685158.78 28685158.98 28685159.21 0.0088 0.0050 73825-06-23 10:05 G 28685260.81 28685260.92 28685261.02 0.1879 0.1592 Mars Uranus 73826-03-03 16:34 G 28685513.93 28685514.19 28685514.44 0.0144 0.0002 Neptune 73826-03-16 00:00 G 28685526.25 28685526.50 28685526.76 0.0088 0.0023 Uranus 73827-03-08 18:43 G 28685884.04 28685884.28 28685884.53 0.0144 0.0050 Neptune 73827-03-18 12:00 G 28685893.74 28685894.00 28685894.26 0.0088 0.0003 Uranus 73828-03-12 20:53 G 28686254.18 28686254.37 28686254.56 0.0143 0.0098 Neptune 73828-03-20 00:00 G 28686261.26 28686261.50 28686261.75 0.0088 0.0029 Neptune 73829-03-22 12:00 G 28686628.80 28686629.00 28686629.20 0.0088 0.0055 Neptune 73830-03-24 23:31 G 28686996.41 28686996.48 28686996.60 0.0088 0.0082 Saturn 73833-02-03 19:41 G 28688043.13 28688043.32 28688043.53 0.0274 0.0167 Jupiter 73833-03-07 07:27 G 28688074.58 28688074.81 28688075.04 0.0492 0.0106 Saturn 73847-08-08 14:24 G 28693341.95 28693342.10 28693342.27 0.0285 0.0213 Saturn 73862-01-29 03:07 G 28698629.39 28698629.63 28698629.87 0.0273 0.0062 Uranus 73865-08-21 11:31 G 28699929.86 28699929.98 28699930.14 0.0134 0.0111 Uranus 73866-08-25 17:31 G 28700299.03 28700299.23 28700299.46 0.0134 0.0072 Pluto 73866-09-23 16:34 G 28700327.97 28700328.19 28700328.43 0.0064 0.0027 Uranus 73867-08-29 23:31 G 28700668.24 28700668.48 28700668.73 0.0134 0.0034 Uranus 73868-09-02 05:31 G 28701037.48 28701037.73 28701037.98 0.0135 0.0005 Uranus 73869-09-06 11:17 G 28701406.75 28701406.97 28701407.22 0.0135 0.0044 Uranus 73870-09-10 17:31 G 28701776.04 28701776.23 28701776.43 0.0135 0.0082 Uranus 73871-09-15 00:00 G 28702145.39 28702145.50 28702145.62 0.0135 0.0120 Saturn 73876-08-01 23:03 G 28703928.22 28703928.46 28703928.70 0.0286 0.0033 Jupiter 73886-08-31 01:12 G 28707609.48 28707609.55 28707609.63 0.0533 0.0501

Saturn 73891-01-24 02:24 G 28709216.57 28709216.60 28709216.64 0.0273 0.0269 Saturn 73892-02-05 22:05 G 28709594.28 28709594.42 28709594.59 0.0273 0.0214 Jupiter 73898-09-04 23:46 G 28711997.26 28711997.49 28711997.72 0.0536 0.0011 Jupiter 73904-03-03 04:34 G 28714002.53 28714002.69 28714002.87 0.0494 0.0341 Saturn 73905-07-28 08:10 G 28714514.80 28714514.84 28714514.91 0.0286 0.0279 Neptune 73905-09-09 15:22 G 28714558.10 28714558.14 28714558.22 0.0090 0.0087 Saturn 73906-08-10 16:19 G 28714893.09 28714893.18 28714893.28 0.0285 0.0261 Neptune 73906-09-12 02:39 G 28714925.44 28714925.61 28714925.81 0.0090 0.0060 Uranus 73907-02-18 19:12 G 28715085.25 28715085.30 28715085.37 0.0144 0.0139 Neptune 73907-09-14 13:55 G 28715292.86 28715293.08 28715293.33 0.0090 0.0033 Uranus 73908-02-23 21:36 G 28715455.21 28715455.40 28715455.61 0.0144 0.0091 Neptune 73908-09-16 01:27 G 28715660.30 28715660.56 28715660.81 0.0090 0.0005 Uranus 73909-02-28 00:15 G 28715825.27 28715825.51 28715825.76 0.0144 0.0042 Neptune 73909-09-18 12:43 G 28716027.79 28716028.03 28716028.28 0.0090 0.0022 Uranus 73910-03-05 02:53 G 28716195.36 28716195.62 28716195.87 0.0144 0.0007 Jupiter 73910-09-11 02:39 G 28716385.56 28716385.61 28716385.68 0.0538 0.0517 Neptune 73910-09-20 23:46 G 28716395.29 28716395.49 28716395.71 0.0090 0.0049 Uranus 73911-03-10 04:48 G 28716565.48 28716565.70 28716565.95 0.0144 0.0056 Neptune 73911-09-23 11:03 G 28716762.84 28716762.96 28716763.11 0.0090 0.0076 Uranus 73912-03-14 06:43 G 28716935.62 28716935.78 28716935.97 0.0143 0.0103 Jupiter 73916-03-07 16:34 G 28718389.96 28718390.19 28718390.43 0.0492 0.0060 Saturn 73921-01-31 06:15 G 28720180.51 28720180.76 28720181.01 0.0273 0.0014 Jupiter 73928-03-12 03:51 G 28722777.57 28722777.66 28722777.74 0.0491 0.0455 Saturn 73935-08-05 00:15 G 28725479.27 28725479.51 28725479.75 0.0286 0.0013 Uranus 73949-08-22 21:07 G 28730611.25 28730611.38 28730611.56 0.0134 0.0106 Saturn 73950-01-26 06:15 G 28730767.63 28730767.76 28730767.91 0.0273 0.0221 Uranus 73950-08-27 02:53 G 28730980.42 28730980.62 28730980.85 0.0134 0.0068 Saturn 73951-02-08 02:10 G 28731145.53 28731145.59 28731145.67 0.0273 0.0262 Uranus 73951-08-31 08:53 G 28731349.63 28731349.87 28731350.12 0.0134 0.0029 Uranus 73952-09-03 14:53 G 28731718.87 28731719.12 28731719.37 0.0135 0.0010

Uranus 73953-09-07 20:39 G 28732088.13 28732088.36 28732088.60 0.0135 0.0048 Uranus 73954-09-12 02:39 G 28732457.43 28732457.61 28732457.82 0.0135 0.0087 Pluto 73955-03-27 04:48 G 28732653.49 28732653.70 28732653.92 0.0080 0.0046 Uranus 73955-09-16 09:22 G 28732826.80 28732826.89 28732826.98 0.0135 0.0125 Saturn 73964-07-29 11:31 G 28736065.85 28736065.98 28736066.14 0.0286 0.0228 Saturn 73980-02-02 11:46 G 28741731.74 28741731.99 28741732.23 0.0273 0.0037 Jupiter 73981-09-05 07:41 G 28742312.60 28742312.82 28742313.05 0.0535 0.0065 Jupiter 73987-03-03 12:00 G 28744317.86 28744318.00 28744318.14 0.0494 0.0395 Neptune 73988-03-11 08:39 G 28744691.84 28744691.86 28744691.94 0.0088 0.0086 Neptune 73989-03-13 20:53 G 28745059.21 28745059.37 28745059.59 0.0088 0.0060 Neptune 73990-03-16 09:22 G 28745426.66 28745426.89 28745427.14 0.0088 0.0034 Uranus 73991-02-19 04:48 G 28745766.61 28745766.70 28745766.79 0.0144 0.0133 Neptune 73991-03-18 21:51 G 28745794.15 28745794.41 28745794.67 0.0088 0.0007 Uranus 73992-02-24 07:12 G 28746136.59 28746136.80 28746137.01 0.0144 0.0085 Neptune 73992-03-20 09:36 G 28746161.65 28746161.90 28746162.16 0.0088 0.0019 Uranus 73993-02-28 09:36 G 28746506.66 28746506.90 28746507.16 0.0144 0.0037 Neptune 73993-03-22 21:36 G 28746529.18 28746529.40 28746529.63 0.0088 0.0045 Jupiter 73993-09-10 07:55 G 28746700.71 28746700.83 28746700.96 0.0537 0.0448 Uranus 73994-03-05 12:15 G 28746876.76 28746877.01 28746877.27 0.0144 0.0012 Neptune 73994-03-25 09:22 G 28746896.76 28746896.89 28746897.07 0.0088 0.0071 Saturn 73994-08-06 02:39 G 28747030.37 28747030.61 28747030.85 0.0286 0.0062 Uranus 73995-03-10 14:39 G 28747246.88 28747247.11 28747247.35 0.0144 0.0061 Uranus 73996-03-14 16:19 G 28747617.04 28747617.18 28747617.37 0.0143 0.0110 Jupiter 73999-03-07 21:07 G 28748705.14 28748705.38 28748705.62 0.0493 0.0004

### 75TH MILLENNIUM CE

#### This is a list of transits of Earth in the 75th millennium CE.

FROM MAX- C START MAX END SUNRAD DEPTH S

TRANSIT

TIME

Saturn 74009-01-27 12:15 G 28752318.82 28752319.01 28752319.21 0.0273 0.0169 Jupiter 74011-03-12 08:39 G 28753092.73 28753092.86 28753093.00 0.0492 0.0400 Saturn 74023-07-31 16:48 G 28757617.02 28757617.20 28757617.40 0.0286 0.0173 74023-12-22 12:58 G 28757760.85 28757761.04 28757761.23 0.1644 0.0025 Mars Uranus 74033-08-23 06:15 G 28761292.61 28761292.76 28761292.94 0.0134 0.0101 Uranus 74034-08-27 12:00 G 28761661.79 28761662.00 28761662.23 0.0134 0.0063 Uranus 74035-08-31 17:46 G 28762031.00 28762031.24 28762031.49 0.0134 0.0024 Uranus 74036-09-03 23:31 G 28762400.24 28762400.48 28762400.74 0.0134 0.0015 Uranus 74037-09-08 05:31 G 28762769.50 28762769.73 28762769.96 0.0135 0.0053 Uranus 74038-09-12 11:17 G 28763138.80 28763138.97 28763139.17 0.0135 0.0092 Saturn 74039-02-03 18:58 G 28763283.07 28763283.29 28763283.53 0.0273 0.0092 Uranus 74039-09-16 17:46 G 28763508.19 28763508.24 28763508.32 0.0135 0.0130 Saturn 74053-08-07 07:41 G 28768581.60 28768581.82 28768582.04 0.0286 0.0115 Jupiter 74064-09-04 09:36 G 28772627.68 28772627.90 28772628.13 0.0534 0.0146 Saturn 74068-01-29 19:55 G 28773870.11 28773870.33 28773870.56 0.0273 0.0114 Jupiter 74070-03-02 13:55 G 28774633.01 28774633.08 28774633.17 0.0495 0.0464 Neptune 74070-09-11 13:12 G 28774825.92 28774826.05 28774826.23 0.0090 0.0071 Neptune 74071-09-14 00:29 G 28775193.32 28775193.52 28775193.76 0.0090 0.0044 Neptune 74072-09-15 12:00 G 28775560.76 28775561.00 28775561.26 0.0090 0.0017 Neptune 74073-09-17 23:03 G 28775928.22 28775928.46 28775928.72 0.0090 0.0011 Neptune 74074-09-20 10:05 G 28776295.70 28776295.92 28776296.17 0.0090 0.0038 Uranus 74075-02-19 13:12 G 28776447.94 28776448.05 28776448.17 0.0144 0.0128 Neptune 74075-09-22 21:07 G 28776663.23 28776663.38 28776663.58 0.0090 0.0065 Uranus 74076-02-24 15:36 G 28776817.95 28776818.15 28776818.38 0.0144 0.0080 Jupiter 74076-09-09 06:15 G 28777015.59 28777015.76 28777015.94 0.0536 0.0347

Uranus 74077-02-28 18:43 G 28777188.03 28777188.28 28777188.53 0.0144 0.0031 Uranus 74078-03-05 21:22 G 28777558.13 28777558.39 28777558.65 0.0144 0.0018 Uranus 74079-03-10 23:46 G 28777928.27 28777928.49 28777928.73 0.0144 0.0067 Uranus 74080-03-15 01:41 G 28778298.44 28778298.57 28778298.74 0.0143 0.0115 Jupiter 74082-03-07 03:51 G 28779020.43 28779020.66 28779020.90 0.0493 0.0054 Saturn 74082-08-02 00:15 G 28779168.29 28779168.51 28779168.74 0.0286 0.0115 Jupiter 74094-03-11 15:07 G 28783407.97 28783408.13 28783408.30 0.0492 0.0345 Saturn 74098-02-05 04:48 G 28784834.49 28784834.70 28784834.91 0.0273 0.0149 Pluto 74111-09-26 12:15 G 28789814.82 28789815.01 28789815.23 0.0064 0.0038 Saturn 74112-08-09 14:53 G 28790132.94 28790133.12 28790133.32 0.0286 0.0173 Pluto 74112-09-26 23:31 G 28790181.35 28790181.48 28790181.62 0.0064 0.0055 Uranus 74116-08-20 10:48 G 28791604.92 28791604.95 28791604.99 0.0134 0.0133 Uranus 74117-08-24 16:05 G 28791974.01 28791974.17 28791974.36 0.0134 0.0096 Uranus 74118-08-28 21:51 G 28792343.19 28792343.41 28792343.65 0.0134 0.0057 Uranus 74119-09-02 03:36 G 28792712.41 28792712.65 28792712.91 0.0134 0.0019 Uranus 74120-09-05 09:36 G 28793081.65 28793081.90 28793082.15 0.0134 0.0020 Uranus 74121-09-09 15:07 G 28793450.92 28793451.13 28793451.37 0.0134 0.0059 Uranus 74122-09-13 21:36 G 28793820.23 28793820.40 28793820.58 0.0135 0.0097 Saturn 74127-02-01 05:03 G 28795421.47 28795421.71 28795421.96 0.0273 0.0057 Saturn 74141-08-04 10:19 G 28800719.70 28800719.93 28800720.17 0.0286 0.0052 Jupiter 74147-09-05 07:41 G 28802942.62 28802942.82 28802943.03 0.0534 0.0248 Neptune 74153-03-14 05:46 G 28804959.59 28804959.74 28804959.90 0.0088 0.0070 Neptune 74154-03-16 18:00 G 28805327.03 28805327.25 28805327.49 0.0088 0.0044 Neptune 74155-03-19 06:00 G 28805694.50 28805694.75 28805695.01 0.0088 0.0018 Saturn 74156-01-26 20:39 G 28806008.34 28806008.36 28806008.40 0.0273 0.0271 Neptune 74156-03-20 18:29 G 28806062.01 28806062.27 28806062.53 0.0088 0.0008 Saturn 74157-02-07 15:36 G 28806385.99 28806386.15 28806386.31 0.0273 0.0209 Neptune 74157-03-23 06:00 G 28806429.53 28806429.75 28806430.01 0.0088 0.0035 Neptune 74158-03-25 18:00 G 28806797.09 28806797.25 28806797.46 0.0088 0.0061 Uranus 74159-02-20 21:07 G 28807129.26 28807129.38 28807129.52 0.0144 0.0123

Neptune 74159-03-28 06:29 G 28807164.73 28807164.77 28807164.83 0.0088 0.0086 Jupiter 74159-09-10 09:36 G 28807330.71 28807330.90 28807331.10 0.0536 0.0269 Uranus 74160-02-25 23:31 G 28807499.28 28807499.48 28807499.72 0.0144 0.0075 Uranus 74161-03-02 02:39 G 28807869.37 28807869.61 28807869.87 0.0144 0.0026 Uranus 74162-03-07 05:31 G 28808239.48 28808239.73 28808239.99 0.0144 0.0024 Uranus 74163-03-12 07:55 G 28808609.62 28808609.83 28808610.07 0.0144 0.0073 Uranus 74164-03-16 10:34 G 28808979.81 28808979.94 28808980.08 0.0143 0.0121 Jupiter 74165-03-07 08:10 G 28809335.61 28809335.84 28809336.07 0.0494 0.0118 Saturn 74171-08-12 00:29 G 28811684.39 28811684.52 28811684.66 0.0286 0.0234 Jupiter 74177-03-11 16:05 G 28813722.98 28813723.17 28813723.37 0.0492 0.0272 Saturn 74186-02-02 15:22 G 28816972.89 28816973.14 28816973.39 0.0273 0.0003 Saturn 74200-08-06 21:51 G 28822271.16 28822271.41 28822271.65 0.0286 0.0014 Uranus 74200-08-21 19:55 G 28822286.28 28822286.33 28822286.43 0.0134 0.0129 Pluto 74201-03-30 15:07 G 28822506.87 28822507.13 28822507.39 0.0080 0.0003 Uranus 74201-08-26 01:41 G 28822655.40 28822655.57 28822655.77 0.0134 0.0090 Uranus 74202-08-30 07:27 G 28823024.59 28823024.81 28823025.05 0.0134 0.0053 Uranus 74203-09-03 13:27 G 28823393.81 28823394.06 28823394.31 0.0134 0.0014 Uranus 74204-09-06 18:58 G 28823763.05 28823763.29 28823763.54 0.0134 0.0025 Uranus 74205-09-11 00:58 G 28824132.33 28824132.54 28824132.77 0.0134 0.0064 Uranus 74206-09-15 06:58 G 28824501.64 28824501.79 28824501.97 0.0135 0.0103 Saturn 74215-01-29 07:55 G 28827559.68 28827559.83 28827560.00 0.0273 0.0210 Saturn 74216-02-11 03:07 G 28827937.60 28827937.63 28827937.67 0.0273 0.0270 74228-12-22 11:46 G 28832635.94 28832635.99 28832636.04 0.1638 0.1575 Mars Saturn 74229-08-01 03:22 G 28832857.52 28832857.64 28832857.78 0.0286 0.0239 Jupiter 74230-09-05 11:46 G 28833257.81 28833257.99 28833258.18 0.0533 0.0320 Neptune 74234-09-13 00:00 G 28834726.40 28834726.50 28834726.61 0.0090 0.0081 Neptune 74235-09-15 10:48 G 28835093.78 28835093.95 28835094.18 0.0090 0.0055 Neptune 74236-09-16 22:19 G 28835461.20 28835461.43 28835461.68 0.0090 0.0028 Neptune 74237-09-19 09:36 G 28835828.65 28835828.90 28835829.16 0.0090 0.0002 Neptune 74238-09-21 20:39 G 28836196.13 28836196.36 28836196.61 0.0090 0.0026

Neptune 74239-09-24 07:27 G 28836563.63 28836563.81 28836564.04 0.0090 0.0054 Neptune 74240-09-25 18:58 G 28836931.19 28836931.29 28836931.42 0.0090 0.0080 Jupiter 74242-09-10 10:48 G 28837645.74 28837645.95 28837646.17 0.0535 0.0181 Uranus 74243-02-22 05:46 G 28837810.61 28837810.74 28837810.90 0.0144 0.0118 Uranus 74244-02-27 08:53 G 28838180.65 28838180.87 28838181.10 0.0144 0.0069 Saturn 74245-02-05 01:12 G 28838524.31 28838524.55 28838524.80 0.0273 0.0062 Uranus 74245-03-03 12:00 G 28838550.74 28838551.00 28838551.25 0.0144 0.0020 Uranus 74246-03-08 14:39 G 28838920.86 28838921.11 28838921.37 0.0144 0.0029 Uranus 74247-03-13 17:17 G 28839291.02 28839291.22 28839291.45 0.0144 0.0079 Jupiter 74248-03-07 07:27 G 28839650.59 28839650.81 28839651.03 0.0494 0.0198 Uranus 74248-03-17 19:41 G 28839661.22 28839661.32 28839661.46 0.0143 0.0127 Saturn 74259-08-09 10:19 G 28843822.70 28843822.93 28843823.16 0.0286 0.0081 Jupiter 74260-03-11 20:39 G 28844038.15 28844038.36 28844038.57 0.0493 0.0209 Saturn 74274-01-30 19:12 G 28849111.10 28849111.30 28849111.51 0.0273 0.0149 Uranus 74284-08-22 06:15 G 28852967.69 28852967.76 28852967.89 0.0134 0.0124 Uranus 74285-08-26 12:15 G 28853336.83 28853337.01 28853337.21 0.0134 0.0085 Uranus 74286-08-30 18:15 G 28853706.02 28853706.26 28853706.49 0.0134 0.0047 Uranus 74287-09-03 23:46 G 28854075.25 28854075.49 28854075.75 0.0134 0.0009 Saturn 74288-08-02 16:05 G 28854408.99 28854409.17 28854409.37 0.0286 0.0171 Uranus 74288-09-07 05:46 G 28854444.50 28854444.74 28854444.99 0.0134 0.0031 Uranus 74289-09-11 11:31 G 28854813.78 28854813.98 28854814.21 0.0134 0.0070 Uranus 74290-09-15 18:00 G 28855183.11 28855183.25 28855183.40 0.0135 0.0108 Saturn 74304-02-08 10:19 G 28860075.72 28860075.93 28860076.17 0.0274 0.0122 74307-12-26 15:51 G 28861492.99 28861493.16 28861493.33 0.1640 0.0746 Mars Jupiter 74313-09-05 06:15 G 28863572.64 28863572.76 28863572.90 0.0533 0.0438 Neptune 74317-03-15 13:41 G 28864860.00 28864860.07 28864860.20 0.0088 0.0081 Neptune 74318-03-18 01:55 G 28865227.39 28865227.58 28865227.80 0.0088 0.0055 Saturn 74318-08-11 23:03 G 28865374.26 28865374.46 28865374.67 0.0286 0.0149 Neptune 74319-03-20 14:10 G 28865594.86 28865595.09 28865595.35 0.0088 0.0029 Neptune 74320-03-22 02:39 G 28865962.35 28865962.61 28865962.87 0.0088 0.0003

Neptune 74321-03-24 14:53 G 28866329.87 28866330.12 28866330.37 0.0088 0.0023 Neptune 74322-03-27 02:24 G 28866697.41 28866697.60 28866697.84 0.0088 0.0050 Neptune 74323-03-29 14:39 G 28867064.99 28867065.11 28867065.26 0.0088 0.0075 Jupiter 74325-09-10 05:17 G 28867960.49 28867960.72 28867960.95 0.0535 0.0062 Uranus 74327-02-23 15:51 G 28868492.00 28868492.16 28868492.32 0.0144 0.0112 Uranus 74328-02-28 18:15 G 28868862.05 28868862.26 28868862.51 0.0144 0.0064 Uranus 74329-03-04 21:51 G 28869232.15 28869232.41 28869232.66 0.0144 0.0014 Uranus 74330-03-10 00:29 G 28869602.28 28869602.52 28869602.78 0.0144 0.0035 Jupiter 74331-03-08 12:43 G 28869965.83 28869966.03 28869966.23 0.0495 0.0260 Uranus 74331-03-15 03:07 G 28869972.44 28869972.63 28869972.85 0.0144 0.0085 Uranus 74332-03-19 05:46 G 28870342.66 28870342.74 28870342.85 0.0143 0.0133 Saturn 74333-02-02 05:17 G 28870662.49 28870662.72 28870662.96 0.0273 0.0089 Jupiter 74343-03-13 00:58 G 28874353.32 28874353.54 28874353.77 0.0493 0.0145 Saturn 74347-08-06 05:03 G 28875960.49 28875960.71 28875960.94 0.0286 0.0102 Pluto 74357-09-29 22:05 G 28879668.16 28879668.42 28879668.68 0.0064 0.0004 Saturn 74363-02-09 18:43 G 28881627.09 28881627.28 28881627.46 0.0274 0.0178 Uranus 74368-08-23 16:34 G 28883649.09 28883649.19 28883649.32 0.0134 0.0119 Uranus 74369-08-27 22:05 G 28884018.23 28884018.42 28884018.64 0.0134 0.0081 Uranus 74370-09-01 04:05 G 28884387.44 28884387.67 28884387.91 0.0134 0.0042 Uranus 74371-09-05 10:05 G 28884756.67 28884756.92 28884757.17 0.0134 0.0004 Uranus 74372-09-08 15:51 G 28885125.92 28885126.16 28885126.40 0.0134 0.0036 Uranus 74373-09-12 21:36 G 28885495.20 28885495.40 28885495.62 0.0134 0.0075 Uranus 74374-09-17 04:05 G 28885864.54 28885864.67 28885864.81 0.0135 0.0113 Saturn 74377-08-13 10:34 G 28886925.79 28886925.94 28886926.11 0.0286 0.0216 Saturn 74392-02-04 13:41 G 28892213.83 28892214.07 28892214.32 0.0273 0.0032 Jupiter 74396-09-04 07:27 G 28893887.78 28893887.81 28893887.85 0.0532 0.0526 Neptune 74399-09-15 20:24 G 28894994.20 28894994.35 28894994.55 0.0090 0.0066 Neptune 74400-09-17 07:55 G 28895361.61 28895361.83 28895362.07 0.0090 0.0039 Neptune 74401-09-19 19:12 G 28895729.05 28895729.30 28895729.56 0.0090 0.0012 Neptune 74402-09-22 06:29 G 28896096.52 28896096.77 28896097.02 0.0090 0.0015

Neptune 74403-09-24 17:17 G 28896464.01 28896464.22 28896464.46 0.0090 0.0042 Neptune 74404-09-26 04:05 G 28896831.53 28896831.67 28896831.86 0.0090 0.0069 Saturn 74406-08-07 16:34 G 28897511.95 28897512.19 28897512.43 0.0286 0.0036 Jupiter 74408-09-09 09:51 G 28898275.68 28898275.91 28898276.14 0.0534 0.0011 Uranus 74411-02-24 02:10 G 28899173.44 28899173.59 28899173.78 0.0144 0.0107 Uranus 74412-02-29 05:17 G 28899543.50 28899543.72 28899543.97 0.0144 0.0058 Uranus 74413-03-05 08:53 G 28899913.61 28899913.87 28899914.13 0.0144 0.0008 Jupiter 74414-03-07 14:53 G 28900280.94 28900281.12 28900281.29 0.0495 0.0334 Uranus 74414-03-10 11:31 G 28900283.74 28900283.98 28900284.24 0.0144 0.0042 Uranus 74415-03-15 14:24 G 28900653.91 28900654.10 28900654.31 0.0144 0.0091 Uranus 74416-03-19 17:03 G 28901024.16 28901024.21 28901024.29 0.0144 0.0139 Jupiter 74420-09-14 10:19 G 28902663.86 28902663.93 28902664.01 0.0536 0.0500 Saturn 74421-01-29 05:03 G 28902800.61 28902800.71 28902800.82 0.0273 0.0246 Saturn 74422-02-11 00:29 G 28903178.40 28903178.52 28903178.66 0.0274 0.0232 Jupiter 74426-03-12 02:39 G 28904668.38 28904668.61 28904668.85 0.0494 0.0072 Saturn 74435-08-02 11:31 G 28908098.89 28908098.98 28908099.09 0.0287 0.0259 Saturn 74436-08-14 20:39 G 28908477.33 28908477.36 28908477.43 0.0286 0.0279 Jupiter 74438-03-16 15:07 G 28909056.07 28909056.13 28909056.19 0.0492 0.0475 Pluto 74447-04-03 05:03 G 28912360.61 28912360.71 28912360.86 0.0080 0.0070 Saturn 74451-02-05 20:24 G 28913765.10 28913765.35 28913765.59 0.0273 0.0022 Uranus 74452-08-24 03:22 G 28914330.53 28914330.64 28914330.80 0.0134 0.0113 Uranus 74453-08-28 09:07 G 28914699.69 28914699.88 28914700.11 0.0134 0.0075 Uranus 74454-09-01 15:07 G 28915068.90 28915069.13 28915069.38 0.0134 0.0037 Uranus 74455-09-05 21:07 G 28915438.13 28915438.38 28915438.63 0.0134 0.0003 Uranus 74456-09-09 02:53 G 28915807.39 28915807.62 28915807.86 0.0134 0.0041 Uranus 74457-09-13 08:53 G 28916176.67 28916176.87 28916177.07 0.0134 0.0080 Uranus 74458-09-17 14:39 G 28916546.01 28916546.11 28916546.24 0.0135 0.0119 Saturn 74465-08-09 02:10 G 28919063.35 28919063.59 28919063.84 0.0286 0.0028 74472-06-29 11:03 G 28921579.77 28921579.96 28921580.15 0.1888 0.0503 Mars Saturn 74480-01-31 09:22 G 28924351.72 28924351.89 28924352.07 0.0273 0.0195

Neptune 74482-03-17 09:07 G 28925127.74 28925127.88 28925128.08 0.0088 0.0066 Neptune 74483-03-19 21:36 G 28925495.18 28925495.40 28925495.65 0.0088 0.0040 Neptune 74484-03-21 09:51 G 28925862.66 28925862.91 28925863.18 0.0088 0.0014 Neptune 74485-03-23 22:19 G 28926230.17 28926230.43 28926230.69 0.0088 0.0012 Neptune 74486-03-26 10:19 G 28926597.69 28926597.93 28926598.17 0.0088 0.0038 Neptune 74487-03-28 22:19 G 28926965.27 28926965.43 28926965.62 0.0088 0.0064 Jupiter 74491-09-09 07:41 G 28928590.60 28928590.82 28928591.05 0.0533 0.0116 Saturn 74494-08-03 19:12 G 28929650.13 28929650.30 28929650.47 0.0287 0.0200 Uranus 74495-02-24 13:41 G 28929854.90 28929855.07 28929855.26 0.0144 0.0100 Uranus 74496-02-29 17:03 G 28930224.97 28930225.21 28930225.45 0.0144 0.0051 Uranus 74497-03-05 20:10 G 28930595.08 28930595.34 28930595.60 0.0144 0.0002 Jupiter 74497-03-06 20:39 G 28930596.23 28930596.36 28930596.52 0.0496 0.0395 Uranus 74498-03-10 23:03 G 28930965.22 28930965.46 28930965.71 0.0144 0.0048 Uranus 74499-03-16 01:55 G 28931335.40 28931335.58 28931335.78 0.0144 0.0097 Jupiter 74503-09-15 06:29 G 28932978.62 28932978.77 28932978.94 0.0535 0.0389 Jupiter 74509-03-12 10:34 G 28934983.70 28934983.94 28934984.17 0.0494 0.0021 Saturn 74510-02-08 00:43 G 28935316.30 28935316.53 28935316.78 0.0273 0.0073 74512-12-25 15:22 G 28936367.97 28936368.14 28936368.31 0.1635 0.0769 Mars Jupiter 74521-03-16 22:48 G 28939371.34 28939371.45 28939371.58 0.0492 0.0426 Saturn 74524-08-11 09:51 G 28940614.68 28940614.91 28940615.14 0.0286 0.0086 Uranus 74536-08-25 14:10 G 28945011.97 28945012.09 28945012.26 0.0134 0.0108 Uranus 74537-08-29 20:10 G 28945381.13 28945381.34 28945381.56 0.0134 0.0069 Uranus 74538-09-03 01:55 G 28945750.34 28945750.58 28945750.83 0.0134 0.0031 Saturn 74539-02-02 12:00 G 28945902.80 28945903.00 28945903.21 0.0273 0.0147 Uranus 74539-09-07 07:41 G 28946119.57 28946119.82 28946120.07 0.0134 0.0008 Uranus 74540-09-10 13:27 G 28946488.83 28946489.06 28946489.30 0.0134 0.0046 Uranus 74541-09-14 18:43 G 28946858.11 28946858.28 28946858.49 0.0134 0.0086 Uranus 74542-09-19 00:43 G 28947227.45 28947227.53 28947227.65 0.0135 0.0124 Saturn 74553-08-06 00:15 G 28951201.30 28951201.51 28951201.72 0.0287 0.0146 Neptune 74563-09-16 05:46 G 28954894.63 28954894.74 28954894.88 0.0090 0.0077

Neptune 74564-09-17 17:17 G 28955262.02 28955262.22 28955262.44 0.0090 0.0050 Neptune 74565-09-20 04:19 G 28955629.45 28955629.68 28955629.94 0.0090 0.0024 Neptune 74566-09-22 15:51 G 28955996.91 28955997.16 28955997.42 0.0090 0.0004 Neptune 74567-09-25 02:39 G 28956364.38 28956364.61 28956364.86 0.0090 0.0030 Neptune 74568-09-26 13:55 G 28956731.90 28956732.08 28956732.29 0.0090 0.0057 Saturn 74569-02-09 03:36 G 28956867.43 28956867.65 28956867.88 0.0273 0.0120 Neptune 74569-09-29 00:29 G 28957099.46 28957099.52 28957099.64 0.0090 0.0084 Jupiter 74574-09-09 10:48 G 28958905.74 28958905.95 28958906.17 0.0533 0.0196 Uranus 74578-02-20 20:53 G 28960166.36 28960166.37 28960166.41 0.0144 0.0143 Uranus 74579-02-26 00:15 G 28960536.32 28960536.51 28960536.71 0.0144 0.0095 Uranus 74580-03-02 03:36 G 28960906.41 28960906.65 28960906.90 0.0144 0.0045 Jupiter 74580-03-07 05:31 G 28960911.63 28960911.73 28960911.85 0.0496 0.0442 Uranus 74581-03-07 07:12 G 28961276.54 28961276.80 28961277.05 0.0144 0.0005 Uranus 74582-03-12 10:05 G 28961646.68 28961646.92 28961647.16 0.0144 0.0054 Uranus 74583-03-17 13:12 G 28962016.87 28962017.05 28962017.23 0.0144 0.0103 Saturn 74583-08-13 14:39 G 28962165.91 28962166.11 28962166.33 0.0286 0.0140 Jupiter 74586-09-14 13:41 G 28963293.89 28963294.07 28963294.25 0.0535 0.0325 74591-12-28 18:58 G 28965225.22 28965225.29 28965225.36 0.1636 0.1513 Mars Jupiter 74592-03-11 17:31 G 28965298.99 28965299.23 28965299.47 0.0494 0.0036 Saturn 74598-02-03 13:27 G 28967453.84 28967454.06 28967454.30 0.0273 0.0102 Pluto 74603-10-04 04:48 G 28969521.49 28969521.70 28969521.96 0.0064 0.0024 Jupiter 74604-03-17 05:31 G 28969686.57 28969686.73 28969686.88 0.0493 0.0369 Saturn 74612-08-08 02:39 G 28972752.39 28972752.61 28972752.85 0.0287 0.0097 Uranus 74620-08-27 02:24 G 28975693.44 28975693.60 28975693.76 0.0134 0.0101 Uranus 74621-08-31 07:55 G 28976062.62 28976062.83 28976063.06 0.0134 0.0063 Uranus 74622-09-04 13:41 G 28976431.83 28976432.07 28976432.33 0.0134 0.0025 Uranus 74623-09-08 19:12 G 28976801.06 28976801.30 28976801.56 0.0134 0.0014 Uranus 74624-09-12 00:58 G 28977170.31 28977170.54 28977170.78 0.0134 0.0053 Uranus 74625-09-16 06:15 G 28977539.60 28977539.76 28977539.96 0.0134 0.0091 Uranus 74626-09-20 12:00 G 28977908.96 28977909.00 28977909.09 0.0134 0.0130

Saturn 74628-02-12 05:17 G 28978418.53 28978418.72 28978418.92 0.0272 0.0164 Saturn 74642-08-15 18:15 G 28983717.08 28983717.26 28983717.44 0.0286 0.0191 Neptune 74646-03-18 16:19 G 28985028.08 28985028.18 28985028.33 0.0088 0.0077 Neptune 74647-03-21 04:34 G 28985395.49 28985395.69 28985395.92 0.0088 0.0051 Neptune 74648-03-22 17:03 G 28985762.96 28985763.21 28985763.46 0.0088 0.0025 Neptune 74649-03-25 04:48 G 28986130.44 28986130.70 28986130.96 0.0088 0.0001 Neptune 74650-03-27 16:48 G 28986497.96 28986498.20 28986498.46 0.0088 0.0027 Neptune 74651-03-30 04:34 G 28986865.51 28986865.69 28986865.93 0.0088 0.0053 Neptune 74652-03-31 17:17 G 28987233.11 28987233.22 28987233.34 0.0088 0.0078 Saturn 74657-02-05 14:24 G 28989004.86 28989005.10 28989005.35 0.0272 0.0058 Jupiter 74657-09-09 20:10 G 28989221.14 28989221.34 28989221.55 0.0533 0.0251 Uranus 74662-02-22 06:29 G 28990847.72 28990847.77 28990847.87 0.0144 0.0138 Uranus 74663-02-27 10:05 G 28991217.73 28991217.92 28991218.13 0.0144 0.0088 Uranus 74664-03-03 13:41 G 28991587.83 28991588.07 28991588.32 0.0144 0.0039 Uranus 74665-03-08 17:03 G 28991957.95 28991958.21 28991958.47 0.0144 0.0011 Uranus 74666-03-13 19:55 G 28992328.11 28992328.33 28992328.58 0.0144 0.0061 Uranus 74667-03-18 23:03 G 28992698.31 28992698.46 28992698.64 0.0144 0.0110 Jupiter 74669-09-14 17:03 G 28993609.01 28993609.21 28993609.42 0.0534 0.0245 Saturn 74671-08-10 03:22 G 28994303.40 28994303.64 28994303.88 0.0287 0.0052 Jupiter 74675-03-13 00:58 G 28995614.31 28995614.54 28995614.78 0.0495 0.0088 Saturn 74686-01-31 13:41 G 28999592.01 28999592.07 28999592.14 0.0271 0.0261 Saturn 74687-02-13 06:15 G 28999969.62 28999969.76 28999969.94 0.0272 0.0209 Jupiter 74687-03-17 14:39 G 29000001.93 29000002.11 29000002.29 0.0494 0.0326 Pluto 74692-04-04 09:51 G 29001846.80 29001846.91 29001847.06 0.0081 0.0070 Saturn 74701-08-17 19:12 G 29005268.19 29005268.30 29005268.45 0.0286 0.0239 Uranus 74703-08-25 08:10 G 29006005.84 29006005.84 29006005.87 0.0134 0.0134 Uranus 74704-08-28 13:55 G 29006374.92 29006375.08 29006375.27 0.0134 0.0096 Uranus 74705-09-01 19:55 G 29006744.10 29006744.33 29006744.55 0.0134 0.0057 Uranus 74706-09-06 01:27 G 29007113.31 29007113.56 29007113.81 0.0134 0.0019 Uranus 74707-09-10 06:43 G 29007482.54 29007482.78 29007483.03 0.0134 0.0020

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Uranus 74789-09-02 08:10 G 29037425.62 29037425.84 29037426.08 0.0134 0.0051 Uranus 74790-09-06 13:55 G 29037794.83 29037795.08 29037795.33 0.0134 0.0012 Uranus 74791-09-10 19:12 G 29038164.05 29038164.30 29038164.55 0.0134 0.0026 Uranus 74792-09-14 00:15 G 29038533.31 29038533.51 29038533.75 0.0134 0.0066 Uranus 74793-09-18 05:31 G 29038902.60 29038902.73 29038902.92 0.0134 0.0104 Mars 74796-12-28 19:12 G 29040100.11 29040100.30 29040100.49 0.1631 0.0039 Saturn 74804-02-04 17:03 G 29042694.03 29042694.21 29042694.41 0.0271 0.0173 Neptune 74810-03-18 23:03 G 29044928.46 29044928.46 29044928.51 0.0088 0.0087 Neptune 74811-03-21 11:17 G 29045295.80 29045295.97 29045296.17 0.0088 0.0062 Neptune 74812-03-22 23:03 G 29045663.24 29045663.46 29045663.72 0.0088 0.0037 Neptune 74813-03-25 11:31 G 29046030.72 29046030.98 29046031.24 0.0088 0.0011 Neptune 74814-03-27 23:31 G 29046398.22 29046398.48 29046398.74 0.0088 0.0015 Neptune 74815-03-30 11:31 G 29046765.76 29046765.98 29046766.22 0.0088 0.0041 Neptune 74816-03-31 23:17 G 29047133.32 29047133.47 29047133.66 0.0088 0.0067 Saturn 74818-08-07 10:05 G 29047991.77 29047991.92 29047992.10 0.0288 0.0210 Jupiter 74823-09-10 05:03 G 29049851.56 29049851.71 29049851.86 0.0531 0.0397 Uranus 74830-02-24 02:53 G 29052210.50 29052210.62 29052210.75 0.0144 0.0126 Uranus 74831-03-01 06:15 G 29052580.55 29052580.76 29052580.99 0.0144 0.0076 Uranus 74832-03-05 09:51 G 29052950.66 29052950.91 29052951.16 0.0144 0.0027 Uranus 74833-03-10 12:58 G 29053320.79 29053321.04 29053321.30 0.0144 0.0023 Saturn 74834-02-10 19:27 G 29053658.07 29053658.31 29053658.55 0.0272 0.0075 Uranus 74834-03-15 15:51 G 29053690.96 29053691.16 29053691.40 0.0144 0.0074 Uranus 74835-03-20 18:58 G 29054061.17 29054061.29 29054061.44 0.0144 0.0122 Jupiter 74835-09-15 06:29 G 29054239.55 29054239.77 29054240.00 0.0534 0.0116 Jupiter 74841-03-12 19:27 G 29056245.09 29056245.31 29056245.54 0.0496 0.0178 Saturn 74848-08-14 02:24 G 29058956.37 29058956.60 29058956.84 0.0288 0.0080 Pluto 74848-10-05 02:24 G 29059008.41 29059008.60 29059008.83 0.0064 0.0037 Pluto 74849-10-06 13:12 G 29059374.94 29059375.05 29059375.20 0.0064 0.0056 Jupiter 74853-03-17 05:46 G 29060632.53 29060632.74 29060632.95 0.0495 0.0227 Saturn 74863-02-05 20:24 G 29064245.13 29064245.35 29064245.57 0.0271 0.0126

Uranus 74871-08-26 09:07 G 29067368.80 29067368.88 29067369.00 0.0134 0.0122 Uranus 74872-08-29 14:53 G 29067737.95 29067738.12 29067738.34 0.0134 0.0084 Uranus 74873-09-02 20:39 G 29068107.13 29068107.36 29068107.60 0.0134 0.0045 Uranus 74874-09-07 02:10 G 29068476.34 29068476.59 29068476.84 0.0134 0.0007 Uranus 74875-09-11 07:12 G 29068845.56 29068845.80 29068846.05 0.0134 0.0032 Uranus 74876-09-14 12:43 G 29069214.82 29069215.03 29069215.25 0.0134 0.0070 Saturn 74877-08-08 12:29 G 29069542.83 29069543.02 29069543.23 0.0288 0.0161 Uranus 74877-09-18 18:00 G 29069584.11 29069584.25 29069584.40 0.0134 0.0109 Neptune 74892-09-18 08:10 G 29075062.72 29075062.84 29075063.00 0.0090 0.0074 Saturn 74893-02-11 23:46 G 29075209.27 29075209.49 29075209.71 0.0272 0.0123 Neptune 74893-09-20 19:12 G 29075430.11 29075430.30 29075430.54 0.0090 0.0048 Neptune 74894-09-23 06:58 G 29075797.55 29075797.79 29075798.05 0.0090 0.0021 Neptune 74895-09-25 18:29 G 29076165.02 29076165.27 29076165.52 0.0090 0.0006 Neptune 74896-09-27 05:31 G 29076532.51 29076532.73 29076532.98 0.0090 0.0033 Neptune 74897-09-29 16:34 G 29076900.02 29076900.19 29076900.40 0.0090 0.0060 Neptune 74898-10-02 03:36 G 29077267.60 29077267.65 29077267.74 0.0090 0.0086 Jupiter 74906-09-10 12:43 G 29080166.91 29080167.03 29080167.15 0.0530 0.0454 Saturn 74907-08-17 04:19 G 29080507.47 29080507.68 29080507.91 0.0288 0.0127 Uranus 74914-02-25 13:27 G 29082891.94 29082892.06 29082892.23 0.0144 0.0121 Uranus 74915-03-02 17:17 G 29083262.00 29083262.22 29083262.45 0.0144 0.0070 Uranus 74916-03-06 20:39 G 29083632.10 29083632.36 29083632.61 0.0144 0.0021 Uranus 74917-03-11 23:46 G 29084002.25 29084002.49 29084002.75 0.0144 0.0029 Uranus 74918-03-17 02:53 G 29084372.42 29084372.62 29084372.85 0.0144 0.0079 Jupiter 74918-09-15 10:19 G 29084554.70 29084554.93 29084555.16 0.0532 0.0040 Uranus 74919-03-22 05:46 G 29084742.65 29084742.74 29084742.88 0.0144 0.0128 Saturn 74922-02-08 00:58 G 29085796.31 29085796.54 29085796.78 0.0271 0.0078 Jupiter 74924-03-12 23:17 G 29086560.26 29086560.47 29086560.68 0.0497 0.0241 Jupiter 74936-03-17 14:10 G 29090947.87 29090948.09 29090948.31 0.0495 0.0178 Saturn 74936-08-10 16:48 G 29091093.99 29091094.20 29091094.44 0.0288 0.0109 Pluto 74938-04-08 23:31 G 29091700.22 29091700.48 29091700.75 0.0080 0.0008

Saturn 74952-02-15 05:46 G 29096760.56 29096760.74 29096760.94 0.0272 0.0175 Uranus 74955-08-27 22:19 G 29098050.33 29098050.43 29098050.58 0.0134 0.0116 Uranus 74956-08-31 04:19 G 29098419.48 29098419.68 29098419.89 0.0134 0.0077 Uranus 74957-09-04 09:36 G 29098788.66 29098788.90 29098789.14 0.0134 0.0039 Uranus 74958-09-08 15:07 G 29099157.88 29099158.13 29099158.38 0.0134 0.0001 Uranus 74959-09-12 20:10 G 29099527.10 29099527.34 29099527.58 0.0134 0.0038 Uranus 74960-09-16 01:41 G 29099896.36 29099896.57 29099896.77 0.0134 0.0077 Uranus 74961-09-20 06:43 G 29100265.66 29100265.78 29100265.92 0.0134 0.0115 Saturn 74966-08-18 08:39 G 29102058.67 29102058.86 29102059.05 0.0287 0.0177 Neptune 74975-03-21 17:03 G 29105196.08 29105196.21 29105196.37 0.0088 0.0073 Neptune 74976-03-23 04:48 G 29105563.50 29105563.70 29105563.94 0.0088 0.0048 Neptune 74977-03-25 17:17 G 29105930.97 29105931.22 29105931.47 0.0088 0.0022 Neptune 74978-03-28 05:17 G 29106298.46 29106298.72 29106298.98 0.0088 0.0004 Neptune 74979-03-30 17:17 G 29106665.97 29106666.22 29106666.47 0.0088 0.0029 Neptune 74980-04-01 04:34 G 29107033.51 29107033.69 29107033.92 0.0088 0.0055 Saturn 74981-02-09 07:27 G 29107347.56 29107347.81 29107348.06 0.0272 0.0026 Neptune 74981-04-03 17:03 G 29107401.12 29107401.21 29107401.32 0.0088 0.0080 Saturn 74995-08-12 23:31 G 29112645.25 29112645.48 29112645.72 0.0288 0.0052 Uranus 74998-02-26 02:53 G 29113573.48 29113573.62 29113573.80 0.0144 0.0113 Uranus 74999-03-03 06:15 G 29113943.54 29113943.76 29113944.00 0.0144 0.0063 Uranus 75000-03-08 09:36 G 29114313.65 29114313.90 29114314.16 0.0144 0.0014

### 76TH MILLENNIUM CE

This is a list of transits of Earth in the 76th millennium CE.

FROM MAX- C START MAX END SUNRAD DEPTH S

Uranus 75001-03-13 12:43 G 29114683.79 29114684.03 29114684.29 0.0144 0.0037 Jupiter 75001-09-15 11:03 G 29114869.73 29114869.96 29114870.19 0.0532 0.0051 75001-12-29 19:12 G 29114975.21 29114975.30 29114975.39 0.1626 0.1427 Mars Uranus 75002-03-18 15:51 G 29115053.97 29115054.16 29115054.38 0.0144 0.0086 Uranus 75003-03-23 18:43 G 29115424.22 29115424.28 29115424.40 0.0144 0.0135 Jupiter 75007-03-14 06:15 G 29116875.58 29116875.76 29116875.96 0.0497 0.0297 Saturn 75010-02-04 22:48 G 29117934.34 29117934.45 29117934.58 0.0271 0.0236 Saturn 75011-02-17 13:55 G 29118311.96 29118312.08 29118312.23 0.0272 0.0229 Jupiter 75013-09-20 12:00 G 29119257.89 29119258.00 29119258.11 0.0534 0.0464 Jupiter 75019-03-18 19:41 G 29121263.09 29121263.32 29121263.55 0.0495 0.0119 Saturn 75025-08-20 15:22 G 29123610.02 29123610.14 29123610.29 0.0287 0.0234 Uranus 75039-08-29 11:46 G 29128731.85 29128731.99 29128732.14 0.0134 0.0110 Saturn 75040-02-12 15:22 G 29128898.89 29128899.14 29128899.39 0.0272 0.0029 Uranus 75040-09-01 17:17 G 29129101.01 29129101.22 29129101.44 0.0134 0.0071 Uranus 75041-09-05 22:19 G 29129470.20 29129470.43 29129470.68 0.0134 0.0033 Uranus 75042-09-10 03:36 G 29129839.40 29129839.65 29129839.91 0.0134 0.0006 Uranus 75043-09-14 08:39 G 29130208.63 29130208.86 29130209.11 0.0134 0.0044 Uranus 75044-09-17 13:55 G 29130577.90 29130578.08 29130578.29 0.0134 0.0082 Uranus 75045-09-21 19:12 G 29130947.20 29130947.30 29130947.42 0.0134 0.0120 Saturn 75054-08-15 08:53 G 29134196.63 29134196.87 29134197.12 0.0288 0.0011 Neptune 75056-09-19 14:39 G 29134963.05 29134963.11 29134963.19 0.0090 0.0086 Neptune 75057-09-22 01:41 G 29135330.40 29135330.57 29135330.78 0.0090 0.0060 Neptune 75058-09-24 13:27 G 29135697.82 29135698.06 29135698.29 0.0090 0.0033 Neptune 75059-09-27 00:43 G 29136065.28 29136065.53 29136065.78 0.0090 0.0006 Neptune 75060-09-28 12:15 G 29136432.76 29136433.01 29136433.25 0.0090 0.0020 Neptune 75061-09-30 23:03 G 29136800.26 29136800.46 29136800.69 0.0090 0.0047 Neptune 75062-10-03 10:48 G 29137167.81 29137167.95 29137168.10 0.0090 0.0073 Saturn 75069-02-06 08:10 G 29139485.67 29139485.84 29139486.04 0.0271 0.0180

75080-12-31 22:19 G 29143832.27 29143832.43 29143832.60 0.1628 0.0800 Mars Uranus 75082-02-27 14:39 G 29144254.95 29144255.11 29144255.29 0.0144 0.0107 Uranus 75083-03-04 17:46 G 29144625.02 29144625.24 29144625.49 0.0144 0.0058 Saturn 75083-08-09 11:46 G 29144782.88 29144782.99 29144783.13 0.0288 0.0246 Uranus 75084-03-08 21:22 G 29144995.14 29144995.39 29144995.65 0.0144 0.0007 Jupiter 75084-09-14 16:19 G 29145184.96 29145185.18 29145185.40 0.0531 0.0118 Uranus 75085-03-14 00:43 G 29145365.29 29145365.53 29145365.78 0.0144 0.0042 Uranus 75086-03-19 03:51 G 29145735.48 29145735.66 29145735.87 0.0144 0.0093 Uranus 75087-03-24 06:58 G 29146105.76 29146105.79 29146105.86 0.0144 0.0141 Jupiter 75090-03-13 06:00 G 29147190.61 29147190.75 29147190.91 0.0498 0.0377 Pluto 75094-10-09 08:53 G 29148861.63 29148861.87 29148862.13 0.0064 0.0012 Jupiter 75096-09-19 14:10 G 29149572.94 29149573.09 29149573.26 0.0533 0.0382 Saturn 75099-02-14 00:15 G 29150450.29 29150450.51 29150450.76 0.0272 0.0086 Jupiter 75102-03-18 19:12 G 29151578.06 29151578.30 29151578.54 0.0496 0.0039 Saturn 75113-08-17 20:24 G 29155748.12 29155748.35 29155748.59 0.0288 0.0074 Jupiter 75114-03-23 09:07 G 29155965.79 29155965.88 29155965.97 0.0495 0.0455 Uranus 75123-08-31 00:58 G 29159413.40 29159413.54 29159413.72 0.0134 0.0103 Uranus 75124-09-03 06:29 G 29159782.57 29159782.77 29159783.01 0.0134 0.0065 Uranus 75125-09-07 11:46 G 29160151.75 29160151.99 29160152.24 0.0134 0.0027 Uranus 75126-09-11 17:03 G 29160520.96 29160521.21 29160521.46 0.0134 0.0012 Uranus 75127-09-15 22:05 G 29160890.19 29160890.42 29160890.66 0.0134 0.0050 Saturn 75128-02-09 18:58 G 29161037.07 29161037.29 29161037.52 0.0271 0.0121 Uranus 75128-09-19 03:07 G 29161259.46 29161259.63 29161259.83 0.0134 0.0089 Uranus 75129-09-23 08:10 G 29161628.79 29161628.84 29161628.94 0.0134 0.0127 Neptune 75139-03-22 22:19 G 29165096.39 29165096.43 29165096.53 0.0088 0.0085 Neptune 75140-03-24 10:48 G 29165463.77 29165463.95 29165464.15 0.0088 0.0059 Neptune 75141-03-26 22:48 G 29165831.22 29165831.45 29165831.71 0.0088 0.0034 Neptune 75142-03-29 11:03 G 29166198.70 29166198.96 29166199.23 0.0088 0.0008 Saturn 75142-08-12 00:00 G 29166334.32 29166334.50 29166334.70 0.0287 0.0180 Neptune 75143-03-31 22:34 G 29166566.20 29166566.44 29166566.71 0.0088 0.0018

Neptune 75144-04-02 10:48 G 29166933.73 29166933.95 29166934.18 0.0088 0.0043 Neptune 75145-04-04 22:48 G 29167301.29 29167301.45 29167301.61 0.0088 0.0068 Saturn 75158-02-16 10:05 G 29172001.71 29172001.92 29172002.13 0.0272 0.0143 Uranus 75166-03-01 03:07 G 29174936.45 29174936.63 29174936.82 0.0144 0.0100 Uranus 75167-03-06 06:15 G 29175306.53 29175306.76 29175307.01 0.0144 0.0050 Jupiter 75167-09-15 11:46 G 29175499.79 29175499.99 29175500.20 0.0531 0.0233 Uranus 75168-03-10 09:51 G 29175676.66 29175676.91 29175677.17 0.0144 0.0002 Uranus 75169-03-15 12:58 G 29176046.82 29176047.04 29176047.30 0.0144 0.0051 Uranus 75170-03-20 16:48 G 29176417.02 29176417.20 29176417.39 0.0144 0.0099 Saturn 75172-08-19 09:07 G 29177299.67 29177299.88 29177300.09 0.0288 0.0141 Jupiter 75173-03-13 09:51 G 29177505.81 29177505.91 29177506.02 0.0499 0.0447 Jupiter 75179-09-20 09:22 G 29179887.70 29179887.89 29179888.10 0.0533 0.0267 Pluto 75184-04-12 06:43 G 29181553.54 29181553.78 29181554.03 0.0080 0.0031 Jupiter 75185-03-18 00:00 G 29181893.27 29181893.50 29181893.74 0.0496 0.0025 Saturn 75187-02-11 06:15 G 29182588.52 29182588.76 29182589.00 0.0271 0.0061 Jupiter 75197-03-22 12:58 G 29186280.90 29186281.04 29186281.19 0.0495 0.0389 Saturn 75201-08-13 13:27 G 29187885.84 29187886.06 29187886.29 0.0287 0.0111 Uranus 75207-08-31 14:24 G 29190094.95 29190095.10 29190095.29 0.0134 0.0097 Uranus 75208-09-03 20:10 G 29190464.12 29190464.34 29190464.57 0.0134 0.0058 Uranus 75209-09-08 01:12 G 29190833.31 29190833.55 29190833.80 0.0134 0.0020 Uranus 75210-09-12 06:15 G 29191202.52 29191202.76 29191203.02 0.0134 0.0019 Uranus 75211-09-16 11:17 G 29191571.75 29191571.97 29191572.21 0.0134 0.0057 Uranus 75212-09-19 16:34 G 29191941.02 29191941.19 29191941.37 0.0134 0.0095 Uranus 75213-09-23 21:51 G 29192310.39 29192310.41 29192310.44 0.0134 0.0133 Saturn 75216-02-06 03:22 G 29193175.58 29193175.64 29193175.70 0.0272 0.0262 Saturn 75217-02-17 19:27 G 29193553.14 29193553.31 29193553.48 0.0272 0.0201 Neptune 75221-09-22 07:12 G 29195230.68 29195230.80 29195230.97 0.0090 0.0073 Neptune 75222-09-24 18:58 G 29195598.08 29195598.29 29195598.51 0.0090 0.0046 Neptune 75223-09-27 06:15 G 29195965.52 29195965.76 29195966.01 0.0090 0.0020 Neptune 75224-09-28 17:31 G 29196332.98 29196333.23 29196333.48 0.0090 0.0007

Neptune 75225-10-01 04:34 G 29196700.47 29196700.69 29196700.94 0.0090 0.0034 Neptune 75226-10-03 15:51 G 29197067.98 29197068.16 29197068.36 0.0090 0.0060 Neptune 75227-10-06 02:53 G 29197435.58 29197435.62 29197435.72 0.0090 0.0087 Saturn 75231-08-21 22:19 G 29198851.27 29198851.43 29198851.60 0.0288 0.0209 Saturn 75246-02-12 16:34 G 29204139.94 29204140.19 29204140.44 0.0271 0.0003 Uranus 75249-02-24 08:53 G 29205247.86 29205247.87 29205247.92 0.0144 0.0143 Uranus 75250-03-01 12:15 G 29205617.83 29205618.01 29205618.22 0.0144 0.0095 Jupiter 75250-09-14 12:15 G 29205814.83 29205815.01 29205815.20 0.0530 0.0324 Uranus 75251-03-06 15:51 G 29205987.92 29205988.16 29205988.41 0.0144 0.0044 Uranus 75252-03-10 19:27 G 29206358.06 29206358.31 29206358.57 0.0144 0.0006 Uranus 75253-03-15 23:17 G 29206728.23 29206728.47 29206728.70 0.0144 0.0056 Uranus 75254-03-21 02:53 G 29207098.45 29207098.62 29207098.80 0.0144 0.0106 Saturn 75260-08-15 02:53 G 29209437.38 29209437.62 29209437.86 0.0287 0.0043 Jupiter 75262-09-19 13:27 G 29210202.85 29210203.06 29210203.27 0.0532 0.0191 Jupiter 75268-03-17 00:15 G 29212208.28 29212208.51 29212208.74 0.0497 0.0105 Saturn 75275-02-07 11:31 G 29214726.83 29214726.98 29214727.15 0.0272 0.0206 Saturn 75276-02-20 03:51 G 29215104.59 29215104.66 29215104.75 0.0272 0.0257 Jupiter 75280-03-21 12:29 G 29216595.84 29216596.02 29216596.21 0.0495 0.0307 Mars 75285-12-31 23:46 G 29218707.32 29218707.49 29218707.67 0.1623 0.0621 Saturn 75289-08-09 21:36 G 29220024.31 29220024.40 29220024.50 0.0288 0.0263 Saturn 75290-08-23 10:34 G 29220402.89 29220402.94 29220403.02 0.0288 0.0276 Uranus 75290-08-27 23:03 G 29220407.41 29220407.46 29220407.55 0.0134 0.0128 Uranus 75291-09-01 04:19 G 29220776.52 29220776.68 29220776.89 0.0134 0.0090 Uranus 75292-09-04 09:51 G 29221145.69 29221145.91 29221146.16 0.0134 0.0052 Uranus 75293-09-08 15:07 G 29221514.88 29221515.13 29221515.38 0.0134 0.0013 Uranus 75294-09-12 20:10 G 29221884.10 29221884.34 29221884.59 0.0134 0.0026 Uranus 75295-09-17 01:12 G 29222253.34 29222253.55 29222253.78 0.0134 0.0064 Uranus 75296-09-20 06:15 G 29222622.62 29222622.76 29222622.94 0.0134 0.0103 Neptune 75304-03-24 15:22 G 29225364.01 29225364.14 29225364.32 0.0088 0.0071 Saturn 75305-02-15 01:27 G 29225691.32 29225691.56 29225691.81 0.0271 0.0055

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Uranus 75546-09-17 15:07 G 29313928.89 29313929.13 29313929.36 0.0134 0.0046 Uranus 75547-09-21 19:55 G 29314298.15 29314298.33 29314298.54 0.0134 0.0085 Uranus 75548-09-25 01:12 G 29314667.47 29314667.55 29314667.66 0.0134 0.0123 Neptune 75550-09-26 04:34 G 29315398.56 29315398.69 29315398.86 0.0090 0.0072 Neptune 75551-09-28 16:05 G 29315765.97 29315766.17 29315766.40 0.0090 0.0046 Neptune 75552-09-30 03:22 G 29316133.40 29316133.64 29316133.90 0.0090 0.0020 Neptune 75553-10-02 14:53 G 29316500.87 29316501.12 29316501.37 0.0090 0.0007 Saturn 75554-08-13 05:17 G 29316815.71 29316815.72 29316815.75 0.0288 0.0287 Neptune 75554-10-05 02:10 G 29316868.35 29316868.59 29316868.82 0.0090 0.0033 Saturn 75555-08-26 19:55 G 29317194.22 29317194.33 29317194.45 0.0288 0.0253 Neptune 75555-10-07 12:43 G 29317235.86 29317236.03 29317236.24 0.0090 0.0060 Neptune 75556-10-09 00:00 G 29317603.45 29317603.50 29317603.60 0.0090 0.0086 Mars 75570-01-05 04:34 G 29322439.51 29322439.69 29322439.88 0.1621 0.0193 Saturn 75570-02-17 05:46 G 29322482.50 29322482.74 29322482.99 0.0271 0.0034 Saturn 75584-08-20 03:22 G 29327780.40 29327780.64 29327780.89 0.0289 0.0010 Uranus 75585-03-01 08:39 G 29327973.73 29327973.86 29327974.02 0.0144 0.0118 Pluto 75585-10-15 11:31 G 29328201.86 29328201.98 29328202.17 0.0064 0.0051 Uranus 75586-03-06 11:46 G 29328343.78 29328343.99 29328344.23 0.0144 0.0068 Pluto 75586-10-16 22:19 G 29328568.26 29328568.43 29328568.65 0.0064 0.0041 Uranus 75587-03-11 15:36 G 29328713.89 29328714.15 29328714.41 0.0144 0.0018 Uranus 75588-03-15 19:12 G 29329084.06 29329084.30 29329084.56 0.0144 0.0034 Uranus 75589-03-20 22:48 G 29329454.25 29329454.45 29329454.67 0.0144 0.0083 Uranus 75590-03-26 02:24 G 29329824.53 29329824.60 29329824.72 0.0144 0.0134 Jupiter 75594-09-19 22:05 G 29331463.20 29331463.42 29331463.64 0.0529 0.0150 Saturn 75599-02-12 06:29 G 29333069.58 29333069.77 29333069.97 0.0270 0.0165 Jupiter 75600-03-18 00:29 G 29333469.35 29333469.52 29333469.69 0.0500 0.0341 Jupiter 75606-09-24 19:12 G 29335851.14 29335851.30 29335851.48 0.0532 0.0350 Jupiter 75612-03-22 16:34 G 29337856.95 29337857.19 29337857.42 0.0497 0.0089 Saturn 75613-08-14 06:58 G 29338366.67 29338366.79 29338366.93 0.0289 0.0240 Uranus 75626-09-02 07:12 G 29343133.65 29343133.80 29343133.98 0.0134 0.0102

Uranus 75627-09-06 12:58 G 29343502.82 29343503.04 29343503.27 0.0134 0.0063 Uranus 75628-09-09 18:15 G 29343872.03 29343872.26 29343872.52 0.0134 0.0025 Saturn 75629-02-18 06:29 G 29344033.53 29344033.77 29344034.01 0.0271 0.0075 Uranus 75629-09-14 00:00 G 29344241.25 29344241.50 29344241.75 0.0134 0.0015 Uranus 75630-09-18 05:03 G 29344610.49 29344610.71 29344610.95 0.0134 0.0054 Uranus 75631-09-22 10:19 G 29344979.76 29344979.93 29344980.12 0.0134 0.0092 Uranus 75632-09-25 15:36 G 29345349.10 29345349.15 29345349.21 0.0134 0.0130 Neptune 75633-03-27 13:27 G 29345531.92 29345532.06 29345532.25 0.0088 0.0069 Neptune 75634-03-30 01:55 G 29345899.35 29345899.58 29345899.81 0.0088 0.0043 Neptune 75635-04-01 13:55 G 29346266.83 29346267.08 29346267.34 0.0088 0.0018 Neptune 75636-04-03 02:10 G 29346634.33 29346634.59 29346634.85 0.0088 0.0007 Neptune 75637-04-05 13:55 G 29347001.84 29347002.08 29347002.33 0.0088 0.0033 Neptune 75638-04-08 01:55 G 29347369.40 29347369.58 29347369.79 0.0088 0.0058 Neptune 75639-04-10 14:10 G 29347737.01 29347737.09 29347737.17 0.0088 0.0083 Saturn 75643-08-22 02:53 G 29349331.39 29349331.62 29349331.87 0.0289 0.0053 Saturn 75658-02-13 07:12 G 29354620.59 29354620.80 29354621.03 0.0270 0.0123 Uranus 75669-03-01 22:34 G 29358655.29 29358655.44 29358655.62 0.0144 0.0110 Uranus 75670-03-07 02:10 G 29359025.36 29359025.59 29359025.83 0.0144 0.0060 Uranus 75671-03-12 05:46 G 29359395.49 29359395.74 29359396.00 0.0144 0.0010 Uranus 75672-03-16 09:22 G 29359765.66 29359765.89 29359766.15 0.0144 0.0042 Saturn 75672-08-15 07:27 G 29359917.64 29359917.81 29359918.00 0.0289 0.0195 Uranus 75673-03-21 13:12 G 29360135.86 29360136.05 29360136.26 0.0144 0.0091 Uranus 75674-03-26 16:34 G 29360506.16 29360506.19 29360506.27 0.0144 0.0142 Pluto 75675-04-17 19:27 G 29360893.20 29360893.31 29360893.48 0.0081 0.0069 Jupiter 75677-09-19 05:03 G 29361778.50 29361778.71 29361778.92 0.0529 0.0214 Jupiter 75683-03-18 09:51 G 29363784.77 29363784.91 29363785.07 0.0500 0.0388 75687-07-09 11:17 G 29365358.87 29365358.97 29365359.07 0.1908 0.1638 Mars Saturn 75688-02-20 07:12 G 29365584.59 29365584.80 29365585.04 0.0271 0.0118 Jupiter 75689-09-24 05:31 G 29366166.54 29366166.73 29366166.92 0.0532 0.0299 Jupiter 75695-03-23 00:43 G 29368172.29 29368172.53 29368172.77 0.0498 0.0039

Saturn 75702-08-24 02:10 G 29370882.37 29370882.59 29370882.83 0.0289 0.0095 Jupiter 75707-03-28 12:00 G 29372559.91 29372560.00 29372560.10 0.0496 0.0452 Uranus 75709-08-30 15:51 G 29373446.14 29373446.16 29373446.18 0.0134 0.0134 Uranus 75710-09-03 21:22 G 29373815.22 29373815.39 29373815.58 0.0134 0.0095 Uranus 75711-09-08 03:22 G 29374184.41 29374184.64 29374184.87 0.0134 0.0056 Uranus 75712-09-11 08:39 G 29374553.62 29374553.86 29374554.11 0.0134 0.0018 Uranus 75713-09-15 14:10 G 29374922.85 29374923.09 29374923.34 0.0134 0.0022 Uranus 75714-09-19 19:12 G 29375292.09 29375292.30 29375292.54 0.0134 0.0061 Neptune 75714-09-26 09:36 G 29375298.84 29375298.90 29375299.00 0.0090 0.0085 Uranus 75715-09-24 00:29 G 29375661.36 29375661.52 29375661.70 0.0134 0.0099 Neptune 75715-09-28 20:53 G 29375666.20 29375666.37 29375666.58 0.0090 0.0059 Neptune 75716-09-30 08:24 G 29376033.62 29376033.85 29376034.10 0.0090 0.0033 Saturn 75717-02-15 08:39 G 29376171.62 29376171.86 29376172.10 0.0270 0.0080 Neptune 75717-10-02 19:55 G 29376401.08 29376401.33 29376401.59 0.0090 0.0006 Neptune 75718-10-05 06:58 G 29376768.55 29376768.79 29376769.04 0.0090 0.0020 Neptune 75719-10-07 18:15 G 29377136.05 29377136.26 29377136.48 0.0090 0.0046 Neptune 75720-10-09 05:17 G 29377503.58 29377503.72 29377503.88 0.0090 0.0072 Saturn 75731-08-18 08:39 G 29381468.66 29381468.86 29381469.07 0.0289 0.0149 Saturn 75747-02-22 09:07 G 29387135.70 29387135.88 29387136.09 0.0271 0.0161 Uranus 75753-03-03 09:36 G 29389336.73 29389336.90 29389337.08 0.0144 0.0104 Uranus 75754-03-08 12:43 G 29389706.80 29389707.03 29389707.28 0.0144 0.0054 Uranus 75755-03-13 16:34 G 29390076.94 29390077.19 29390077.45 0.0144 0.0004 Uranus 75756-03-17 20:24 G 29390447.11 29390447.35 29390447.60 0.0144 0.0048 Uranus 75757-03-23 00:00 G 29390817.31 29390817.50 29390817.69 0.0144 0.0098 Jupiter 75760-09-19 13:27 G 29392093.87 29392094.06 29392094.26 0.0528 0.0267 Saturn 75761-08-25 01:41 G 29392433.36 29392433.57 29392433.79 0.0289 0.0137 Jupiter 75766-03-18 14:24 G 29394100.00 29394100.10 29394100.21 0.0501 0.0450 Jupiter 75772-09-24 10:19 G 29396481.73 29396481.93 29396482.14 0.0530 0.0229 75775-01-05 07:55 G 29397314.69 29397314.83 29397314.97 0.1617 0.1105 Mars Saturn 75776-02-17 11:31 G 29397722.73 29397722.98 29397723.22 0.0270 0.0036

Jupiter 75778-03-23 06:00 G 29398487.51 29398487.75 29398487.98 0.0499 0.0021 Jupiter 75790-03-27 21:36 G 29402875.27 29402875.40 29402875.53 0.0497 0.0408 Saturn 75790-08-19 10:05 G 29403019.70 29403019.92 29403020.15 0.0289 0.0103 Uranus 75793-08-31 05:03 G 29404127.66 29404127.71 29404127.81 0.0134 0.0127 Uranus 75794-09-04 11:17 G 29404496.79 29404496.97 29404497.17 0.0134 0.0088 Uranus 75795-09-08 17:03 G 29404865.99 29404866.21 29404866.45 0.0134 0.0049 Uranus 75796-09-11 22:48 G 29405235.20 29405235.45 29405235.70 0.0134 0.0010 Neptune 75797-03-27 18:29 G 29405432.19 29405432.27 29405432.40 0.0088 0.0080 Uranus 75797-09-16 04:05 G 29405604.43 29405604.67 29405604.92 0.0134 0.0029 Neptune 75798-03-30 06:43 G 29405799.59 29405799.78 29405800.00 0.0088 0.0055 Uranus 75798-09-20 09:07 G 29405973.68 29405973.88 29405974.11 0.0134 0.0068 Neptune 75799-04-01 18:43 G 29406167.05 29406167.28 29406167.54 0.0088 0.0030 Uranus 75799-09-24 14:10 G 29406342.95 29406343.09 29406343.26 0.0134 0.0106 Neptune 75800-04-04 06:43 G 29406534.52 29406534.78 29406535.05 0.0088 0.0005 Neptune 75801-04-06 18:43 G 29406902.04 29406902.28 29406902.54 0.0088 0.0021 Neptune 75802-04-09 06:29 G 29407269.57 29407269.77 29407270.01 0.0088 0.0047 Neptune 75803-04-11 18:29 G 29407637.15 29407637.27 29407637.45 0.0088 0.0072 Saturn 75805-02-12 01:12 G 29408309.45 29408309.55 29408309.66 0.0270 0.0244 Saturn 75806-02-24 12:43 G 29408686.88 29408687.03 29408687.20 0.0270 0.0206 Saturn 75820-08-27 03:07 G 29413984.45 29413984.63 29413984.82 0.0289 0.0183 Pluto 75831-10-19 18:15 G 29418055.05 29418055.26 29418055.51 0.0064 0.0027 Saturn 75835-02-19 15:36 G 29419273.90 29419274.15 29419274.39 0.0270 0.0012 Uranus 75837-03-04 20:53 G 29420018.20 29420018.37 29420018.58 0.0144 0.0098 Uranus 75838-03-10 00:43 G 29420388.29 29420388.53 29420388.78 0.0144 0.0047 Uranus 75839-03-15 04:19 G 29420758.42 29420758.68 29420758.94 0.0144 0.0004 Uranus 75840-03-19 07:55 G 29421128.59 29421128.83 29421129.07 0.0144 0.0055 Uranus 75841-03-24 11:03 G 29421498.81 29421498.96 29421499.16 0.0144 0.0106 Jupiter 75843-09-20 15:36 G 29422408.98 29422409.15 29422409.32 0.0528 0.0351 Saturn 75849-08-21 13:41 G 29424570.83 29424571.07 29424571.31 0.0289 0.0053 75854-01-08 10:19 G 29426171.78 29426171.93 29426172.07 0.1618 0.1023 Mars

Jupiter 75855-09-25 13:41 G 29426796.85 29426797.07 29426797.29 0.0530 0.0148 Jupiter 75861-03-23 14:24 G 29428802.86 29428803.10 29428803.33 0.0499 0.0069 Saturn 75864-02-14 06:58 G 29429860.62 29429860.79 29429860.97 0.0270 0.0195 Saturn 75865-02-25 18:58 G 29430238.21 29430238.29 29430238.37 0.0270 0.0254 Jupiter 75873-03-28 04:34 G 29433190.53 29433190.69 29433190.86 0.0497 0.0354 Uranus 75877-09-01 19:27 G 29434809.21 29434809.31 29434809.43 0.0134 0.0120 Uranus 75878-09-06 01:27 G 29435178.36 29435178.56 29435178.76 0.0134 0.0081 Saturn 75879-08-29 06:29 G 29435535.63 29435535.77 29435535.92 0.0289 0.0231 Uranus 75879-09-10 07:27 G 29435547.57 29435547.81 29435548.05 0.0134 0.0042 Neptune 75879-09-29 01:27 G 29435566.43 29435566.56 29435566.74 0.0090 0.0072 Uranus 75880-09-13 12:58 G 29435916.79 29435917.04 29435917.29 0.0134 0.0003 Neptune 75880-09-30 12:58 G 29435933.85 29435934.04 29435934.28 0.0090 0.0046 Uranus 75881-09-17 18:15 G 29436286.02 29436286.26 29436286.50 0.0134 0.0036 Neptune 75881-10-03 00:58 G 29436301.29 29436301.54 29436301.78 0.0090 0.0019 Uranus 75882-09-21 23:03 G 29436655.27 29436655.46 29436655.68 0.0134 0.0075 Neptune 75882-10-05 12:15 G 29436668.76 29436669.01 29436669.26 0.0090 0.0007 Uranus 75883-09-26 04:19 G 29437024.55 29437024.68 29437024.82 0.0134 0.0113 Neptune 75883-10-07 23:31 G 29437036.24 29437036.48 29437036.71 0.0090 0.0033 Neptune 75884-10-09 10:05 G 29437403.76 29437403.92 29437404.14 0.0090 0.0060 Neptune 75885-10-11 21:36 G 29437771.34 29437771.40 29437771.49 0.0090 0.0085 Saturn 75894-02-20 20:53 G 29440825.14 29440825.37 29440825.62 0.0270 0.0061 Saturn 75908-08-23 20:10 G 29446122.09 29446122.34 29446122.58 0.0289 0.0006 Uranus 75920-03-01 04:19 G 29450329.63 29450329.68 29450329.74 0.0144 0.0140 Uranus 75921-03-06 06:58 G 29450699.60 29450699.79 29450700.00 0.0144 0.0091 Pluto 75921-04-22 06:00 G 29450746.50 29450746.75 29450747.01 0.0081 0.0020 Uranus 75922-03-11 10:19 G 29451069.69 29451069.93 29451070.18 0.0144 0.0041 Saturn 75923-02-16 14:24 G 29451411.89 29451412.10 29451412.31 0.0270 0.0143 Uranus 75923-03-16 13:41 G 29451439.82 29451440.07 29451440.33 0.0144 0.0010 Uranus 75924-03-20 17:03 G 29451809.99 29451810.21 29451810.45 0.0144 0.0061 Uranus 75925-03-25 20:39 G 29452180.20 29452180.36 29452180.53 0.0144 0.0111

Jupiter 75926-09-20 21:36 G 29452724.27 29452724.40 29452724.54 0.0528 0.0418 Saturn 75937-08-17 20:10 G 29456708.22 29456708.34 29456708.45 0.0289 0.0254 Saturn 75938-08-31 12:29 G 29457087.00 29457087.02 29457087.07 0.0289 0.0286 Jupiter 75938-09-25 20:53 G 29457112.14 29457112.37 29457112.59 0.0529 0.0089 Jupiter 75944-03-23 15:07 G 29459117.91 29459118.13 29459118.36 0.0500 0.0146 Saturn 75953-02-23 04:19 G 29462376.46 29462376.68 29462376.91 0.0270 0.0112 Jupiter 75956-03-28 05:03 G 29463505.52 29463505.71 29463505.91 0.0498 0.0279 Uranus 75961-09-03 08:24 G 29465490.74 29465490.85 29465491.00 0.0134 0.0114 Neptune 75962-03-31 12:29 G 29465699.87 29465700.02 29465700.21 0.0088 0.0066 Uranus 75962-09-07 14:39 G 29465859.92 29465860.11 29465860.33 0.0134 0.0075 Neptune 75963-04-03 00:29 G 29466067.30 29466067.52 29466067.76 0.0088 0.0041 Uranus 75963-09-11 20:39 G 29466229.13 29466229.36 29466229.61 0.0134 0.0036 Neptune 75964-04-04 12:29 G 29466434.77 29466435.02 29466435.29 0.0088 0.0016 Uranus 75964-09-15 02:24 G 29466598.35 29466598.60 29466598.85 0.0134 0.0004 Neptune 75965-04-07 00:29 G 29466802.26 29466802.52 29466802.78 0.0088 0.0010 Uranus 75965-09-19 07:41 G 29466967.59 29466967.82 29466968.06 0.0134 0.0043 Neptune 75966-04-09 12:29 G 29467169.79 29467170.02 29467170.27 0.0088 0.0035 Uranus 75966-09-23 12:29 G 29467336.84 29467337.02 29467337.23 0.0134 0.0082 Neptune 75967-04-12 00:15 G 29467537.34 29467537.51 29467537.72 0.0088 0.0060 Saturn 75967-08-26 04:20 G 29467673.45 29467673.68 29467673.92 0.0289 0.0061 Uranus 75967-09-27 17:32 G 29467706.14 29467706.23 29467706.36 0.0134 0.0120 Neptune 75968-04-13 12:00 G 29467904.96 29467905.00 29467905.09 0.0088 0.0085 Saturn 75982-02-17 23:17 G 29472963.25 29472963.47 29472963.72 0.0270 0.0089 Saturn 75996-08-19 05:32 G 29478259.56 29478259.73 29478259.92 0.0289 0.0193

## 77TH MILLENNIUM CE

#### This is a list of transits of Earth in the 77th millennium CE.

FROM MAX- C START MAX END SUNRAD DEPTH S

TRANSIT

TIME

Uranus 76004-03-01 16:20 G 29481011.11 29481011.18 29481011.29 0.0144 0.0134 Uranus 76005-03-06 19:12 G 29481381.10 29481381.30 29481381.52 0.0144 0.0084 Uranus 76006-03-11 22:20 G 29481751.19 29481751.43 29481751.69 0.0144 0.0034 Uranus 76007-03-17 01:41 G 29482121.32 29482121.57 29482121.83 0.0144 0.0017 Uranus 76008-03-21 04:48 G 29482491.48 29482491.70 29482491.94 0.0144 0.0068 Uranus 76009-03-26 08:10 G 29482861.71 29482861.84 29482862.01 0.0144 0.0118 Jupiter 76009-09-20 01:56 G 29483039.50 29483039.58 29483039.66 0.0526 0.0491 Saturn 76012-02-25 12:58 G 29483927.85 29483928.04 29483928.24 0.0271 0.0167 Jupiter 76021-09-24 18:15 G 29487427.03 29487427.26 29487427.49 0.0528 0.0019 Saturn 76026-08-27 15:36 G 29489224.93 29489225.15 29489225.37 0.0289 0.0125 Jupiter 76027-03-23 19:27 G 29489433.10 29489433.31 29489433.52 0.0500 0.0213 Jupiter 76033-09-29 14:53 G 29491815.03 29491815.12 29491815.22 0.0531 0.0480 Jupiter 76039-03-28 10:34 G 29493820.73 29493820.94 29493821.16 0.0498 0.0218 Saturn 76041-02-19 09:36 G 29494514.66 29494514.90 29494515.15 0.0270 0.0032 Neptune 76043-09-29 07:12 G 29495466.73 29495466.80 29495466.90 0.0090 0.0084 Neptune 76044-09-30 18:29 G 29495834.09 29495834.27 29495834.48 0.0090 0.0058 Uranus 76045-09-03 21:51 G 29496172.28 29496172.41 29496172.58 0.0134 0.0108 Neptune 76045-10-03 06:15 G 29496201.53 29496201.76 29496202.00 0.0090 0.0032 Uranus 76046-09-08 04:20 G 29496541.47 29496541.68 29496541.90 0.0134 0.0068 Neptune 76046-10-05 17:32 G 29496568.98 29496569.23 29496569.49 0.0090 0.0006 Uranus 76047-09-12 10:05 G 29496910.68 29496910.92 29496911.17 0.0134 0.0029 Neptune 76047-10-08 04:48 G 29496936.46 29496936.70 29496936.96 0.0090 0.0021 Uranus 76048-09-15 15:51 G 29497279.91 29497280.16 29497280.41 0.0134 0.0010 Neptune 76048-10-09 15:51 G 29497303.96 29497304.16 29497304.40 0.0090 0.0047 Uranus 76049-09-19 20:53 G 29497649.15 29497649.37 29497649.61 0.0134 0.0049

Neptune 76049-10-12 03:36 G 29497671.50 29497671.65 29497671.79 0.0090 0.0072 Uranus 76050-09-24 01:56 G 29498018.40 29498018.58 29498018.78 0.0134 0.0088 Uranus 76051-09-28 07:12 G 29498387.73 29498387.80 29498387.89 0.0134 0.0126 Saturn 76055-08-21 17:32 G 29499811.02 29499811.23 29499811.45 0.0289 0.0128 Mars 76059-01-08 14:24 G 29501046.91 29501047.10 29501047.28 0.1615 0.0247 Saturn 76070-02-14 09:08 G 29505101.75 29505101.88 29505102.02 0.0271 0.0226 Saturn 76071-02-26 22:05 G 29505479.29 29505479.42 29505479.57 0.0271 0.0223 Pluto 76077-10-21 22:20 G 29507908.19 29507908.43 29507908.70 0.0064 0.0010 Saturn 76085-08-29 04:34 G 29510776.51 29510776.69 29510776.87 0.0289 0.0191 Uranus 76088-03-02 04:48 G 29511692.59 29511692.70 29511692.82 0.0144 0.0127 Uranus 76089-03-07 07:12 G 29512062.60 29512062.80 29512063.03 0.0144 0.0078 Uranus 76090-03-12 10:20 G 29512432.68 29512432.93 29512433.18 0.0144 0.0028 Uranus 76091-03-17 13:12 G 29512802.80 29512803.05 29512803.30 0.0144 0.0023 Uranus 76092-03-21 16:20 G 29513172.96 29513173.18 29513173.41 0.0144 0.0073 Uranus 76093-03-26 19:27 G 29513543.19 29513543.31 29513543.45 0.0144 0.0124 Saturn 76100-02-21 20:10 G 29516066.09 29516066.34 29516066.59 0.0270 0.0026 Jupiter 76104-09-24 19:27 G 29517742.08 29517742.31 29517742.53 0.0528 0.0107 Jupiter 76110-03-23 23:03 G 29519748.27 29519748.46 29519748.66 0.0501 0.0282 Saturn 76114-08-24 07:27 G 29521362.58 29521362.81 29521363.05 0.0289 0.0060 Jupiter 76116-09-29 19:12 G 29522130.16 29522130.30 29522130.46 0.0530 0.0406 Jupiter 76122-03-28 09:51 G 29524135.69 29524135.91 29524136.14 0.0499 0.0133 Neptune 76126-03-31 18:00 G 29525600.15 29525600.25 29525600.40 0.0088 0.0077 Neptune 76127-04-03 06:00 G 29525967.56 29525967.75 29525967.99 0.0088 0.0052 Neptune 76128-04-04 18:00 G 29526335.01 29526335.25 29526335.51 0.0088 0.0027 Saturn 76129-02-16 18:00 G 29526653.07 29526653.25 29526653.45 0.0271 0.0170 Neptune 76129-04-07 06:29 G 29526702.51 29526702.77 29526703.03 0.0088 0.0002 Uranus 76129-09-05 10:48 G 29526853.79 29526853.95 29526854.12 0.0134 0.0102 Neptune 76130-04-09 18:00 G 29527070.01 29527070.25 29527070.52 0.0088 0.0024 Uranus 76130-09-09 16:48 G 29527222.99 29527223.20 29527223.43 0.0134 0.0063 Neptune 76131-04-12 05:46 G 29527437.54 29527437.74 29527437.98 0.0088 0.0049 Uranus 76131-09-13 22:48 G 29527592.21 29527592.45 29527592.70 0.0134 0.0023 Neptune 76132-04-13 18:15 G 29527805.12 29527805.26 29527805.40 0.0088 0.0073 Uranus 76132-09-17 04:20 G 29527961.43 29527961.68 29527961.93 0.0134 0.0016 Uranus 76133-09-21 09:36 G 29528330.68 29528330.90 29528331.14 0.0134 0.0056 Uranus 76134-09-25 14:39 G 29528699.94 29528700.11 29528700.30 0.0134 0.0094 Uranus 76135-09-29 19:56 G 29529069.31 29529069.33 29529069.38 0.0134 0.0132 Saturn 76143-08-19 01:12 G 29531949.50 29531949.55 29531949.62 0.0289 0.0279 Saturn 76144-08-31 18:00 G 29532328.15 29532328.25 29532328.36 0.0289 0.0259 Saturn 76159-02-24 06:15 G 29537617.53 29537617.76 29537618.00 0.0270 0.0083 Pluto 76167-04-25 10:05 G 29540599.66 29540599.92 29540600.19 0.0081 0.0004 Uranus 76172-03-03 18:15 G 29542374.13 29542374.26 29542374.41 0.0144 0.0120 Uranus 76173-03-08 20:39 G 29542744.15 29542744.36 29542744.60 0.0144 0.0071 Saturn 76173-08-25 21:36 G 29542914.16 29542914.40 29542914.65 0.0289 0.0010 Uranus 76174-03-13 23:32 G 29543114.23 29543114.48 29543114.74 0.0144 0.0020 Uranus 76175-03-19 02:24 G 29543484.35 29543484.60 29543484.86 0.0144 0.0030 Uranus 76176-03-23 05:32 G 29543854.52 29543854.73 29543854.95 0.0144 0.0081 Uranus 76177-03-28 08:53 G 29544224.77 29544224.87 29544224.98 0.0144 0.0131 Jupiter 76187-09-24 22:48 G 29548057.24 29548057.45 29548057.67 0.0528 0.0187 Saturn 76188-02-19 02:39 G 29548204.39 29548204.61 29548204.84 0.0271 0.0115 Jupiter 76193-03-22 21:08 G 29550063.23 29550063.38 29550063.54 0.0501 0.0374 Jupiter 76199-09-29 14:53 G 29552444.94 29552445.12 29552445.32 0.0529 0.0291 Saturn 76202-08-21 14:53 G 29553500.97 29553501.12 29553501.29 0.0289 0.0212 Jupiter 76205-03-28 12:44 G 29554450.80 29554451.03 29554451.27 0.0500 0.0060 Neptune 76208-10-02 00:58 G 29555734.40 29555734.54 29555734.71 0.0090 0.0070 Neptune 76209-10-04 12:15 G 29556101.80 29556102.01 29556102.24 0.0090 0.0044 Neptune 76210-10-07 00:00 G 29556469.25 29556469.50 29556469.75 0.0090 0.0018 Neptune 76211-10-09 11:17 G 29556836.72 29556836.97 29556837.22 0.0090 0.0008 Neptune 76212-10-10 22:34 G 29557204.21 29557204.44 29557204.68 0.0090 0.0034 Uranus 76213-09-06 23:46 G 29557535.32 29557535.49 29557535.67 0.0134 0.0096 Neptune 76213-10-13 09:51 G 29557571.73 29557571.91 29557572.11 0.0090 0.0060

Uranus 76214-09-11 05:32 G 29557904.52 29557904.73 29557904.97 0.0134 0.0056 Neptune 76214-10-15 20:53 G 29557939.32 29557939.37 29557939.46 0.0090 0.0086 Uranus 76215-09-15 11:32 G 29558273.74 29558273.98 29558274.24 0.0134 0.0017 Uranus 76216-09-18 17:03 G 29558642.97 29558643.21 29558643.46 0.0134 0.0023 Jupiter 76217-04-02 03:51 G 29558838.62 29558838.66 29558838.70 0.0498 0.0490 Uranus 76217-09-22 22:05 G 29559012.22 29559012.42 29559012.66 0.0134 0.0062 Saturn 76218-02-26 15:36 G 29559168.93 29559169.15 29559169.36 0.0270 0.0138 Uranus 76218-09-27 03:36 G 29559381.49 29559381.65 29559381.82 0.0134 0.0100 Saturn 76232-08-28 11:17 G 29564465.74 29564465.97 29564466.21 0.0289 0.0077 Saturn 76247-02-21 10:05 G 29569755.68 29569755.92 29569756.17 0.0271 0.0062 Uranus 76256-03-05 05:46 G 29573055.61 29573055.74 29573055.92 0.0144 0.0114 Uranus 76257-03-10 08:24 G 29573425.63 29573425.85 29573426.09 0.0144 0.0064 Uranus 76258-03-15 11:03 G 29573795.71 29573795.96 29573796.22 0.0144 0.0014 Uranus 76259-03-20 13:41 G 29574165.83 29574166.07 29574166.33 0.0144 0.0037 Uranus 76260-03-24 16:48 G 29574536.01 29574536.20 29574536.42 0.0144 0.0087 Uranus 76261-03-29 19:56 G 29574906.27 29574906.33 29574906.43 0.0144 0.0137 Saturn 76261-08-23 02:53 G 29575052.42 29575052.62 29575052.83 0.0289 0.0147 76264-01-09 19:41 G 29575922.24 29575922.32 29575922.40 0.1612 0.1460 Mars Jupiter 76270-09-24 18:58 G 29578372.10 29578372.29 29578372.48 0.0527 0.0298 Saturn 76276-02-16 11:17 G 29580342.90 29580342.97 29580343.06 0.0270 0.0254 Jupiter 76276-03-23 01:41 G 29580378.47 29580378.57 29580378.70 0.0502 0.0440 Saturn 76277-02-27 23:17 G 29580720.30 29580720.47 29580720.65 0.0270 0.0190 Jupiter 76282-09-29 15:36 G 29582759.94 29582760.15 29582760.36 0.0529 0.0198 Jupiter 76288-03-27 18:00 G 29584766.02 29584766.25 29584766.49 0.0500 0.0009 Neptune 76290-04-01 00:44 G 29585500.52 29585500.53 29585500.58 0.0088 0.0087 Neptune 76291-04-03 12:44 G 29585867.85 29585868.03 29585868.22 0.0088 0.0062 Saturn 76291-08-30 23:03 G 29586017.26 29586017.46 29586017.68 0.0289 0.0142 Neptune 76292-04-05 00:29 G 29586235.31 29586235.52 29586235.78 0.0088 0.0038 Neptune 76293-04-07 12:44 G 29586602.78 29586603.03 29586603.30 0.0088 0.0013 Neptune 76294-04-10 00:44 G 29586970.27 29586970.53 29586970.79 0.0088 0.0012

Neptune 76295-04-12 12:15 G 29587337.79 29587338.01 29587338.27 0.0088 0.0038 Neptune 76296-04-14 00:29 G 29587705.35 29587705.52 29587705.71 0.0088 0.0062 Uranus 76296-09-03 04:34 G 29587847.65 29587847.69 29587847.78 0.0135 0.0130 Neptune 76297-04-16 12:15 G 29588073.00 29588073.01 29588073.06 0.0088 0.0087 Uranus 76297-09-07 11:17 G 29588216.80 29588216.97 29588217.17 0.0134 0.0090 Uranus 76298-09-11 17:32 G 29588586.00 29588586.23 29588586.47 0.0134 0.0050 Uranus 76299-09-15 23:32 G 29588955.23 29588955.48 29588955.73 0.0134 0.0011 Jupiter 76300-04-02 06:00 G 29589153.63 29589153.75 29589153.88 0.0498 0.0416 Uranus 76300-09-20 05:03 G 29589324.47 29589324.71 29589324.96 0.0134 0.0028 Uranus 76301-09-24 10:05 G 29589693.72 29589693.92 29589694.16 0.0134 0.0068 Uranus 76302-09-28 15:51 G 29590063.01 29590063.16 29590063.31 0.0134 0.0106 Saturn 76306-02-23 15:51 G 29591306.92 29591307.16 29591307.41 0.0271 0.0012 Saturn 76320-08-25 12:58 G 29596603.81 29596604.04 29596604.28 0.0289 0.0087 76323-10-27 01:41 G 29597761.32 29597761.57 29597761.83 0.0064 0.0003 Pluto 76334-07-17 00:15 G 29601677.31 29601677.51 29601677.71 0.1914 0.0208 Mars Saturn 76335-02-18 17:32 G 29601894.08 29601894.23 29601894.40 0.0270 0.0204 Saturn 76336-03-02 04:48 G 29602271.61 29602271.70 29602271.83 0.0270 0.0240 Uranus 76340-03-06 16:34 G 29603737.04 29603737.19 29603737.38 0.0144 0.0108 Uranus 76341-03-11 19:12 G 29604107.07 29604107.30 29604107.55 0.0144 0.0058 Uranus 76342-03-16 21:51 G 29604477.15 29604477.41 29604477.67 0.0144 0.0007 Mars 76343-01-12 21:08 G 29604779.21 29604779.38 29604779.56 0.1613 0.0621 Uranus 76343-03-22 00:44 G 29604847.29 29604847.53 29604847.78 0.0144 0.0043 Uranus 76344-03-26 03:36 G 29605217.47 29605217.65 29605217.86 0.0144 0.0094 Uranus 76345-03-31 07:12 G 29605587.80 29605587.80 29605587.82 0.0144 0.0144 Saturn 76350-09-02 08:24 G 29607568.69 29607568.85 29607569.03 0.0289 0.0201 Jupiter 76353-09-24 23:32 G 29608687.33 29608687.48 29608687.65 0.0526 0.0372 Saturn 76365-02-24 20:10 G 29612858.10 29612858.34 29612858.59 0.0270 0.0037 Jupiter 76365-09-29 21:51 G 29613075.19 29613075.41 29613075.64 0.0529 0.0130 Jupiter 76371-03-28 20:53 G 29615081.14 29615081.37 29615081.61 0.0500 0.0076 Neptune 76372-10-02 07:41 G 29615634.74 29615634.82 29615634.95 0.0090 0.0082

Neptune 76373-10-04 19:12 G 29616002.12 29616002.30 29616002.52 0.0090 0.0056 Neptune 76374-10-07 06:44 G 29616369.55 29616369.78 29616370.02 0.0090 0.0030 Neptune 76375-10-09 18:00 G 29616737.00 29616737.25 29616737.51 0.0090 0.0004 Neptune 76376-10-11 05:17 G 29617104.48 29617104.72 29617104.97 0.0090 0.0022 Neptune 76377-10-13 16:34 G 29617471.98 29617472.19 29617472.41 0.0090 0.0048 Neptune 76378-10-16 03:36 G 29617839.53 29617839.65 29617839.82 0.0090 0.0074 Saturn 76379-08-27 19:41 G 29618155.08 29618155.32 29618155.57 0.0290 0.0033 Uranus 76380-09-04 17:17 G 29618529.12 29618529.22 29618529.32 0.0135 0.0123 Uranus 76381-09-08 23:46 G 29618898.30 29618898.49 29618898.69 0.0134 0.0084 Uranus 76382-09-13 05:32 G 29619267.51 29619267.73 29619267.98 0.0134 0.0045 Jupiter 76383-04-02 11:03 G 29619468.80 29619468.96 29619469.13 0.0499 0.0354 Uranus 76383-09-17 11:46 G 29619636.74 29619636.99 29619637.24 0.0134 0.0005 Uranus 76384-09-20 17:03 G 29620005.98 29620006.21 29620006.46 0.0134 0.0035 Uranus 76385-09-24 22:34 G 29620375.24 29620375.44 29620375.66 0.0134 0.0074 Uranus 76386-09-29 03:36 G 29620744.54 29620744.65 29620744.80 0.0134 0.0113 Saturn 76394-02-19 22:05 G 29623445.22 29623445.42 29623445.62 0.0270 0.0157 Saturn 76408-08-20 22:05 G 29628741.37 29628741.42 29628741.48 0.0289 0.0281 Saturn 76409-09-03 15:36 G 29629120.05 29629120.15 29629120.27 0.0289 0.0257 Pluto 76413-04-28 14:39 G 29630452.87 29630453.11 29630453.36 0.0080 0.0029 Saturn 76424-02-26 22:48 G 29634409.22 29634409.45 29634409.69 0.0270 0.0081 Uranus 76424-03-07 02:24 G 29634418.43 29634418.60 29634418.79 0.0144 0.0102 Uranus 76425-03-12 04:34 G 29634788.46 29634788.69 29634788.94 0.0144 0.0052 Uranus 76426-03-17 07:12 G 29635158.54 29635158.80 29635159.05 0.0144 0.0003 Uranus 76427-03-22 09:36 G 29635528.67 29635528.90 29635529.16 0.0144 0.0049 Uranus 76428-03-26 12:58 G 29635898.86 29635899.04 29635899.23 0.0144 0.0099 Jupiter 76436-09-24 03:22 G 29639002.52 29639002.64 29639002.76 0.0525 0.0447 Saturn 76438-08-28 23:32 G 29639706.24 29639706.48 29639706.72 0.0290 0.0017 Jupiter 76448-09-28 23:03 G 29643390.23 29643390.46 29643390.69 0.0527 0.0041 Saturn 76453-02-21 00:58 G 29644996.32 29644996.54 29644996.77 0.0269 0.0113 Jupiter 76454-03-28 03:36 G 29645396.42 29645396.65 29645396.88 0.0501 0.0130

Neptune 76455-04-03 18:58 G 29645768.17 29645768.29 29645768.46 0.0088 0.0073 Neptune 76456-04-05 07:12 G 29646135.60 29646135.80 29646136.04 0.0088 0.0048 Neptune 76457-04-07 19:27 G 29646503.07 29646503.31 29646503.57 0.0088 0.0023 Neptune 76458-04-10 07:41 G 29646870.56 29646870.82 29646871.08 0.0088 0.0002 Neptune 76459-04-12 19:27 G 29647238.07 29647238.31 29647238.57 0.0088 0.0027 Neptune 76460-04-14 07:27 G 29647605.61 29647605.81 29647606.04 0.0088 0.0052 Neptune 76461-04-16 18:58 G 29647973.19 29647973.29 29647973.45 0.0088 0.0077 Uranus 76464-09-05 04:05 G 29649210.56 29649210.67 29649210.80 0.0135 0.0118 Uranus 76465-09-09 10:34 G 29649579.75 29649579.94 29649580.15 0.0134 0.0078 Jupiter 76466-04-01 20:10 G 29649784.16 29649784.34 29649784.53 0.0499 0.0308 Uranus 76466-09-13 16:34 G 29649948.96 29649949.19 29649949.45 0.0134 0.0040 Saturn 76467-08-23 01:27 G 29650292.43 29650292.56 29650292.72 0.0290 0.0232 Uranus 76467-09-17 23:03 G 29650318.21 29650318.46 29650318.71 0.0134 0.0002 Uranus 76468-09-21 04:34 G 29650687.45 29650687.69 29650687.93 0.0134 0.0040 Uranus 76469-09-25 09:51 G 29651056.73 29651056.91 29651057.13 0.0134 0.0080 Uranus 76470-09-29 15:22 G 29651426.04 29651426.14 29651426.27 0.0134 0.0119 Saturn 76483-02-28 00:15 G 29655960.30 29655960.51 29655960.74 0.0270 0.0122 Saturn 76497-08-30 01:12 G 29661257.31 29661257.55 29661257.79 0.0290 0.0063 Uranus 76508-03-08 11:46 G 29665099.82 29665099.99 29665100.20 0.0144 0.0097 Uranus 76509-03-13 14:10 G 29665469.85 29665470.09 29665470.34 0.0144 0.0047 Uranus 76510-03-18 16:34 G 29665839.93 29665840.19 29665840.45 0.0144 0.0004 Uranus 76511-03-23 19:12 G 29666210.08 29666210.30 29666210.55 0.0144 0.0055 Saturn 76512-02-24 02:10 G 29666547.36 29666547.59 29666547.84 0.0269 0.0072 Uranus 76512-03-27 22:20 G 29666580.28 29666580.43 29666580.62 0.0144 0.0106 Jupiter 76519-09-25 07:41 G 29669317.80 29669317.82 29669317.85 0.0525 0.0521 Saturn 76526-08-25 03:36 G 29671843.47 29671843.65 29671843.84 0.0290 0.0185 Jupiter 76531-09-30 06:00 G 29673705.52 29673705.75 29673705.98 0.0527 0.0025 Jupiter 76537-03-28 12:29 G 29675711.80 29675712.02 29675712.24 0.0501 0.0180 Neptune 76537-10-05 03:36 G 29675902.50 29675902.65 29675902.84 0.0090 0.0067 Neptune 76538-10-07 15:08 G 29676269.91 29676270.13 29676270.36 0.0090 0.0041

Neptune 76539-10-10 02:10 G 29676637.35 29676637.59 29676637.86 0.0090 0.0016 Neptune 76540-10-11 13:27 G 29677004.82 29677005.06 29677005.32 0.0090 0.0011 Neptune 76541-10-14 00:29 G 29677372.31 29677372.52 29677372.77 0.0090 0.0037 Saturn 76542-03-02 01:12 G 29677511.35 29677511.55 29677511.75 0.0270 0.0162 Neptune 76542-10-16 12:15 G 29677739.82 29677740.01 29677740.19 0.0090 0.0062 Jupiter 76543-10-05 05:03 G 29678093.63 29678093.71 29678093.80 0.0530 0.0487 Neptune 76543-10-18 23:03 G 29678107.43 29678107.46 29678107.53 0.0090 0.0088 76548-01-13 02:39 G 29679654.44 29679654.61 29679654.79 0.1611 0.0593 Mars Uranus 76548-09-06 15:08 G 29679892.01 29679892.13 29679892.28 0.0135 0.0113 Jupiter 76549-04-02 03:51 G 29680099.46 29680099.66 29680099.87 0.0500 0.0255 Uranus 76549-09-10 21:51 G 29680261.21 29680261.41 29680261.63 0.0135 0.0073 Uranus 76550-09-15 04:20 G 29680630.44 29680630.68 29680630.93 0.0134 0.0033 Uranus 76551-09-19 10:20 G 29680999.68 29680999.93 29681000.19 0.0134 0.0007 Uranus 76552-09-22 16:20 G 29681368.94 29681369.18 29681369.41 0.0134 0.0047 Uranus 76553-09-26 21:51 G 29681738.23 29681738.41 29681738.61 0.0134 0.0086 Uranus 76554-10-01 03:22 G 29682107.57 29682107.64 29682107.74 0.0134 0.0125 Saturn 76556-09-01 00:29 G 29682808.30 29682808.52 29682808.75 0.0290 0.0104 Pluto 76569-10-29 02:24 G 29687614.35 29687614.60 29687614.86 0.0064 0.0009 Saturn 76571-02-25 02:53 G 29688098.38 29688098.62 29688098.87 0.0269 0.0032 Saturn 76585-08-26 04:05 G 29693394.47 29693394.67 29693394.89 0.0290 0.0141 Uranus 76591-03-04 20:53 G 29695411.34 29695411.37 29695411.44 0.0143 0.0141 Uranus 76592-03-08 22:48 G 29695781.25 29695781.45 29695781.65 0.0144 0.0091 Uranus 76593-03-14 00:44 G 29696151.29 29696151.53 29696151.78 0.0144 0.0041 Uranus 76594-03-19 03:08 G 29696521.37 29696521.63 29696521.89 0.0144 0.0010 Uranus 76595-03-24 05:46 G 29696891.52 29696891.74 29696891.98 0.0144 0.0061 Uranus 76596-03-28 08:53 G 29697261.71 29697261.87 29697262.04 0.0144 0.0111 Saturn 76600-02-19 16:05 G 29698685.07 29698685.17 29698685.31 0.0269 0.0237 Saturn 76601-03-04 01:27 G 29699062.41 29699062.56 29699062.73 0.0270 0.0202 Jupiter 76614-09-30 14:39 G 29704020.88 29704021.11 29704021.33 0.0526 0.0077 Saturn 76615-09-03 23:17 G 29704359.27 29704359.47 29704359.69 0.0290 0.0145

Neptune 76619-04-05 01:56 G 29705668.52 29705668.58 29705668.69 0.0088 0.0083 Jupiter 76620-03-28 17:32 G 29706027.03 29706027.23 29706027.44 0.0503 0.0240 Neptune 76620-04-06 14:10 G 29706035.91 29706036.09 29706036.31 0.0088 0.0058 Neptune 76621-04-09 02:24 G 29706403.37 29706403.60 29706403.86 0.0088 0.0034 Neptune 76622-04-11 14:39 G 29706770.86 29706771.11 29706771.38 0.0088 0.0008 Neptune 76623-04-14 02:53 G 29707138.37 29707138.62 29707138.88 0.0088 0.0017 Neptune 76624-04-15 14:39 G 29707505.90 29707506.11 29707506.36 0.0088 0.0042 Neptune 76625-04-18 02:39 G 29707873.45 29707873.61 29707873.80 0.0088 0.0066 Jupiter 76626-10-05 10:34 G 29708408.81 29708408.94 29708409.09 0.0528 0.0420 76627-01-16 03:36 G 29708511.58 29708511.65 29708511.73 0.1611 0.1469 Mars Saturn 76630-02-27 03:51 G 29709649.41 29709649.66 29709649.91 0.0269 0.0010 Jupiter 76632-04-02 10:05 G 29710414.71 29710414.92 29710415.14 0.0501 0.0201 Uranus 76632-09-08 00:58 G 29710573.42 29710573.54 29710573.71 0.0135 0.0109 Uranus 76633-09-12 07:56 G 29710942.63 29710942.83 29710943.06 0.0135 0.0069 Uranus 76634-09-16 14:24 G 29711311.86 29711312.10 29711312.35 0.0134 0.0029 Uranus 76635-09-20 20:53 G 29711681.12 29711681.37 29711681.62 0.0134 0.0012 Uranus 76636-09-24 02:24 G 29712050.38 29712050.60 29712050.85 0.0134 0.0052 Uranus 76637-09-28 08:39 G 29712419.68 29712419.86 29712420.05 0.0134 0.0092 Uranus 76638-10-02 14:24 G 29712789.05 29712789.10 29712789.16 0.0134 0.0131 Saturn 76644-08-28 04:20 G 29714945.45 29714945.68 29714945.91 0.0290 0.0097 Saturn 76659-02-21 17:46 G 29720236.07 29720236.24 29720236.41 0.0269 0.0195 Pluto 76659-05-02 12:15 G 29720305.78 29720306.01 29720306.27 0.0080 0.0028 Saturn 76660-03-05 02:39 G 29720613.52 29720613.61 29720613.73 0.0269 0.0243 Saturn 76674-09-04 22:34 G 29725910.25 29725910.44 29725910.62 0.0290 0.0186 Uranus 76675-03-06 08:24 G 29726092.79 29726092.85 29726092.97 0.0143 0.0135 Uranus 76676-03-10 10:20 G 29726462.73 29726462.93 29726463.14 0.0144 0.0085 Uranus 76677-03-15 12:15 G 29726832.77 29726833.01 29726833.27 0.0144 0.0035 Uranus 76678-03-20 14:39 G 29727202.86 29727203.11 29727203.37 0.0144 0.0016 Uranus 76679-03-25 17:32 G 29727573.00 29727573.23 29727573.46 0.0144 0.0067 Uranus 76680-03-29 20:10 G 29727943.21 29727943.34 29727943.50 0.0144 0.0118

Saturn 76689-02-28 05:17 G 29731200.48 29731200.72 29731200.96 0.0269 0.0051 Jupiter 76697-09-29 18:44 G 29734336.07 29734336.28 29734336.51 0.0526 0.0153 Neptune 76701-10-06 12:29 G 29735802.91 29735803.02 29735803.17 0.0090 0.0077 Neptune 76702-10-08 23:32 G 29736170.30 29736170.48 29736170.72 0.0090 0.0052 Jupiter 76703-03-30 02:53 G 29736342.43 29736342.62 29736342.82 0.0503 0.0287 Saturn 76703-08-31 05:17 G 29736496.49 29736496.72 29736496.96 0.0290 0.0052 Neptune 76703-10-11 11:03 G 29736537.73 29736537.96 29736538.21 0.0090 0.0026 Neptune 76704-10-12 22:34 G 29736905.19 29736905.44 29736905.69 0.0090 0.0000 Neptune 76705-10-15 09:22 G 29737272.66 29737272.89 29737273.15 0.0090 0.0026 Neptune 76706-10-17 20:24 G 29737640.16 29737640.35 29737640.58 0.0090 0.0052 Neptune 76707-10-20 07:41 G 29738007.71 29738007.82 29738007.97 0.0090 0.0077 Jupiter 76709-10-05 16:05 G 29738724.00 29738724.17 29738724.34 0.0528 0.0348 Jupiter 76715-04-03 19:41 G 29740730.10 29740730.32 29740730.55 0.0501 0.0156 Uranus 76716-09-09 12:00 G 29741254.85 29741255.00 29741255.17 0.0135 0.0103 Uranus 76717-09-13 18:58 G 29741624.08 29741624.29 29741624.52 0.0135 0.0063 Saturn 76718-02-23 20:10 G 29741787.14 29741787.34 29741787.55 0.0269 0.0152 Uranus 76718-09-18 01:27 G 29741993.32 29741993.56 29741993.82 0.0134 0.0023 Uranus 76719-09-22 07:56 G 29742362.58 29742362.83 29742363.08 0.0134 0.0018 Uranus 76720-09-25 13:56 G 29742731.85 29742732.08 29742732.31 0.0134 0.0058 Uranus 76721-09-29 19:41 G 29743101.16 29743101.32 29743101.51 0.0134 0.0098 Saturn 76733-09-06 22:34 G 29747461.31 29747461.44 29747461.60 0.0290 0.0229 Saturn 76748-03-02 07:41 G 29752751.60 29752751.82 29752752.06 0.0269 0.0095 Uranus 76759-03-07 20:24 G 29756774.26 29756774.35 29756774.49 0.0143 0.0129 Uranus 76760-03-11 22:05 G 29757144.22 29757144.42 29757144.65 0.0143 0.0079 Uranus 76761-03-17 00:15 G 29757514.26 29757514.51 29757514.77 0.0144 0.0028 Uranus 76762-03-22 02:39 G 29757884.36 29757884.61 29757884.87 0.0144 0.0023 Saturn 76762-09-01 07:56 G 29758047.58 29758047.83 29758048.07 0.0290 0.0006 Uranus 76763-03-27 05:17 G 29758254.51 29758254.72 29758254.95 0.0144 0.0074 Uranus 76764-03-31 07:41 G 29758624.71 29758624.82 29758624.97 0.0144 0.0125 Saturn 76777-02-25 00:29 G 29763338.30 29763338.52 29763338.75 0.0269 0.0106

Jupiter 76780-09-30 02:53 G 29764651.41 29764651.62 29764651.83 0.0525 0.0210 Neptune 76784-04-06 21:51 G 29765936.27 29765936.41 29765936.60 0.0088 0.0068 Neptune 76785-04-09 10:05 G 29766303.71 29766303.92 29766304.16 0.0088 0.0043 Jupiter 76786-03-29 10:20 G 29766657.76 29766657.93 29766658.11 0.0503 0.0341 Neptune 76786-04-11 22:48 G 29766671.19 29766671.45 29766671.71 0.0088 0.0018 Neptune 76787-04-14 10:48 G 29767038.69 29767038.95 29767039.22 0.0088 0.0007 Neptune 76788-04-15 22:34 G 29767406.22 29767406.44 29767406.71 0.0088 0.0032 Neptune 76789-04-18 10:48 G 29767773.76 29767773.95 29767774.16 0.0088 0.0056 Neptune 76790-04-20 22:48 G 29768141.37 29768141.45 29768141.57 0.0088 0.0081 Saturn 76791-08-26 05:03 G 29768633.62 29768633.71 29768633.82 0.0290 0.0262 Saturn 76792-09-08 01:12 G 29769012.49 29769012.55 29769012.64 0.0290 0.0276 Jupiter 76792-10-05 00:58 G 29769039.36 29769039.54 29769039.73 0.0527 0.0296 Jupiter 76798-04-02 22:05 G 29771045.19 29771045.42 29771045.66 0.0502 0.0086 Uranus 76800-09-09 22:05 G 29771936.25 29771936.42 29771936.59 0.0135 0.0098 Uranus 76801-09-14 05:03 G 29772305.48 29772305.71 29772305.94 0.0135 0.0058 Uranus 76802-09-18 11:32 G 29772674.73 29772674.98 29772675.23 0.0134 0.0018 Uranus 76803-09-22 18:00 G 29773044.00 29773044.25 29773044.50 0.0134 0.0023 Uranus 76804-09-26 00:15 G 29773413.29 29773413.51 29773413.73 0.0134 0.0063 Uranus 76805-09-30 06:00 G 29773782.60 29773782.75 29773782.92 0.0134 0.0103 Saturn 76807-03-04 12:00 G 29774302.80 29774303.00 29774303.22 0.0269 0.0141 Pluto 76815-11-02 00:58 G 29777467.28 29777467.54 29777467.79 0.0064 0.0008 Saturn 76821-09-02 12:58 G 29779598.80 29779599.04 29779599.28 0.0290 0.0048 76832-01-16 09:36 G 29783386.71 29783386.90 29783387.08 0.1609 0.0263 Mars Saturn 76836-02-27 06:44 G 29784889.54 29784889.78 29784890.03 0.0269 0.0057 Uranus 76843-03-08 07:27 G 29787455.68 29787455.81 29787455.95 0.0143 0.0122 Uranus 76844-03-12 08:24 G 29787825.65 29787825.85 29787826.09 0.0143 0.0073 Uranus 76845-03-17 10:48 G 29788195.70 29788195.95 29788196.21 0.0144 0.0022 Uranus 76846-03-22 13:12 G 29788565.80 29788566.05 29788566.31 0.0144 0.0030 Uranus 76847-03-27 15:36 G 29788935.96 29788936.15 29788936.38 0.0144 0.0081 Uranus 76848-03-31 18:29 G 29789306.18 29789306.27 29789306.39 0.0144 0.0131

Saturn 76850-08-27 10:48 G 29790184.79 29790184.95 29790185.12 0.0290 0.0209 Jupiter 76863-09-30 09:08 G 29794966.69 29794966.88 29794967.08 0.0524 0.0274 Saturn 76865-02-21 08:39 G 29795476.76 29795476.86 29795476.97 0.0270 0.0244 Neptune 76865-10-05 22:20 G 29795703.39 29795703.43 29795703.51 0.0090 0.0087 Saturn 76866-03-05 18:15 G 29795854.09 29795854.26 29795854.44 0.0269 0.0190 Neptune 76866-10-08 09:22 G 29796070.73 29796070.89 29796071.10 0.0090 0.0062 Neptune 76867-10-10 20:53 G 29796438.15 29796438.37 29796438.62 0.0090 0.0036 Neptune 76868-10-12 08:10 G 29796805.60 29796805.84 29796806.10 0.0090 0.0011 Jupiter 76869-03-28 09:36 G 29796972.78 29796972.90 29796973.03 0.0504 0.0427 Neptune 76869-10-14 19:12 G 29797173.06 29797173.30 29797173.57 0.0090 0.0016 Neptune 76870-10-17 06:15 G 29797540.55 29797540.76 29797541.00 0.0090 0.0041 Neptune 76871-10-19 17:46 G 29797908.07 29797908.24 29797908.41 0.0090 0.0066 Jupiter 76875-10-05 00:58 G 29799354.33 29799354.54 29799354.75 0.0526 0.0200 Saturn 76880-09-03 20:39 G 29801150.13 29801150.36 29801150.59 0.0290 0.0104 Jupiter 76881-04-02 03:36 G 29801360.41 29801360.65 29801360.89 0.0502 0.0023 Uranus 76883-09-07 00:58 G 29802248.52 29802248.54 29802248.59 0.0135 0.0133 Uranus 76884-09-10 08:24 G 29802617.67 29802617.85 29802618.04 0.0135 0.0093 Uranus 76885-09-14 15:22 G 29802986.91 29802987.14 29802987.38 0.0135 0.0053 Uranus 76886-09-18 22:05 G 29803356.17 29803356.42 29803356.67 0.0134 0.0012 Uranus 76887-09-23 04:34 G 29803725.44 29803725.69 29803725.94 0.0134 0.0028 Uranus 76888-09-26 10:20 G 29804094.73 29804094.93 29804095.16 0.0134 0.0069 Uranus 76889-09-30 16:20 G 29804464.05 29804464.18 29804464.34 0.0134 0.0109 Jupiter 76893-04-06 19:56 G 29805748.25 29805748.33 29805748.42 0.0500 0.0462 Saturn 76895-02-28 14:39 G 29806440.87 29806441.11 29806441.36 0.0269 0.0007 Pluto 76905-05-05 09:22 G 29810158.65 29810158.89 29810159.15 0.0081 0.0024 Saturn 76909-08-29 19:56 G 29811736.13 29811736.33 29811736.55 0.0290 0.0150 Saturn 76924-02-24 16:05 G 29817028.00 29817028.17 29817028.35 0.0270 0.0192 Saturn 76925-03-08 02:10 G 29817405.48 29817405.59 29817405.70 0.0270 0.0242 Uranus 76927-03-09 16:34 G 29818137.05 29818137.19 29818137.35 0.0143 0.0117 Uranus 76928-03-13 18:00 G 29818507.04 29818507.25 29818507.49 0.0143 0.0067

Uranus 76929-03-18 20:24 G 29818877.09 29818877.35 29818877.60 0.0144 0.0016 Uranus 76930-03-23 22:20 G 29819247.19 29819247.43 29819247.69 0.0144 0.0036 Uranus 76931-03-29 00:58 G 29819617.35 29819617.54 29819617.76 0.0144 0.0087 Uranus 76932-04-02 03:22 G 29819987.58 29819987.64 29819987.73 0.0144 0.0137 Saturn 76939-09-07 06:29 G 29822701.58 29822701.77 29822701.98 0.0290 0.0166 Jupiter 76946-09-30 07:27 G 29825281.66 29825281.81 29825281.98 0.0524 0.0376 Neptune 76948-04-07 06:15 G 29825836.65 29825836.76 29825836.89 0.0088 0.0077 Neptune 76949-04-09 18:00 G 29826204.07 29826204.25 29826204.49 0.0088 0.0053 Neptune 76950-04-12 06:29 G 29826571.53 29826571.77 29826572.03 0.0088 0.0028 Neptune 76951-04-14 18:44 G 29826939.02 29826939.28 29826939.54 0.0088 0.0003 Jupiter 76952-03-28 15:08 G 29827288.08 29827288.13 29827288.19 0.0505 0.0490 Neptune 76952-04-16 06:44 G 29827306.53 29827306.78 29827307.04 0.0088 0.0022 Neptune 76953-04-18 18:44 G 29827674.08 29827674.28 29827674.52 0.0088 0.0047 Saturn 76954-03-03 00:29 G 29827992.27 29827992.52 29827992.76 0.0269 0.0050 Neptune 76954-04-21 06:58 G 29828041.66 29828041.79 29828041.96 0.0088 0.0071 Jupiter 76958-10-05 03:51 G 29829669.44 29829669.66 29829669.89 0.0526 0.0119 Jupiter 76964-04-02 07:56 G 29831675.59 29831675.83 29831676.07 0.0502 0.0044 Uranus 76967-09-08 09:51 G 29832929.87 29832929.91 29832930.01 0.0135 0.0129 Saturn 76968-08-31 07:27 G 29833287.58 29833287.81 29833288.05 0.0290 0.0086 Uranus 76968-09-11 17:46 G 29833299.06 29833299.24 29833299.43 0.0135 0.0088 Uranus 76969-09-16 00:44 G 29833668.30 29833668.53 29833668.78 0.0135 0.0048 Uranus 76970-09-20 07:27 G 29834037.56 29834037.81 29834038.07 0.0134 0.0007 Uranus 76971-09-24 14:10 G 29834406.84 29834407.09 29834407.33 0.0134 0.0034 Uranus 76972-09-27 20:10 G 29834776.13 29834776.34 29834776.55 0.0134 0.0074 Uranus 76973-10-02 01:56 G 29835145.45 29835145.58 29835145.72 0.0134 0.0114 Jupiter 76976-04-06 19:12 G 29836063.15 29836063.30 29836063.46 0.0501 0.0377 76981-07-22 09:36 G 29837995.74 29837995.90 29837996.07 0.1918 0.1048 Mars Saturn 76983-02-26 00:44 G 29838579.32 29838579.53 29838579.75 0.0270 0.0138 Saturn 76998-09-08 19:56 G 29844253.19 29844253.33 29844253.48 0.0290 0.0231

# 78TH MILLENNIUM CE

### This is a list of transits of Earth in the 78th millennium CE.

FROM MAX- C START MAX END SUNRAD DEPTH S

TRANSIT

TIME

Uranus 77011-03-11 00:44 G 29848818.39 29848818.53 29848818.71 0.0143 0.0112 Uranus 77012-03-15 02:10 G 29849188.37 29849188.59 29849188.83 0.0143 0.0062 Saturn 77013-03-05 10:34 G 29849543.72 29849543.94 29849544.17 0.0269 0.0106 Uranus 77013-03-20 04:20 G 29849558.43 29849558.68 29849558.94 0.0144 0.0011 Uranus 77014-03-25 06:29 G 29849928.53 29849928.77 29849929.02 0.0144 0.0041 Uranus 77015-03-30 08:39 G 29850298.68 29850298.86 29850299.07 0.0144 0.0092 Uranus 77016-04-03 11:17 G 29850668.95 29850668.97 29850669.01 0.0144 0.0142 Saturn 77027-09-03 21:08 G 29854839.14 29854839.38 29854839.62 0.0290 0.0019 Jupiter 77029-09-30 12:00 G 29855596.89 29855597.00 29855597.13 0.0523 0.0449 Neptune 77030-10-09 19:56 G 29855971.18 29855971.33 29855971.49 0.0090 0.0071 Neptune 77031-10-12 06:58 G 29856338.59 29856338.79 29856339.03 0.0090 0.0046 Neptune 77032-10-13 18:44 G 29856706.03 29856706.28 29856706.53 0.0090 0.0020 Neptune 77033-10-16 05:46 G 29857073.49 29857073.74 29857074.00 0.0090 0.0006 Neptune 77034-10-18 16:48 G 29857440.97 29857441.20 29857441.45 0.0090 0.0031 Neptune 77035-10-21 03:36 G 29857808.48 29857808.65 29857808.87 0.0090 0.0057 Neptune 77036-10-22 14:53 G 29858176.04 29858176.12 29858176.25 0.0090 0.0082 77037-01-16 14:39 G 29858261.95 29858262.11 29858262.26 0.1608 0.0925 Jupiter 77041-10-05 07:41 G 29859984.60 29859984.82 29859985.05 0.0526 0.0042 Saturn 77042-02-28 10:05 G 29860130.69 29860130.92 29860131.16 0.0270 0.0083 Jupiter 77047-04-03 05:03 G 29861990.48 29861990.71 29861990.94 0.0503 0.0140

Uranus 77051-09-09 19:56 G 29863611.25 29863611.33 29863611.45 0.0135 0.0124 Uranus 77052-09-13 03:51 G 29863980.47 29863980.66 29863980.86 0.0135 0.0083 Uranus 77053-09-17 10:48 G 29864349.72 29864349.95 29864350.20 0.0135 0.0042 Jupiter 77053-10-09 23:03 G 29864372.42 29864372.46 29864372.50 0.0527 0.0516 Uranus 77054-09-21 17:46 G 29864718.99 29864719.24 29864719.49 0.0134 0.0001 Uranus 77055-09-26 00:00 G 29865088.27 29865088.50 29865088.75 0.0134 0.0039 Saturn 77056-08-28 13:41 G 29865425.94 29865426.07 29865426.22 0.0290 0.0238 Uranus 77056-09-29 06:00 G 29865457.56 29865457.75 29865457.96 0.0134 0.0080 Uranus 77057-10-03 11:32 G 29865826.89 29865826.98 29865827.12 0.0134 0.0120 Jupiter 77059-04-07 21:36 G 29866378.21 29866378.40 29866378.59 0.0501 0.0303 Pluto 77061-11-04 21:51 G 29867320.16 29867320.41 29867320.67 0.0064 0.0002 Saturn 77072-03-06 21:08 G 29871095.19 29871095.38 29871095.58 0.0269 0.0162 Saturn 77086-09-05 12:00 G 29876390.77 29876391.00 29876391.24 0.0290 0.0050 Uranus 77095-03-11 09:36 G 29879499.74 29879499.90 29879500.08 0.0143 0.0106 Uranus 77096-03-15 10:48 G 29879869.73 29879869.95 29879870.20 0.0143 0.0057 Uranus 77097-03-20 12:58 G 29880239.78 29880240.04 29880240.30 0.0144 0.0005 Uranus 77098-03-25 14:53 G 29880609.88 29880610.12 29880610.37 0.0144 0.0046 Uranus 77099-03-30 17:17 G 29880980.03 29880980.22 29880980.41 0.0144 0.0097 Saturn 77101-03-02 18:58 G 29881682.04 29881682.29 29881682.54 0.0270 0.0029 Neptune 77112-04-08 15:22 G 29885737.11 29885737.14 29885737.21 0.0088 0.0086 Neptune 77113-04-11 03:08 G 29886104.47 29886104.63 29886104.85 0.0088 0.0062 Neptune 77114-04-13 15:36 G 29886471.92 29886472.15 29886472.40 0.0088 0.0037 Neptune 77115-04-16 03:36 G 29886839.40 29886839.65 29886839.92 0.0088 0.0013 Saturn 77115-09-01 04:05 G 29886977.48 29886977.67 29886977.87 0.0290 0.0171 Mars 77116-01-20 15:36 G 29887119.02 29887119.15 29887119.29 0.1608 0.1095 Neptune 77116-04-17 15:51 G 29887206.90 29887207.16 29887207.42 0.0088 0.0012 Neptune 77117-04-20 03:51 G 29887574.43 29887574.66 29887574.91 0.0088 0.0037 Neptune 77118-04-22 16:05 G 29887941.99 29887942.17 29887942.36 0.0088 0.0061 Neptune 77119-04-25 03:36 G 29888309.63 29888309.65 29888309.74 0.0088 0.0086 Jupiter 77124-10-05 03:22 G 29890299.41 29890299.64 29890299.87 0.0525 0.0073

Saturn 77130-02-25 21:36 G 29892269.26 29892269.40 29892269.55 0.0269 0.0216 Jupiter 77130-04-03 08:39 G 29892305.65 29892305.86 29892306.08 0.0504 0.0210 Saturn 77131-03-10 06:58 G 29892646.65 29892646.79 29892646.95 0.0269 0.0216 Uranus 77135-09-11 05:17 G 29894292.60 29894292.72 29894292.83 0.0135 0.0119 Uranus 77136-09-14 12:15 G 29894661.83 29894662.01 29894662.23 0.0135 0.0079 Jupiter 77136-10-09 22:48 G 29894687.32 29894687.45 29894687.59 0.0527 0.0422 Uranus 77137-09-18 19:41 G 29895031.09 29895031.32 29895031.57 0.0135 0.0038 Uranus 77138-09-23 02:39 G 29895400.36 29895400.61 29895400.86 0.0135 0.0004 Uranus 77139-09-27 08:39 G 29895769.64 29895769.86 29895770.11 0.0134 0.0045 Uranus 77140-09-30 14:39 G 29896138.94 29896139.11 29896139.32 0.0134 0.0085 Uranus 77141-10-04 20:53 G 29896508.28 29896508.37 29896508.47 0.0134 0.0124 Jupiter 77142-04-08 01:27 G 29896693.36 29896693.56 29896693.78 0.0502 0.0235 Saturn 77145-09-08 02:24 G 29897942.38 29897942.60 29897942.82 0.0290 0.0117 Pluto 77151-05-09 00:44 G 29900011.27 29900011.53 29900011.79 0.0081 0.0003 Saturn 77160-03-04 02:53 G 29903233.38 29903233.62 29903233.87 0.0270 0.0024 Saturn 77174-09-02 17:17 G 29908528.99 29908529.22 29908529.44 0.0290 0.0106 Uranus 77179-03-12 18:58 G 29910181.13 29910181.29 29910181.49 0.0143 0.0101 Uranus 77180-03-16 20:24 G 29910551.12 29910551.35 29910551.60 0.0143 0.0051 Uranus 77181-03-21 22:20 G 29910921.17 29910921.43 29910921.68 0.0144 0.0003 Uranus 77182-03-26 23:46 G 29911291.26 29911291.49 29911291.74 0.0144 0.0052 Uranus 77183-04-01 02:10 G 29911661.41 29911661.59 29911661.77 0.0144 0.0102 Saturn 77189-02-27 06:00 G 29913820.56 29913820.75 29913820.95 0.0269 0.0163 Saturn 77190-03-11 15:08 G 29914198.12 29914198.13 29914198.17 0.0269 0.0268 Neptune 77194-10-10 05:46 G 29915871.65 29915871.74 29915871.87 0.0090 0.0081 Neptune 77195-10-12 17:46 G 29916239.04 29916239.24 29916239.44 0.0090 0.0055 Neptune 77196-10-14 04:48 G 29916606.47 29916606.70 29916606.95 0.0090 0.0030 Neptune 77197-10-16 16:20 G 29916973.93 29916974.18 29916974.43 0.0090 0.0004 Neptune 77198-10-19 03:36 G 29917341.40 29917341.65 29917341.90 0.0090 0.0021 Neptune 77199-10-21 14:24 G 29917708.90 29917709.10 29917709.34 0.0090 0.0047 Neptune 77200-10-23 01:27 G 29918076.43 29918076.56 29918076.73 0.0090 0.0072 Saturn 77204-09-09 15:36 G 29919493.97 29919494.15 29919494.35 0.0290 0.0183 Jupiter 77207-10-05 06:58 G 29920614.57 29920614.79 29920615.01 0.0524 0.0152 Jupiter 77213-04-02 10:20 G 29922620.74 29922620.93 29922621.13 0.0504 0.0290 Saturn 77219-03-06 09:22 G 29924784.66 29924784.89 29924785.13 0.0270 0.0074 Uranus 77219-09-11 14:10 G 29924973.98 29924974.09 29924974.24 0.0135 0.0115 Jupiter 77219-10-10 03:36 G 29925002.48 29925002.65 29925002.82 0.0527 0.0346 Uranus 77220-09-14 21:51 G 29925343.21 29925343.41 29925343.63 0.0135 0.0074 Uranus 77221-09-19 05:03 G 29925712.47 29925712.71 29925712.96 0.0135 0.0033 Uranus 77222-09-23 11:46 G 29926081.74 29926081.99 29926082.25 0.0135 0.0009 Uranus 77223-09-27 18:15 G 29926451.03 29926451.26 29926451.50 0.0135 0.0049 Uranus 77224-10-01 00:00 G 29926820.33 29926820.50 29926820.70 0.0134 0.0090 Jupiter 77225-04-07 01:41 G 29927008.35 29927008.57 29927008.80 0.0502 0.0150 Uranus 77225-10-05 06:00 G 29927189.69 29927189.75 29927189.84 0.0134 0.0129 Saturn 77233-09-04 04:05 G 29930080.43 29930080.67 29930080.91 0.0290 0.0045 Saturn 77248-02-29 12:29 G 29935371.81 29935372.02 29935372.26 0.0269 0.0114 Saturn 77262-08-29 06:00 G 29940666.75 29940666.75 29940666.76 0.0290 0.0290 Uranus 77263-03-13 05:46 G 29940862.57 29940862.74 29940862.95 0.0143 0.0096 Saturn 77263-09-12 02:24 G 29941045.48 29941045.60 29941045.74 0.0290 0.0243 Uranus 77264-03-17 07:12 G 29941232.56 29941232.80 29941233.05 0.0143 0.0045 Uranus 77265-03-22 08:39 G 29941602.61 29941602.86 29941603.12 0.0144 0.0007 77265-07-23 05:32 G 29941725.59 29941725.73 29941725.87 0.1919 0.1391 Mars Uranus 77266-03-27 10:05 G 29941972.70 29941972.92 29941973.17 0.0144 0.0058 Uranus 77267-04-01 12:29 G 29942342.85 29942343.02 29942343.19 0.0144 0.0108 Neptune 77277-04-10 12:58 G 29946004.89 29946005.04 29946005.20 0.0088 0.0070 Saturn 77278-03-07 14:24 G 29946335.88 29946336.10 29946336.33 0.0269 0.0120 Neptune 77278-04-13 00:44 G 29946372.32 29946372.53 29946372.77 0.0088 0.0046 Neptune 77279-04-15 12:44 G 29946739.79 29946740.03 29946740.30 0.0088 0.0022 Neptune 77280-04-17 01:12 G 29947107.29 29947107.55 29947107.81 0.0088 0.0003 Neptune 77281-04-19 12:58 G 29947474.80 29947475.04 29947475.30 0.0088 0.0028 Neptune 77282-04-22 00:58 G 29947842.34 29947842.54 29947842.76 0.0088 0.0052

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Neptune 77442-04-14 10:20 G 30006272.75 30006272.93 30006273.16 0.0088 0.0055 Neptune 77443-04-16 22:48 G 30006640.21 30006640.45 30006640.70 0.0088 0.0030 Neptune 77444-04-18 11:03 G 30007007.70 30007007.96 30007008.22 0.0088 0.0006 Neptune 77445-04-20 22:48 G 30007375.20 30007375.45 30007375.71 0.0088 0.0019 Neptune 77446-04-23 10:34 G 30007742.73 30007742.94 30007743.18 0.0088 0.0043 Neptune 77447-04-25 22:48 G 30008110.29 30008110.45 30008110.63 0.0088 0.0067 Saturn 77454-03-01 12:58 G 30010611.87 30010612.04 30010612.23 0.0269 0.0183 Saturn 77455-03-13 20:10 G 30010989.24 30010989.34 30010989.45 0.0269 0.0243 Jupiter 77456-10-04 21:08 G 30011560.23 30011560.38 30011560.55 0.0523 0.0369 Jupiter 77462-04-03 04:05 G 30013566.60 30013566.67 30013566.76 0.0506 0.0473 Jupiter 77468-10-09 16:05 G 30015947.95 30015948.17 30015948.40 0.0524 0.0123 Saturn 77469-09-11 19:12 G 30016285.09 30016285.30 30016285.51 0.0291 0.0147 Uranus 77471-09-14 16:34 G 30017018.04 30017018.19 30017018.37 0.0135 0.0101 Uranus 77472-09-18 00:00 G 30017387.29 30017387.50 30017387.74 0.0135 0.0060 Uranus 77473-09-22 07:12 G 30017756.55 30017756.80 30017757.05 0.0135 0.0019 Jupiter 77474-04-07 18:29 G 30017954.04 30017954.27 30017954.51 0.0505 0.0031 Uranus 77474-09-26 13:41 G 30018125.83 30018126.07 30018126.33 0.0135 0.0023 Uranus 77475-09-30 20:10 G 30018495.12 30018495.34 30018495.56 0.0134 0.0063 Uranus 77476-10-04 01:56 G 30018864.44 30018864.58 30018864.76 0.0134 0.0104 Saturn 77484-03-07 23:17 G 30021576.23 30021576.47 30021576.72 0.0268 0.0056 Jupiter 77486-04-12 12:00 G 30022341.87 30022342.00 30022342.13 0.0503 0.0419 Saturn 77498-09-05 22:05 G 30026871.19 30026871.42 30026871.65 0.0291 0.0095 Saturn 77513-03-03 13:56 G 30032162.88 30032163.08 30032163.30 0.0269 0.0144 Uranus 77514-03-12 08:10 G 30032536.75 30032536.84 30032536.97 0.0143 0.0129 Uranus 77515-03-17 08:53 G 30032906.67 30032906.87 30032907.09 0.0143 0.0079 Uranus 77516-03-21 10:05 G 30033276.68 30033276.92 30033277.18 0.0143 0.0029 Uranus 77517-03-26 11:32 G 30033646.73 30033646.98 30033647.24 0.0143 0.0023 Uranus 77518-03-31 13:27 G 30034016.84 30034017.06 30034017.28 0.0144 0.0074 Uranus 77519-04-05 15:08 G 30034387.03 30034387.13 30034387.28 0.0144 0.0126 Neptune 77523-10-14 15:08 G 30036040.01 30036040.13 30036040.29 0.0090 0.0074

Neptune 77524-10-16 02:24 G 30036407.41 30036407.60 30036407.83 0.0090 0.0049 Neptune 77525-10-18 13:41 G 30036774.84 30036775.07 30036775.33 0.0090 0.0024 77526-01-21 04:20 G 30036869.56 30036869.68 30036869.80 0.1607 0.1222 Mars Neptune 77526-10-21 01:27 G 30037142.31 30037142.56 30037142.81 0.0090 0.0002 Neptune 77527-10-23 12:15 G 30037509.79 30037510.01 30037510.27 0.0090 0.0028 Saturn 77528-09-13 17:32 G 30037836.05 30037836.23 30037836.42 0.0291 0.0186 Neptune 77528-10-24 23:46 G 30037877.30 30037877.49 30037877.71 0.0090 0.0053 Neptune 77529-10-27 10:48 G 30038244.85 30038244.95 30038245.10 0.0090 0.0078 Jupiter 77539-10-06 05:03 G 30041875.58 30041875.71 30041875.84 0.0521 0.0424 Saturn 77543-03-11 00:00 G 30043127.28 30043127.50 30043127.74 0.0268 0.0096 Jupiter 77551-10-10 21:36 G 30046263.17 30046263.40 30046263.63 0.0523 0.0050 Pluto 77553-11-11 10:05 G 30047025.69 30047025.92 30047026.15 0.0063 0.0029 Pluto 77554-11-12 19:41 G 30047392.28 30047392.32 30047392.43 0.0064 0.0061 Uranus 77555-09-16 01:41 G 30047699.41 30047699.57 30047699.76 0.0135 0.0096 Uranus 77556-09-19 09:22 G 30048068.66 30048068.89 30048069.12 0.0135 0.0055 Jupiter 77557-04-08 04:20 G 30048269.45 30048269.68 30048269.92 0.0505 0.0076 Saturn 77557-09-07 21:51 G 30048422.17 30048422.41 30048422.64 0.0291 0.0053 Uranus 77557-09-23 16:20 G 30048437.93 30048438.18 30048438.43 0.0135 0.0014 Uranus 77558-09-27 22:48 G 30048807.22 30048807.45 30048807.71 0.0135 0.0028 Uranus 77559-10-02 05:17 G 30049176.51 30049176.72 30049176.94 0.0134 0.0068 Uranus 77560-10-05 11:17 G 30049545.84 30049545.97 30049546.13 0.0134 0.0109 Jupiter 77569-04-12 22:20 G 30052657.27 30052657.43 30052657.58 0.0503 0.0376 Saturn 77572-03-04 15:22 G 30053713.92 30053714.14 30053714.38 0.0268 0.0104 Saturn 77587-09-15 16:20 G 30059387.04 30059387.18 30059387.35 0.0291 0.0227 Uranus 77598-03-12 15:08 G 30063218.03 30063218.13 30063218.28 0.0143 0.0125 Uranus 77599-03-17 15:51 G 30063587.96 30063588.16 30063588.40 0.0143 0.0075 Uranus 77600-03-21 17:17 G 30063957.97 30063958.22 30063958.48 0.0143 0.0024 Uranus 77601-03-26 18:44 G 30064328.03 30064328.28 30064328.54 0.0143 0.0027 Saturn 77602-03-12 00:58 G 30064678.34 30064678.54 30064678.76 0.0268 0.0135 Uranus 77602-03-31 20:24 G 30064698.15 30064698.35 30064698.58 0.0144 0.0079

Uranus 77603-04-05 22:34 G 30065068.36 30065068.44 30065068.57 0.0144 0.0131 77605-01-23 05:17 G 30065726.56 30065726.72 30065726.88 0.1607 0.0805 Mars Neptune 77605-04-12 08:10 G 30065805.83 30065805.84 30065805.89 0.0088 0.0087 Neptune 77606-04-14 20:24 G 30066173.18 30066173.35 30066173.55 0.0088 0.0063 Neptune 77607-04-17 08:24 G 30066540.64 30066540.85 30066541.11 0.0088 0.0039 Neptune 77608-04-18 20:53 G 30066908.12 30066908.37 30066908.63 0.0088 0.0014 Neptune 77609-04-21 09:08 G 30067275.62 30067275.88 30067276.14 0.0088 0.0010 Neptune 77610-04-23 21:08 G 30067643.14 30067643.38 30067643.62 0.0088 0.0034 Neptune 77611-04-26 08:39 G 30068010.69 30068010.86 30068011.07 0.0088 0.0059 Neptune 77612-04-27 20:24 G 30068378.30 30068378.35 30068378.47 0.0088 0.0083 Saturn 77616-09-08 21:51 G 30069973.16 30069973.41 30069973.65 0.0291 0.0011 Jupiter 77622-10-05 11:03 G 30072190.89 30072190.96 30072191.04 0.0521 0.0492 Saturn 77631-03-06 18:00 G 30075265.01 30075265.25 30075265.49 0.0268 0.0061 Jupiter 77634-10-10 07:12 G 30076578.57 30076578.80 30076579.03 0.0523 0.0005 Uranus 77638-09-12 02:10 G 30078011.57 30078011.59 30078011.65 0.0135 0.0134 Uranus 77639-09-16 10:05 G 30078380.75 30078380.92 30078381.12 0.0135 0.0092 Jupiter 77640-04-07 12:58 G 30078584.81 30078585.04 30078585.27 0.0505 0.0125 Uranus 77640-09-19 17:32 G 30078750.01 30078750.23 30078750.47 0.0135 0.0051 Uranus 77641-09-24 00:44 G 30079119.28 30079119.53 30079119.78 0.0135 0.0009 Uranus 77642-09-28 07:27 G 30079488.57 30079488.81 30079489.06 0.0135 0.0032 Uranus 77643-10-02 13:41 G 30079857.86 30079858.07 30079858.29 0.0134 0.0073 Uranus 77644-10-05 19:41 G 30080227.21 30080227.32 30080227.48 0.0134 0.0114 Saturn 77645-09-02 16:48 G 30080559.12 30080559.20 30080559.31 0.0291 0.0268 Saturn 77646-09-16 15:51 G 30080938.08 30080938.16 30080938.27 0.0291 0.0268 Jupiter 77646-10-15 04:20 G 30080966.62 30080966.68 30080966.75 0.0525 0.0502 Jupiter 77652-04-12 01:41 G 30082972.39 30082972.57 30082972.77 0.0504 0.0311 Saturn 77660-02-29 20:10 G 30085852.25 30085852.34 30085852.45 0.0269 0.0246 Saturn 77661-03-13 03:22 G 30086229.45 30086229.64 30086229.82 0.0268 0.0177 Saturn 77675-09-10 23:46 G 30091524.25 30091524.49 30091524.73 0.0291 0.0036 Uranus 77682-03-12 23:17 G 30093899.35 30093899.47 30093899.62 0.0143 0.0120

Uranus 77683-03-17 23:46 G 30094269.28 30094269.49 30094269.73 0.0143 0.0070 Uranus 77684-03-22 01:12 G 30094639.30 30094639.55 30094639.81 0.0143 0.0019 Uranus 77685-03-27 02:24 G 30095009.36 30095009.60 30095009.86 0.0143 0.0033 Uranus 77686-04-01 04:20 G 30095379.49 30095379.68 30095379.90 0.0144 0.0084 Uranus 77687-04-06 06:29 G 30095749.71 30095749.77 30095749.87 0.0144 0.0136 Neptune 77687-10-14 02:39 G 30095940.54 30095940.61 30095940.74 0.0090 0.0083 Neptune 77688-10-15 13:56 G 30096307.91 30096308.08 30096308.30 0.0090 0.0058 Neptune 77689-10-18 01:12 G 30096675.33 30096675.55 30096675.81 0.0090 0.0033 Saturn 77690-03-07 21:22 G 30096816.14 30096816.39 30096816.64 0.0268 0.0018 Neptune 77690-10-20 12:44 G 30097042.78 30097043.03 30097043.29 0.0090 0.0007 Neptune 77691-10-23 00:00 G 30097410.25 30097410.50 30097410.75 0.0090 0.0018 Neptune 77692-10-24 11:03 G 30097777.74 30097777.96 30097778.19 0.0090 0.0043 Neptune 77693-10-26 22:34 G 30098145.28 30098145.44 30098145.60 0.0090 0.0068 Saturn 77704-09-04 19:12 G 30102110.15 30102110.30 30102110.46 0.0291 0.0221 Jupiter 77717-10-10 15:36 G 30106893.92 30106894.15 30106894.38 0.0522 0.0057 Saturn 77719-03-03 23:32 G 30107403.33 30107403.48 30107403.65 0.0269 0.0201 Saturn 77720-03-15 06:58 G 30107780.65 30107780.79 30107780.93 0.0268 0.0221 Uranus 77722-09-13 11:03 G 30108692.91 30108692.96 30108693.05 0.0135 0.0130 Jupiter 77723-04-08 13:56 G 30108899.87 30108900.08 30108900.30 0.0506 0.0205 Uranus 77723-09-17 18:29 G 30109062.10 30109062.27 30109062.48 0.0135 0.0089 Uranus 77724-09-21 02:10 G 30109431.37 30109431.59 30109431.84 0.0135 0.0047 Uranus 77725-09-25 09:36 G 30109800.65 30109800.90 30109801.15 0.0135 0.0005 Uranus 77726-09-29 16:05 G 30110169.94 30110170.17 30110170.43 0.0135 0.0037 Uranus 77727-10-03 22:34 G 30110539.25 30110539.44 30110539.66 0.0135 0.0078 Uranus 77728-10-07 05:03 G 30110908.61 30110908.71 30110908.84 0.0134 0.0119 Jupiter 77729-10-15 06:44 G 30111281.66 30111281.78 30111281.93 0.0524 0.0419 Saturn 77734-09-13 03:22 G 30113075.42 30113075.64 30113075.88 0.0291 0.0086 Jupiter 77735-04-13 09:08 G 30113287.67 30113287.88 30113288.08 0.0504 0.0255 Saturn 77749-03-10 02:24 G 30118367.36 30118367.60 30118367.85 0.0268 0.0029 Saturn 77763-09-07 00:00 G 30123661.31 30123661.50 30123661.70 0.0291 0.0169

Uranus 77766-03-14 08:53 G 30124580.73 30124580.87 30124581.02 0.0143 0.0115 Uranus 77767-03-19 09:08 G 30124950.66 30124950.88 30124951.12 0.0143 0.0065 Uranus 77768-03-23 10:20 G 30125320.68 30125320.93 30125321.19 0.0143 0.0014 Uranus 77769-03-28 11:46 G 30125690.75 30125690.99 30125691.24 0.0143 0.0038 Uranus 77770-04-02 13:56 G 30126060.88 30126061.08 30126061.28 0.0144 0.0090 Neptune 77770-04-15 05:46 G 30126073.61 30126073.74 30126073.91 0.0088 0.0072 Uranus 77771-04-07 15:36 G 30126431.13 30126431.15 30126431.22 0.0144 0.0142 Neptune 77771-04-17 18:29 G 30126441.05 30126441.27 30126441.49 0.0088 0.0047 Neptune 77772-04-19 06:29 G 30126808.52 30126808.77 30126809.03 0.0088 0.0023 Neptune 77773-04-21 18:44 G 30127176.02 30127176.28 30127176.54 0.0088 0.0001 Neptune 77774-04-24 06:29 G 30127543.54 30127543.77 30127544.04 0.0088 0.0026 Neptune 77775-04-26 18:44 G 30127911.08 30127911.28 30127911.51 0.0088 0.0050 Neptune 77776-04-28 06:29 G 30128278.65 30128278.77 30128278.93 0.0088 0.0074 Saturn 77778-03-05 04:20 G 30128954.49 30128954.68 30128954.89 0.0269 0.0154 Saturn 77779-03-17 11:46 G 30129331.98 30129331.99 30129332.02 0.0268 0.0268 Saturn 77793-09-14 10:20 G 30134626.73 30134626.93 30134627.15 0.0291 0.0141 Pluto 77799-11-13 23:03 G 30136878.39 30136878.46 30136878.61 0.0063 0.0058 Jupiter 77800-10-10 16:34 G 30137208.98 30137209.19 30137209.42 0.0522 0.0148 Pluto 77800-11-15 10:05 G 30137244.72 30137244.92 30137245.16 0.0064 0.0032 Jupiter 77806-04-08 21:08 G 30139215.18 30139215.38 30139215.58 0.0507 0.0262 Uranus 77806-09-14 19:12 G 30139374.22 30139374.30 30139374.41 0.0135 0.0125 Uranus 77807-09-19 02:53 G 30139743.44 30139743.62 30139743.84 0.0135 0.0085 Saturn 77808-03-12 09:22 G 30139918.65 30139918.89 30139919.13 0.0268 0.0078 Uranus 77808-09-22 10:48 G 30140112.72 30140112.95 30140113.19 0.0135 0.0042 Uranus 77809-09-26 18:00 G 30140482.00 30140482.25 30140482.50 0.0135 0.0001 77810-01-24 12:00 G 30140601.82 30140602.00 30140602.18 0.1607 0.0331 Mars Uranus 77810-10-01 00:58 G 30140851.30 30140851.54 30140851.78 0.0135 0.0041 Uranus 77811-10-05 07:12 G 30141220.61 30141220.80 30141221.01 0.0135 0.0083 Uranus 77812-10-08 13:56 G 30141589.99 30141590.08 30141590.19 0.0134 0.0123 Jupiter 77812-10-15 12:00 G 30141596.84 30141597.00 30141597.18 0.0524 0.0348

Jupiter 77818-04-13 14:53 G 30143602.90 30143603.12 30143603.34 0.0504 0.0194 Saturn 77822-09-09 08:10 G 30145212.62 30145212.84 30145213.07 0.0291 0.0113 Saturn 77837-03-07 10:48 G 30150505.72 30150505.95 30150506.18 0.0269 0.0105 Uranus 77850-03-15 18:58 G 30155262.15 30155262.29 30155262.47 0.0143 0.0110 Uranus 77851-03-20 19:41 G 30155632.10 30155632.32 30155632.57 0.0143 0.0059 Uranus 77852-03-24 21:08 G 30156002.12 30156002.38 30156002.64 0.0143 0.0008 Saturn 77852-09-16 20:24 G 30156178.17 30156178.35 30156178.52 0.0291 0.0199 Neptune 77852-10-17 01:41 G 30156208.40 30156208.57 30156208.74 0.0090 0.0066 Uranus 77853-03-29 22:20 G 30156372.20 30156372.43 30156372.69 0.0143 0.0045 Neptune 77853-10-19 12:29 G 30156575.81 30156576.02 30156576.26 0.0090 0.0042 Uranus 77854-04-04 00:15 G 30156742.34 30156742.51 30156742.72 0.0144 0.0097 Neptune 77854-10-21 23:46 G 30156943.25 30156943.49 30156943.75 0.0090 0.0017 Neptune 77855-10-24 11:17 G 30157310.72 30157310.97 30157311.22 0.0090 0.0009 Neptune 77856-10-25 22:20 G 30157678.21 30157678.43 30157678.68 0.0090 0.0034 Neptune 77857-10-28 09:22 G 30158045.71 30158045.89 30158046.10 0.0090 0.0059 Neptune 77858-10-30 20:24 G 30158413.28 30158413.35 30158413.46 0.0090 0.0084 Saturn 77867-03-14 17:46 G 30161470.03 30161470.24 30161470.46 0.0268 0.0130 Saturn 77881-09-10 19:27 G 30166764.08 30166764.31 30166764.55 0.0291 0.0051 Jupiter 77883-10-10 22:48 G 30167524.25 30167524.45 30167524.67 0.0521 0.0213 Jupiter 77889-04-07 19:56 G 30169530.16 30169530.33 30169530.49 0.0507 0.0353 Pluto 77890-05-18 12:44 G 30169935.83 30169936.03 30169936.28 0.0081 0.0043 Uranus 77890-09-15 04:20 G 30170055.59 30170055.68 30170055.81 0.0135 0.0121 Uranus 77891-09-19 12:15 G 30170424.82 30170425.01 30170425.23 0.0135 0.0079 Uranus 77892-09-22 20:10 G 30170794.10 30170794.34 30170794.58 0.0135 0.0037 Uranus 77893-09-27 03:22 G 30171163.39 30171163.64 30171163.89 0.0135 0.0005 Uranus 77894-10-01 10:05 G 30171532.69 30171532.92 30171533.17 0.0135 0.0046 Uranus 77895-10-05 16:34 G 30171902.02 30171902.19 30171902.40 0.0135 0.0088 Jupiter 77895-10-15 17:32 G 30171912.04 30171912.23 30171912.43 0.0523 0.0275 Saturn 77896-03-08 18:29 G 30172057.03 30172057.27 30172057.51 0.0269 0.0053 Uranus 77896-10-08 23:03 G 30172271.41 30172271.46 30172271.56 0.0134 0.0129

Jupiter 77901-04-13 12:00 G 30173917.77 30173918.00 30173918.24 0.0505 0.0098 Saturn 77910-09-06 10:20 G 30177350.84 30177350.93 30177351.02 0.0291 0.0268 Saturn 77911-09-20 08:39 G 30177729.76 30177729.86 30177729.97 0.0291 0.0262 77912-07-30 11:32 G 30178043.78 30178043.98 30178044.18 0.1921 0.0302 Mars Saturn 77925-03-04 20:10 G 30182644.23 30182644.34 30182644.46 0.0269 0.0237 Saturn 77926-03-17 03:22 G 30183021.47 30183021.64 30183021.83 0.0268 0.0183 Uranus 77934-03-17 05:17 G 30185943.56 30185943.72 30185943.90 0.0143 0.0104 Neptune 77934-04-16 15:51 G 30185974.08 30185974.16 30185974.29 0.0088 0.0080 Uranus 77935-03-22 06:00 G 30186313.52 30186313.75 30186314.00 0.0143 0.0053 Neptune 77935-04-19 04:05 G 30186341.48 30186341.67 30186341.89 0.0088 0.0056 Uranus 77936-03-26 07:27 G 30186683.55 30186683.81 30186684.06 0.0143 0.0002 Neptune 77936-04-20 16:05 G 30186708.94 30186709.17 30186709.43 0.0088 0.0032 Uranus 77937-03-31 08:53 G 30187053.63 30187053.87 30187054.11 0.0143 0.0050 Neptune 77937-04-23 04:34 G 30187076.44 30187076.69 30187076.96 0.0088 0.0008 Uranus 77938-04-05 10:48 G 30187423.78 30187423.95 30187424.14 0.0144 0.0103 Neptune 77938-04-25 16:48 G 30187443.95 30187444.20 30187444.46 0.0088 0.0017 Neptune 77939-04-28 04:48 G 30187811.48 30187811.70 30187811.94 0.0088 0.0041 Neptune 77940-04-29 16:48 G 30188179.04 30188179.20 30188179.39 0.0088 0.0065 Saturn 77940-09-13 08:53 G 30188315.63 30188315.87 30188316.12 0.0291 0.0015 Saturn 77955-03-12 03:22 G 30193608.39 30193608.64 30193608.89 0.0269 0.0002 Jupiter 77966-10-10 20:53 G 30197839.20 30197839.37 30197839.56 0.0520 0.0315 Saturn 77969-09-08 00:29 G 30198902.35 30198902.52 30198902.69 0.0291 0.0202 Jupiter 77972-04-07 20:39 G 30199845.25 30199845.36 30199845.49 0.0508 0.0437 Uranus 77974-09-16 13:12 G 30200736.94 30200737.05 30200737.20 0.0135 0.0117 Uranus 77975-09-20 21:36 G 30201106.19 30201106.40 30201106.61 0.0135 0.0074 Uranus 77976-09-24 05:03 G 30201475.47 30201475.71 30201475.96 0.0135 0.0032 Uranus 77977-09-28 12:15 G 30201844.76 30201845.01 30201845.26 0.0135 0.0009 Uranus 77978-10-02 18:58 G 30202214.07 30202214.29 30202214.54 0.0135 0.0052 Jupiter 77978-10-15 13:56 G 30202226.86 30202227.08 30202227.30 0.0523 0.0163 Uranus 77979-10-07 01:27 G 30202583.40 30202583.56 30202583.76 0.0134 0.0093

 Uranus
 77980-10-10 07:41 G
 30202952.82
 30202952.82
 30202952.88
 0.0134
 0.0134

 Saturn
 77984-03-06 06:15 G
 30204195.58
 30204195.76
 30204195.94
 0.0269
 0.0183

 Jupiter
 77984-04-12 15:51 G
 30204232.92
 30204233.16
 30204233.39
 0.0506
 0.0029

 Saturn
 77985-03-18 13:27 G
 30204572.95
 30204573.06
 30204573.18
 0.0268
 0.0237

 Jupiter
 77996-04-17 09:22 G
 30208620.82
 30208620.89
 30208620.96
 0.0504
 0.0479

 Saturn
 77999-09-16 00:15 G
 30209867.28
 30209867.51
 30209867.74
 0.0291
 0.0083

## 79TH MILLENNIUM CE

## This is a list of transits of Earth in the 79th millennium CE.

FROM	MAX-	С	START	MAX	END	SUNRAD	DEPTH	S
	TRANSIT							
	TIME							

 Saturn
 78014-03-13 12:15 G
 30215159.77
 30215160.01
 30215160.25
 0.0269
 0.0053

 Mars
 78015-01-24 19:27 G
 30215477.23
 30215477.31
 30215477.39
 0.1607
 0.1432

 Neptune
 78016-10-17 12:44 G
 30216108.90
 30216109.03
 30216109.18
 0.0090
 0.0075

 Neptune
 78017-10-19 23:32 G
 30216476.30
 30216476.48
 30216476.72
 0.0090
 0.0051

 Uranus
 78018-03-17 14:10 G
 30216624.92
 30216625.09
 30216625.29
 0.0143
 0.0099

 Neptune
 78018-10-22 11:03 G
 30216843.73
 30216843.96
 30216844.22
 0.0090
 0.0026

 Uranus
 78019-03-22 15:08 G
 30216994.89
 30216995.13
 30216995.38
 0.0143
 0.0048

 Neptune
 78019-10-24 22:34 G
 30217211.19
 30217211.44
 30217211.70
 0.0090
 0.0001

 Uranus
 78020-10-26 09:22 G
 30217578.66
 30217578.89
 30217579.15
 0.0090
 0.0057

 Neptune
 78021-03-31 18:00 G
 302177946.16

Neptune 78022-10-31 07:56 G 30218313.69 30218313.83 30218313.98 0.0090 0.0074 Saturn 78028-09-09 14:39 G 30220453.90 30220454.11 30220454.33 0.0291 0.0137 Saturn 78043-03-08 16:05 G 30225746.96 30225747.17 30225747.40 0.0269 0.0130 78046-11-17 22:05 G 30227097.17 30227097.42 30227097.68 0.0063 0.0004 Pluto Jupiter 78049-10-09 20:53 G 30228154.23 30228154.37 30228154.52 0.0520 0.0409 Uranus 78058-09-16 23:17 G 30231418.33 30231418.47 30231418.61 0.0135 0.0111 Saturn 78058-09-17 15:22 G 30231418.94 30231419.14 30231419.35 0.0291 0.0150 Uranus 78059-09-21 07:12 G 30231787.59 30231787.80 30231788.02 0.0135 0.0069 Uranus 78060-09-24 14:53 G 30232156.87 30232157.12 30232157.37 0.0135 0.0027 Uranus 78061-09-28 22:05 G 30232526.17 30232526.42 30232526.67 0.0135 0.0015 Jupiter 78061-10-14 17:03 G 30232541.98 30232542.21 30232542.44 0.0522 0.0083 Uranus 78062-10-03 04:48 G 30232895.48 30232895.70 30232895.93 0.0134 0.0057 Uranus 78063-10-07 11:32 G 30233264.81 30233264.98 30233265.15 0.0134 0.0098 Jupiter 78067-04-12 15:22 G 30234547.91 30234548.14 30234548.38 0.0506 0.0061 Saturn 78073-03-14 20:39 G 30236711.14 30236711.36 30236711.60 0.0269 0.0104 Jupiter 78079-04-17 07:12 G 30238935.65 30238935.80 30238935.95 0.0504 0.0385 Saturn 78087-09-12 05:03 G 30242005.47 30242005.71 30242005.95 0.0291 0.0071 78094-01-26 20:10 G 30244334.17 30244334.34 30244334.52 0.1606 0.0568 Mars Neptune 78099-04-18 13:41 G 30246241.90 30246242.07 30246242.25 0.0088 0.0064 Neptune 78100-04-21 01:41 G 30246609.34 30246609.57 30246609.81 0.0088 0.0040 Neptune 78101-04-23 13:56 G 30246976.82 30246977.08 30246977.34 0.0088 0.0016 Saturn 78102-03-11 01:12 G 30247298.32 30247298.55 30247298.79 0.0269 0.0078 Uranus 78102-03-18 21:51 G 30247306.23 30247306.41 30247306.62 0.0143 0.0094 Neptune 78102-04-26 02:10 G 30247344.33 30247344.59 30247344.85 0.0088 0.0008 Uranus 78103-03-23 22:34 G 30247676.21 30247676.44 30247676.70 0.0143 0.0044 Neptune 78103-04-28 14:10 G 30247711.85 30247712.09 30247712.34 0.0088 0.0032 Uranus 78104-03-28 00:15 G 30248046.25 30248046.51 30248046.77 0.0143 0.0010 Neptune 78104-04-30 02:24 G 30248079.40 30248079.60 30248079.80 0.0088 0.0056 Uranus 78105-04-02 01:41 G 30248416.35 30248416.57 30248416.81 0.0144 0.0062 Neptune 78105-05-02 14:24 G 30248447.01 30248447.10 30248447.22 0.0088 0.0080 Uranus 78106-04-07 03:51 G 30248786.51 30248786.66 30248786.82 0.0144 0.0114 Saturn 78117-09-20 05:03 G 30252970.56 30252970.71 30252970.89 0.0291 0.0215 Saturn 78131-03-05 20:39 G 30257885.34 30257885.36 30257885.41 0.0270 0.0267 Saturn 78132-03-17 04:20 G 30258262.48 30258262.68 30258262.89 0.0269 0.0154 Jupiter 78132-10-10 01:56 G 30258469.50 30258469.58 30258469.66 0.0520 0.0483 Pluto 78136-05-20 12:29 G 30259787.82 30259788.02 30259788.25 0.0081 0.0045 Uranus 78142-09-18 08:39 G 30262099.71 30262099.86 30262100.02 0.0135 0.0106 Uranus 78143-09-22 16:20 G 30262468.98 30262469.18 30262469.42 0.0135 0.0065 Uranus 78144-09-26 00:15 G 30262838.27 30262838.51 30262838.76 0.0135 0.0022 Jupiter 78144-10-14 16:34 G 30262856.96 30262857.19 30262857.42 0.0521 0.0014 Uranus 78145-09-30 07:27 G 30263207.56 30263207.81 30263208.06 0.0135 0.0020 Saturn 78146-09-14 16:48 G 30263556.96 30263557.20 30263557.44 0.0291 0.0011 Uranus 78146-10-04 14:10 G 30263576.87 30263577.09 30263577.32 0.0134 0.0062 Uranus 78147-10-08 20:10 G 30263946.20 30263946.34 30263946.52 0.0134 0.0103 Jupiter 78150-04-12 16:05 G 30264862.95 30264863.17 30264863.40 0.0507 0.0143 Jupiter 78156-10-19 09:51 G 30267244.82 30267244.91 30267245.01 0.0523 0.0472 Saturn 78161-03-12 09:08 G 30268849.63 30268849.88 30268850.12 0.0268 0.0028 Jupiter 78162-04-17 10:48 G 30269250.77 30269250.95 30269251.14 0.0505 0.0318 Saturn 78175-09-08 18:44 G 30274143.17 30274143.28 30274143.41 0.0291 0.0251 Saturn 78176-09-21 17:46 G 30274522.17 30274522.24 30274522.31 0.0291 0.0277 Neptune 78180-10-17 23:17 G 30276009.40 30276009.47 30276009.58 0.0090 0.0084 Neptune 78181-10-20 10:34 G 30276376.78 30276376.94 30276377.15 0.0090 0.0060 Neptune 78182-10-22 22:05 G 30276744.20 30276744.42 30276744.67 0.0090 0.0035 Neptune 78183-10-25 09:36 G 30277111.66 30277111.90 30277112.16 0.0090 0.0010 Neptune 78184-10-26 20:53 G 30277479.12 30277479.37 30277479.63 0.0090 0.0016 Uranus 78185-03-14 05:17 G 30277617.68 30277617.72 30277617.78 0.0143 0.0140 Neptune 78185-10-29 08:10 G 30277846.61 30277846.84 30277847.07 0.0090 0.0040 Uranus 78186-03-19 05:46 G 30277987.55 30277987.74 30277987.95 0.0143 0.0090 Neptune 78186-10-31 18:58 G 30278214.13 30278214.29 30278214.48 0.0090 0.0065 Uranus 78187-03-24 06:15 G 30278357.52 30278357.76 30278358.02 0.0143 0.0038

Neptune 78187-11-03 06:15 G 30278581.76 30278581.76 30278581.79 0.0090 0.0090 Uranus 78188-03-28 07:41 G 30278727.57 30278727.82 30278728.08 0.0143 0.0015 Uranus 78189-04-02 09:22 G 30279097.67 30279097.89 30279098.12 0.0144 0.0067 Saturn 78190-03-07 03:08 G 30279436.50 30279436.63 30279436.78 0.0269 0.0219 Uranus 78190-04-07 11:03 G 30279467.83 30279467.96 30279468.12 0.0144 0.0119 Saturn 78191-03-19 10:05 G 30279813.76 30279813.92 30279814.09 0.0269 0.0200 Saturn 78205-09-17 01:56 G 30285108.34 30285108.58 30285108.82 0.0291 0.0045 Saturn 78220-03-14 14:53 G 30290400.88 30290401.12 30290401.37 0.0268 0.0019 Uranus 78226-09-19 18:15 G 30292781.11 30292781.26 30292781.44 0.0135 0.0102 Uranus 78227-09-24 02:39 G 30293150.38 30293150.61 30293150.84 0.0135 0.0059 Jupiter 78227-10-15 18:29 G 30293172.04 30293172.27 30293172.50 0.0521 0.0098 Uranus 78228-09-27 10:05 G 30293519.67 30293519.92 30293520.17 0.0135 0.0017 Uranus 78229-10-01 17:03 G 30293888.97 30293889.21 30293889.46 0.0135 0.0026 Uranus 78230-10-06 00:00 G 30294258.28 30294258.50 30294258.72 0.0135 0.0067 Uranus 78231-10-10 06:00 G 30294627.62 30294627.75 30294627.91 0.0134 0.0109 Jupiter 78233-04-12 22:34 G 30295178.22 30295178.44 30295178.66 0.0508 0.0203 Saturn 78234-09-11 03:22 G 30295694.47 30295694.64 30295694.83 0.0291 0.0196 Jupiter 78239-10-20 14:10 G 30297559.95 30297560.09 30297560.24 0.0523 0.0397 Jupiter 78245-04-17 15:36 G 30299565.95 30299566.15 30299566.36 0.0505 0.0251 Saturn 78249-03-09 07:56 G 30300987.65 30300987.83 30300988.02 0.0269 0.0174 Saturn 78250-03-21 14:24 G 30301365.00 30301365.10 30301365.21 0.0268 0.0243 Neptune 78263-04-19 22:48 G 30306142.33 30306142.45 30306142.62 0.0088 0.0073 Neptune 78264-04-21 11:03 G 30306509.76 30306509.96 30306510.19 0.0088 0.0049 Saturn 78264-09-18 07:56 G 30306659.60 30306659.83 30306660.06 0.0292 0.0095 Neptune 78265-04-23 23:17 G 30306877.23 30306877.47 30306877.73 0.0088 0.0025 Neptune 78266-04-26 11:17 G 30307244.71 30307244.97 30307245.24 0.0088 0.0002 Neptune 78267-04-28 23:32 G 30307612.23 30307612.48 30307612.73 0.0088 0.0023 Neptune 78268-04-30 11:17 G 30307979.76 30307979.97 30307980.20 0.0088 0.0047 Uranus 78269-03-15 13:27 G 30308299.01 30308299.06 30308299.17 0.0143 0.0136 Neptune 78269-05-02 23:32 G 30308347.34 30308347.48 30308347.65 0.0088 0.0071

Uranus 78270-03-20 13:56 G 30308668.89 30308669.08 30308669.30 0.0143 0.0085 Uranus 78271-03-25 14:39 G 30309038.87 30309039.11 30309039.37 0.0143 0.0033 Uranus 78272-03-29 16:05 G 30309408.91 30309409.17 30309409.42 0.0143 0.0020 Uranus 78273-04-03 17:17 G 30309779.01 30309779.22 30309779.45 0.0144 0.0072 Uranus 78274-04-08 19:12 G 30310149.18 30310149.30 30310149.44 0.0144 0.0124 Saturn 78279-03-16 18:44 G 30311952.04 30311952.28 30311952.53 0.0268 0.0061 78292-11-20 05:32 G 30316949.60 30316949.73 30316949.89 0.0063 0.0052 Pluto Saturn 78293-09-12 09:22 G 30317245.68 30317245.89 30317246.10 0.0291 0.0145 78293-11-21 15:36 G 30317315.96 30317316.15 30317316.38 0.0064 0.0037 Pluto 78299-01-28 03:22 G 30319209.47 30319209.64 30319209.82 0.1607 0.0541 Mars Saturn 78308-03-11 10:48 G 30322538.74 30322538.95 30322539.17 0.0269 0.0133 Uranus 78310-09-21 03:51 G 30323462.50 30323462.66 30323462.84 0.0135 0.0097 Jupiter 78310-10-16 02:39 G 30323487.39 30323487.61 30323487.83 0.0521 0.0156 Uranus 78311-09-25 11:46 G 30323831.77 30323831.99 30323832.23 0.0135 0.0055 Uranus 78312-09-28 19:27 G 30324201.06 30324201.31 30324201.56 0.0135 0.0012 Uranus 78313-10-03 02:24 G 30324570.36 30324570.60 30324570.85 0.0135 0.0030 Uranus 78314-10-07 09:08 G 30324939.67 30324939.88 30324940.09 0.0135 0.0072 Uranus 78315-10-11 14:53 G 30325309.01 30325309.12 30325309.28 0.0134 0.0114 Jupiter 78316-04-13 03:51 G 30325493.46 30325493.66 30325493.86 0.0508 0.0268 Jupiter 78322-10-20 20:10 G 30327875.17 30327875.34 30327875.52 0.0522 0.0331 Saturn 78323-09-21 10:34 G 30328210.73 30328210.94 30328211.16 0.0292 0.0140 Jupiter 78328-04-17 19:12 G 30329881.08 30329881.30 30329881.52 0.0506 0.0184 Saturn 78338-03-18 20:39 G 30333503.14 30333503.36 30333503.60 0.0268 0.0101 Neptune 78345-10-21 20:39 G 30336277.22 30336277.36 30336277.55 0.0090 0.0069 Neptune 78346-10-24 08:24 G 30336644.64 30336644.85 30336645.09 0.0090 0.0044 Neptune 78347-10-26 19:56 G 30337012.09 30337012.33 30337012.59 0.0090 0.0019 Neptune 78348-10-28 07:27 G 30337379.56 30337379.81 30337380.06 0.0090 0.0006 Neptune 78349-10-30 18:29 G 30337747.04 30337747.27 30337747.51 0.0090 0.0031 Neptune 78350-11-02 05:32 G 30338114.55 30338114.73 30338114.95 0.0090 0.0056 Neptune 78351-11-04 16:48 G 30338482.10 30338482.20 30338482.32 0.0090 0.0080

Saturn 78352-09-14 12:15 G 30338796.79 30338797.01 30338797.25 0.0291 0.0099 Uranus 78353-03-17 00:00 G 30338980.41 30338980.50 30338980.62 0.0143 0.0130 Uranus 78354-03-22 00:15 G 30339350.30 30339350.51 30339350.73 0.0143 0.0079 Uranus 78355-03-27 00:44 G 30339720.29 30339720.53 30339720.79 0.0143 0.0028 Uranus 78356-03-31 01:56 G 30340090.33 30340090.58 30340090.84 0.0143 0.0025 Uranus 78357-04-05 03:22 G 30340460.43 30340460.64 30340460.86 0.0144 0.0078 Uranus 78358-04-10 04:48 G 30340830.61 30340830.70 30340830.83 0.0144 0.0130 Saturn 78367-03-13 12:15 G 30344089.79 30344090.01 30344090.25 0.0268 0.0094 78378-01-31 04:20 G 30348066.61 30348066.68 30348066.76 0.1607 0.1456 Mars Saturn 78382-09-22 11:03 G 30349761.77 30349761.96 30349762.15 0.0292 0.0182 Pluto 78383-05-25 13:56 G 30350006.86 30350007.08 30350007.33 0.0081 0.0037 Uranus 78393-09-17 05:32 G 30353774.72 30353774.73 30353774.76 0.0135 0.0135 Jupiter 78393-10-15 09:36 G 30353802.69 30353802.90 30353803.11 0.0519 0.0215 Uranus 78394-09-21 13:56 G 30354143.91 30354144.08 30354144.28 0.0135 0.0092 Uranus 78395-09-25 22:05 G 30354513.19 30354513.42 30354513.66 0.0135 0.0049 Uranus 78396-09-29 05:32 G 30354882.48 30354882.73 30354882.98 0.0135 0.0007 Saturn 78397-03-19 21:22 G 30355054.18 30355054.39 30355054.61 0.0268 0.0139 Uranus 78397-10-03 12:15 G 30355251.78 30355252.01 30355252.26 0.0135 0.0036 Uranus 78398-10-07 19:12 G 30355621.09 30355621.30 30355621.51 0.0135 0.0077 Jupiter 78399-04-13 07:41 G 30355808.65 30355808.82 30355809.00 0.0509 0.0335 Uranus 78399-10-12 00:58 G 30355990.44 30355990.54 30355990.68 0.0134 0.0119 Jupiter 78405-10-20 01:12 G 30358190.36 30358190.55 30358190.76 0.0521 0.0260 Jupiter 78411-04-18 04:34 G 30360196.46 30360196.69 30360196.92 0.0507 0.0137 Saturn 78411-09-16 12:58 G 30360347.81 30360348.04 30360348.28 0.0292 0.0057 Saturn 78426-03-14 13:12 G 30365640.81 30365641.05 30365641.30 0.0268 0.0055 Neptune 78427-04-20 07:41 G 30366042.75 30366042.82 30366042.95 0.0088 0.0081 Neptune 78428-04-21 20:10 G 30366410.15 30366410.34 30366410.55 0.0088 0.0057 Neptune 78429-04-24 07:56 G 30366777.61 30366777.83 30366778.09 0.0088 0.0034 Neptune 78430-04-26 20:10 G 30367145.09 30367145.34 30367145.61 0.0088 0.0010 Neptune 78431-04-29 07:56 G 30367512.59 30367512.83 30367513.10 0.0088 0.0015

Neptune 78432-04-30 20:10 G 30367880.12 30367880.34 30367880.59 0.0088 0.0038 Neptune 78433-05-03 08:10 G 30368247.67 30368247.84 30368248.03 0.0088 0.0062 Neptune 78434-05-05 19:56 G 30368615.31 30368615.33 30368615.41 0.0088 0.0086 Uranus 78437-03-17 11:03 G 30369661.85 30369661.96 30369662.10 0.0143 0.0124 Uranus 78438-03-22 11:03 G 30370031.75 30370031.96 30370032.19 0.0143 0.0073 Uranus 78439-03-27 11:46 G 30370401.74 30370401.99 30370402.25 0.0143 0.0021 Uranus 78440-03-31 12:44 G 30370771.79 30370772.03 30370772.29 0.0144 0.0032 Uranus 78441-04-05 14:10 G 30371141.89 30371142.09 30371142.30 0.0144 0.0084 Saturn 78441-09-23 09:22 G 30371312.74 30371312.89 30371313.06 0.0292 0.0220 Uranus 78442-04-10 16:05 G 30371512.10 30371512.17 30371512.26 0.0144 0.0136 Saturn 78455-03-09 16:05 G 30376228.06 30376228.17 30376228.29 0.0268 0.0236 Saturn 78456-03-20 21:22 G 30376605.22 30376605.39 30376605.59 0.0268 0.0177 Saturn 78470-09-17 12:29 G 30381898.78 30381899.02 30381899.27 0.0292 0.0016 Jupiter 78476-10-14 16:20 G 30384117.99 30384118.18 30384118.38 0.0519 0.0280 Uranus 78477-09-17 15:51 G 30384456.10 30384456.16 30384456.24 0.0135 0.0130 Uranus 78478-09-22 00:15 G 30384825.33 30384825.51 30384825.71 0.0135 0.0087 Uranus 78479-09-26 08:10 G 30385194.60 30385194.84 30385195.08 0.0135 0.0044 Uranus 78480-09-29 15:22 G 30385563.89 30385564.14 30385564.40 0.0135 0.0003 Uranus 78481-10-03 22:05 G 30385933.19 30385933.42 30385933.67 0.0135 0.0041 Jupiter 78482-04-12 18:00 G 30386124.10 30386124.25 30386124.41 0.0509 0.0379 Uranus 78482-10-08 04:34 G 30386302.51 30386302.69 30386302.90 0.0135 0.0083 Uranus 78483-10-12 10:48 G 30386671.87 30386671.95 30386672.07 0.0134 0.0123 Saturn 78485-03-15 13:56 G 30387191.83 30387192.08 30387192.33 0.0268 0.0017 Jupiter 78488-10-19 11:46 G 30388505.78 30388505.99 30388506.20 0.0521 0.0211 Jupiter 78494-04-17 13:27 G 30390511.83 30390512.06 30390512.29 0.0507 0.0088 Saturn 78499-09-11 06:44 G 30392484.70 30392484.78 30392484.88 0.0291 0.0269 Saturn 78500-09-25 07:41 G 30392863.71 30392863.82 30392863.93 0.0292 0.0258 Neptune 78509-10-22 06:58 G 30396177.69 30396177.79 30396177.94 0.0090 0.0078 Neptune 78510-10-24 18:29 G 30396545.08 30396545.27 30396545.49 0.0090 0.0053 Neptune 78511-10-27 06:15 G 30396912.52 30396912.76 30396913.00 0.0090 0.0028

Neptune 78512-10-28 17:32 G 30397279.98 30397280.23 30397280.49 0.0090 0.0003 Neptune 78513-10-31 04:48 G 30397647.47 30397647.70 30397647.96 0.0090 0.0022 Saturn 78514-03-11 16:20 G 30397779.02 30397779.18 30397779.35 0.0268 0.0197 Neptune 78514-11-02 16:05 G 30398014.96 30398015.17 30398015.40 0.0090 0.0046 Saturn 78515-03-23 21:36 G 30398156.26 30398156.40 30398156.56 0.0268 0.0214 Neptune 78515-11-05 03:08 G 30398382.49 30398382.63 30398382.80 0.0090 0.0071 Uranus 78521-03-18 20:53 G 30400343.25 30400343.37 30400343.53 0.0143 0.0119 Uranus 78522-03-23 21:22 G 30400713.17 30400713.39 30400713.62 0.0143 0.0067 Uranus 78523-03-28 22:05 G 30401083.17 30401083.42 30401083.68 0.0143 0.0015 Uranus 78524-04-01 23:17 G 30401453.23 30401453.47 30401453.72 0.0144 0.0037 Uranus 78525-04-07 00:44 G 30401823.34 30401823.53 30401823.74 0.0144 0.0090 Uranus 78526-04-12 02:53 G 30402193.59 30402193.62 30402193.66 0.0144 0.0142 Saturn 78529-09-19 11:46 G 30403449.75 30403449.99 30403450.23 0.0292 0.0025 Pluto 78539-11-24 21:22 G 30407168.16 30407168.39 30407168.65 0.0063 0.0018 Saturn 78544-03-17 15:08 G 30408742.89 30408743.13 30408743.38 0.0268 0.0024 Saturn 78558-09-13 05:32 G 30414035.60 30414035.73 30414035.89 0.0291 0.0229 Mars 78559-08-05 19:27 G 30414362.14 30414362.31 30414362.49 0.1920 0.0946 Jupiter 78559-10-16 03:51 G 30414433.48 30414433.66 30414433.84 0.0518 0.0319 Uranus 78561-09-19 02:39 G 30415137.53 30415137.61 30415137.73 0.0135 0.0125 Uranus 78562-09-23 11:03 G 30415506.77 30415506.96 30415507.17 0.0135 0.0082 Uranus 78563-09-27 18:44 G 30415876.05 30415876.28 30415876.53 0.0135 0.0039 Uranus 78564-10-01 01:56 G 30416245.33 30416245.58 30416245.84 0.0135 0.0005 Jupiter 78565-04-12 20:53 G 30416439.26 30416439.37 30416439.48 0.0510 0.0452 Uranus 78565-10-05 08:39 G 30416614.64 30416614.86 30416615.11 0.0135 0.0047 Uranus 78566-10-09 15:22 G 30416983.96 30416984.14 30416984.34 0.0134 0.0088 Uranus 78567-10-13 21:08 G 30417353.34 30417353.38 30417353.47 0.0134 0.0129 Jupiter 78571-10-20 21:36 G 30418821.18 30418821.40 30418821.62 0.0520 0.0162 Saturn 78573-03-12 17:17 G 30419330.03 30419330.22 30419330.43 0.0268 0.0158 Saturn 78574-03-24 22:48 G 30419707.37 30419707.45 30419707.53 0.0268 0.0253 Jupiter 78577-04-17 15:51 G 30420826.92 30420827.16 30420827.39 0.0508 0.0016

78583-01-31 11:03 G 30422941.78 30422941.96 30422942.15 0.1608 0.0334 Mars Saturn 78588-09-20 12:29 G 30425000.79 30425001.02 30425001.26 0.0292 0.0069 Jupiter 78589-04-22 11:46 G 30425214.93 30425214.99 30425215.07 0.0506 0.0482 Neptune 78592-04-22 04:20 G 30426310.53 30426310.68 30426310.87 0.0088 0.0066 Neptune 78593-04-24 16:34 G 30426677.97 30426678.19 30426678.43 0.0088 0.0042 Neptune 78594-04-27 04:20 G 30427045.44 30427045.68 30427045.95 0.0088 0.0019 Neptune 78595-04-29 16:34 G 30427412.94 30427413.19 30427413.46 0.0088 0.0006 Neptune 78596-05-01 04:20 G 30427780.44 30427780.68 30427780.94 0.0088 0.0029 Neptune 78597-05-03 16:05 G 30428147.98 30428148.17 30428148.40 0.0088 0.0053 Neptune 78598-05-06 03:51 G 30428515.57 30428515.66 30428515.82 0.0088 0.0077 Saturn 78603-03-20 17:32 G 30430294.00 30430294.23 30430294.48 0.0268 0.0065 Uranus 78605-03-20 06:00 G 30431024.61 30431024.75 30431024.92 0.0143 0.0114 Uranus 78606-03-25 06:15 G 30431394.54 30431394.76 30431395.00 0.0143 0.0062 Uranus 78607-03-30 07:12 G 30431764.54 30431764.80 30431765.06 0.0143 0.0010 Uranus 78608-04-03 08:24 G 30432134.61 30432134.85 30432135.10 0.0144 0.0043 Uranus 78609-04-08 09:51 G 30432504.73 30432504.91 30432505.11 0.0144 0.0096 Saturn 78617-09-15 06:00 G 30435586.58 30435586.75 30435586.95 0.0291 0.0186 Saturn 78632-03-14 20:10 G 30440881.12 30440881.34 30440881.57 0.0269 0.0115 Jupiter 78642-10-16 08:39 G 30444748.72 30444748.86 30444749.01 0.0517 0.0393 Uranus 78645-09-20 13:27 G 30445818.96 30445819.06 30445819.20 0.0135 0.0119 Uranus 78646-09-24 21:51 G 30446188.21 30446188.41 30446188.62 0.0135 0.0076 Saturn 78647-09-23 15:08 G 30446551.91 30446552.13 30446552.36 0.0292 0.0116 Uranus 78647-09-29 05:17 G 30446557.48 30446557.72 30446557.97 0.0135 0.0034 Uranus 78648-10-02 12:29 G 30446926.77 30446927.02 30446927.28 0.0135 0.0009 Uranus 78649-10-06 19:12 G 30447296.08 30447296.30 30447296.54 0.0134 0.0051 Uranus 78650-10-11 01:27 G 30447665.40 30447665.56 30447665.76 0.0134 0.0093 Uranus 78651-10-15 07:56 G 30448034.83 30448034.83 30448034.84 0.0134 0.0134 Jupiter 78654-10-21 01:27 G 30449136.33 30449136.56 30449136.79 0.0520 0.0084 Jupiter 78660-04-18 00:44 G 30451142.29 30451142.53 30451142.76 0.0508 0.0035 Saturn 78662-03-21 21:51 G 30451845.19 30451845.41 30451845.64 0.0268 0.0109

Jupiter 78672-04-22 19:41 G 30455530.20 30455530.32 30455530.45 0.0506 0.0428 Neptune 78673-10-22 16:20 G 30456078.14 30456078.18 30456078.26 0.0090 0.0087 Neptune 78674-10-25 03:36 G 30456445.49 30456445.65 30456445.85 0.0090 0.0063 Neptune 78675-10-27 15:08 G 30456812.91 30456813.13 30456813.37 0.0090 0.0038 Saturn 78676-09-16 10:20 G 30457137.72 30457137.93 30457138.15 0.0291 0.0136 Neptune 78676-10-29 02:53 G 30457180.37 30457180.62 30457180.87 0.0090 0.0013 Neptune 78677-10-31 13:56 G 30457547.84 30457548.08 30457548.34 0.0090 0.0012 Neptune 78678-11-03 01:12 G 30457915.33 30457915.55 30457915.80 0.0090 0.0037 Neptune 78679-11-05 12:44 G 30458282.85 30458283.03 30458283.22 0.0090 0.0061 Neptune 78680-11-06 23:32 G 30458650.44 30458650.48 30458650.59 0.0090 0.0086 Uranus 78689-03-20 13:27 G 30461705.92 30461706.06 30461706.24 0.0143 0.0110 Uranus 78690-03-25 13:41 G 30462075.85 30462076.07 30462076.32 0.0143 0.0058 Saturn 78691-03-17 00:00 G 30462432.27 30462432.50 30462432.75 0.0269 0.0070 Uranus 78691-03-30 14:53 G 30462445.87 30462446.12 30462446.38 0.0143 0.0006 Uranus 78692-04-03 16:05 G 30462815.93 30462816.17 30462816.42 0.0144 0.0048 Uranus 78693-04-08 18:00 G 30463186.07 30463186.25 30463186.44 0.0144 0.0101 Saturn 78706-09-25 20:39 G 30468103.17 30468103.36 30468103.56 0.0292 0.0167 Saturn 78720-03-11 23:03 G 30473019.38 30473019.46 30473019.54 0.0269 0.0254 Saturn 78721-03-24 04:20 G 30473396.48 30473396.68 30473396.88 0.0268 0.0156 Jupiter 78725-10-16 14:24 G 30475064.00 30475064.10 30475064.21 0.0517 0.0461 Uranus 78729-09-22 00:58 G 30476500.42 30476500.54 30476500.69 0.0135 0.0114 Uranus 78730-09-26 08:39 G 30476869.67 30476869.86 30476870.09 0.0135 0.0071 Uranus 78731-09-30 16:34 G 30477238.95 30477239.19 30477239.44 0.0135 0.0028 Uranus 78732-10-03 23:46 G 30477608.24 30477608.49 30477608.74 0.0135 0.0015 Uranus 78733-10-08 06:15 G 30477977.55 30477977.76 30477978.00 0.0134 0.0058 Uranus 78734-10-12 12:44 G 30478346.88 30478347.03 30478347.21 0.0134 0.0099 Saturn 78735-09-19 17:03 G 30478688.98 30478689.21 30478689.45 0.0291 0.0083 Jupiter 78737-10-21 09:51 G 30479451.69 30479451.91 30479452.15 0.0519 0.0030 Jupiter 78743-04-19 00:29 G 30481457.30 30481457.52 30481457.76 0.0509 0.0123 Jupiter 78749-10-26 03:36 G 30483839.62 30483839.65 30483839.69 0.0521 0.0513

Saturn 78750-03-19 05:46 G 30483983.50 30483983.74 30483983.99 0.0269 0.0023 Jupiter 78755-04-23 18:00 G 30485845.07 30485845.25 30485845.43 0.0507 0.0336 Neptune 78756-04-23 12:00 G 30486210.89 30486211.00 30486211.17 0.0088 0.0075 Neptune 78757-04-26 00:29 G 30486578.32 30486578.52 30486578.74 0.0088 0.0051 Neptune 78758-04-28 12:29 G 30486945.79 30486946.02 30486946.28 0.0088 0.0028 Neptune 78759-05-01 00:44 G 30487313.27 30487313.53 30487313.79 0.0088 0.0004 Neptune 78760-05-02 12:44 G 30487680.78 30487681.03 30487681.29 0.0088 0.0020 Neptune 78761-05-05 00:15 G 30488048.30 30488048.51 30488048.75 0.0088 0.0044 Neptune 78762-05-07 12:29 G 30488415.86 30488416.02 30488416.20 0.0088 0.0067 Saturn 78765-09-27 06:00 G 30489654.60 30489654.75 30489654.91 0.0292 0.0223 Uranus 78773-03-21 21:51 G 30492387.25 30492387.41 30492387.59 0.0143 0.0105 Uranus 78774-03-26 22:05 G 30492757.19 30492757.42 30492757.66 0.0143 0.0053 Uranus 78775-03-31 23:03 G 30493127.21 30493127.46 30493127.72 0.0143 0.0001 Uranus 78776-04-05 00:29 G 30493497.28 30493497.52 30493497.76 0.0144 0.0053 Uranus 78777-04-10 01:56 G 30493867.43 30493867.58 30493867.77 0.0144 0.0107 Saturn 78779-03-14 06:29 G 30494570.62 30494570.77 30494570.94 0.0269 0.0205 Saturn 78780-03-25 12:15 G 30494947.86 30494948.01 30494948.17 0.0268 0.0205 Pluto 78786-11-28 09:22 G 30497386.64 30497386.89 30497387.15 0.0063 0.0003 Mars 78788-02-01 17:46 G 30497817.08 30497817.24 30497817.40 0.1609 0.0791 Saturn 78794-09-21 03:51 G 30500240.42 30500240.66 30500240.90 0.0291 0.0023 Saturn 78809-03-20 13:12 G 30505534.81 30505535.05 30505535.30 0.0269 0.0029 Uranus 78813-09-22 11:46 G 30507181.85 30507181.99 30507182.15 0.0135 0.0109 Uranus 78814-09-26 19:41 G 30507551.11 30507551.32 30507551.55 0.0135 0.0066 Uranus 78815-10-01 03:22 G 30507920.40 30507920.64 30507920.89 0.0135 0.0023 Uranus 78816-10-04 10:34 G 30508289.69 30508289.94 30508290.19 0.0135 0.0020 Uranus 78817-10-08 17:17 G 30508659.01 30508659.22 30508659.46 0.0134 0.0063 Uranus 78818-10-12 23:46 G 30509028.34 30509028.49 30509028.66 0.0134 0.0105 Jupiter 78820-10-20 09:51 G 30509766.69 30509766.91 30509767.14 0.0518 0.0068 Saturn 78823-09-15 17:17 G 30510827.08 30510827.22 30510827.36 0.0291 0.0238 Saturn 78824-09-28 17:17 G 30511206.18 30511206.22 30511206.29 0.0292 0.0284

Jupiter 78826-04-18 02:24 G 30511772.39 30511772.60 30511772.82 0.0510 0.0203 Jupiter 78832-10-25 01:56 G 30514154.44 30514154.58 30514154.72 0.0521 0.0410 Saturn 78838-03-15 15:36 G 30516121.96 30516122.15 30516122.36 0.0269 0.0153 Jupiter 78838-04-22 22:34 G 30516160.24 30516160.44 30516160.64 0.0508 0.0270 Neptune 78838-10-25 12:44 G 30516345.90 30516346.03 30516346.20 0.0090 0.0072 Saturn 78839-03-27 21:22 G 30516499.33 30516499.39 30516499.47 0.0268 0.0257 Neptune 78839-10-28 00:00 G 30516713.31 30516713.50 30516713.74 0.0090 0.0048 Neptune 78840-10-29 11:32 G 30517080.74 30517080.98 30517081.23 0.0090 0.0023 Neptune 78841-10-31 23:03 G 30517448.21 30517448.46 30517448.71 0.0090 0.0002 Neptune 78842-11-03 09:51 G 30517815.68 30517815.91 30517816.17 0.0090 0.0027 78843-08-06 12:58 G 30518091.92 30518092.04 30518092.16 0.1918 0.1551 Mars Neptune 78843-11-05 21:08 G 30518183.19 30518183.38 30518183.61 0.0090 0.0051 Neptune 78844-11-07 08:24 G 30518550.74 30518550.85 30518551.01 0.0090 0.0076 Saturn 78853-09-22 17:17 G 30521791.98 30521792.22 30521792.47 0.0291 0.0041 Uranus 78857-03-22 06:58 G 30523068.61 30523068.79 30523068.97 0.0143 0.0101 Uranus 78858-03-27 06:58 G 30523438.56 30523438.79 30523439.04 0.0143 0.0048 Uranus 78859-04-01 08:10 G 30523808.58 30523808.84 30523809.10 0.0143 0.0005 Uranus 78860-04-05 09:08 G 30524178.66 30524178.88 30524179.13 0.0144 0.0059 Uranus 78861-04-10 11:17 G 30524548.82 30524548.97 30524549.14 0.0144 0.0112 78867-02-03 18:29 G 30526674.15 30526674.27 30526674.40 0.1608 0.1196 Mars Saturn 78868-03-21 21:51 G 30527086.18 30527086.41 30527086.65 0.0269 0.0079 Pluto 78876-05-29 16:20 G 30530077.00 30530077.18 30530077.36 0.0081 0.0058 Saturn 78882-09-17 07:27 G 30532378.62 30532378.81 30532379.01 0.0291 0.0174 Saturn 78897-03-17 01:27 G 30537673.34 30537673.56 30537673.80 0.0269 0.0100 Uranus 78897-09-22 23:03 G 30537863.31 30537863.46 30537863.63 0.0135 0.0104 Uranus 78898-09-27 06:58 G 30538232.58 30538232.79 30538233.03 0.0135 0.0060 Uranus 78899-10-01 14:53 G 30538601.87 30538602.12 30538602.37 0.0135 0.0017 Uranus 78900-10-05 22:20 G 30538971.18 30538971.43 30538971.67 0.0135 0.0026 Uranus 78901-10-10 05:03 G 30539340.50 30539340.71 30539340.93 0.0134 0.0069 Uranus 78902-10-14 11:32 G 30539709.85 30539709.98 30539710.13 0.0134 0.0111

Jupiter 78903-10-21 10:34 G 30540081.72 30540081.94 30540082.16 0.0518 0.0159 Jupiter 78909-04-18 05:32 G 30542087.54 30542087.73 30542087.93 0.0510 0.0278 Saturn 78912-09-25 08:24 G 30543343.63 30543343.85 30543344.08 0.0291 0.0108 Jupiter 78915-10-26 05:32 G 30544469.56 30544469.73 30544469.91 0.0520 0.0332 Neptune 78920-04-23 18:58 G 30546111.24 30546111.29 30546111.39 0.0088 0.0084 Jupiter 78921-04-22 20:53 G 30546475.15 30546475.37 30546475.60 0.0508 0.0176 Neptune 78921-04-26 07:27 G 30546478.63 30546478.81 30546479.01 0.0088 0.0060 Neptune 78922-04-28 19:12 G 30546846.08 30546846.30 30546846.56 0.0088 0.0037 Neptune 78923-05-01 07:41 G 30547213.56 30547213.82 30547214.08 0.0088 0.0013 Neptune 78924-05-02 19:27 G 30547581.06 30547581.31 30547581.58 0.0088 0.0011 Neptune 78925-05-05 07:41 G 30547948.58 30547948.82 30547949.06 0.0088 0.0034 Neptune 78926-05-07 19:12 G 30548316.13 30548316.30 30548316.52 0.0088 0.0058 Saturn 78927-03-25 06:44 G 30548637.57 30548637.78 30548638.00 0.0269 0.0131 Neptune 78927-05-10 07:12 G 30548683.72 30548683.80 30548683.91 0.0088 0.0081 Uranus 78941-03-23 18:44 G 30553750.09 30553750.28 30553750.48 0.0143 0.0094 Saturn 78941-09-19 22:34 G 30553930.22 30553930.44 30553930.67 0.0291 0.0109 Uranus 78942-03-28 18:58 G 30554120.05 30554120.29 30554120.54 0.0143 0.0042 Uranus 78943-04-02 19:56 G 30554490.08 30554490.33 30554490.59 0.0143 0.0012 Uranus 78944-04-06 21:22 G 30554860.16 30554860.39 30554860.62 0.0144 0.0065 Uranus 78945-04-11 23:03 G 30555230.33 30555230.46 30555230.62 0.0144 0.0119 Saturn 78956-03-19 11:32 G 30559224.74 30559224.98 30559225.23 0.0268 0.0048 Saturn 78971-09-28 00:29 G 30564895.34 30564895.52 30564895.72 0.0291 0.0175 Uranus 78981-09-24 10:34 G 30568544.78 30568544.94 30568545.13 0.0135 0.0098 Uranus 78982-09-28 18:44 G 30568914.06 30568914.28 30568914.52 0.0135 0.0055 Uranus 78983-10-03 02:39 G 30569283.36 30569283.61 30569283.87 0.0135 0.0012 Uranus 78984-10-06 10:05 G 30569652.67 30569652.92 30569653.16 0.0135 0.0032 Saturn 78985-03-14 08:53 G 30569811.75 30569811.87 30569812.00 0.0270 0.0230 Uranus 78985-10-10 16:48 G 30570022.00 30570022.20 30570022.42 0.0134 0.0075 Saturn 78986-03-26 15:22 G 30570188.97 30570189.14 30570189.33 0.0269 0.0181 Uranus 78986-10-14 23:32 G 30570391.36 30570391.48 30570391.60 0.0134 0.0117

 Jupiter
 78986-10-20 14:24 G
 30570396.90
 30570397.10
 30570397.31
 0.0518
 0.0236

 Jupiter
 78992-04-17 02:39 G
 30572402.45
 30572402.61
 30572402.77
 0.0511
 0.0379

 Jupiter
 78998-10-25 04:05 G
 30574784.47
 30574784.67
 30574784.88
 0.0519
 0.0231

 Saturn
 79000-09-22 13:27 G
 30575481.83
 30575482.06
 30575482.31
 0.0291
 0.0045

## 80TH MILLENNIUM CE

## This is a list of transits of Earth in the 80th millennium CE.

FROM MAX- C START MAX END SUNRAD DEPTH S

TRANSIT

TIME

 Neptune
 79002-10-26 20:53 G
 30576246.27
 30576246.37
 30576246.49
 0.0090
 0.0081

 Neptune
 79003-10-29 08:10 G
 30576613.66
 30576613.84
 30576614.05
 0.0090
 0.0057

 Jupiter
 79004-04-22 20:39 G
 30576790.12
 30576790.36
 30576790.59
 0.0509
 0.0089

 Neptune
 79004-10-30 19:27 G
 30576981.09
 30576981.31
 30576981.56
 0.0090
 0.0033

 Neptune
 79005-11-02 06:58 G
 30577348.54
 30577348.79
 30577349.05
 0.0090
 0.0008

 Neptune
 79006-11-04 18:00 G
 30577716.01
 30577716.25
 30577716.51
 0.0090
 0.0017

 Neptune
 79007-11-07 05:17 G
 30578083.51
 30578083.72
 30578083.97
 0.0090
 0.0041

 Neptune
 79008-11-08 16:48 G
 30578818.66
 30578818.68
 30578818.70
 0.0090
 0.0089

 Saturn
 79015-03-22 21:08 G
 30580776.13
 30580776.38
 30580776.62
 0.0268
 0.0005

 Uranus
 79024-03-20 06:15 G
 30584431.56

Uranus 79029-04-13 10:48 G 30585911.85 30585911.95 30585912.10 0.0144 0.0126 Saturn 79029-09-16 15:36 G 30586068.09 30586068.15 30586068.22 0.0290 0.0279 Saturn 79030-09-30 15:51 G 30586447.03 30586447.16 30586447.30 0.0292 0.0240 Pluto 79033-12-01 19:27 G 30587605.08 30587605.31 30587605.57 0.0063 0.0020 Saturn 79044-03-16 17:17 G 30591363.04 30591363.22 30591363.41 0.0269 0.0181 Saturn 79045-03-28 23:32 G 30591740.36 30591740.48 30591740.61 0.0268 0.0229 Saturn 79059-09-25 02:39 G 30597033.37 30597033.61 30597033.86 0.0292 0.0017 Uranus 79064-09-21 14:24 G 30598857.10 30598857.10 30598857.13 0.0135 0.0135 Uranus 79065-09-25 23:03 G 30599226.30 30599226.46 30599226.67 0.0135 0.0093 Uranus 79066-09-30 07:27 G 30599595.58 30599595.81 30599596.05 0.0135 0.0048 Uranus 79067-10-04 15:22 G 30599964.89 30599965.14 30599965.39 0.0135 0.0005 Uranus 79068-10-07 22:34 G 30600334.21 30600334.44 30600334.69 0.0135 0.0039 Uranus 79069-10-12 05:17 G 30600703.54 30600703.72 30600703.94 0.0134 0.0082 Jupiter 79069-10-20 13:12 G 30600711.88 30600712.05 30600712.23 0.0516 0.0332 Uranus 79070-10-16 11:46 G 30601072.91 30601072.99 30601073.11 0.0134 0.0124 Mars 79072-02-05 00:44 G 30601549.34 30601549.53 30601549.72 0.1610 0.0064 Saturn 79074-03-24 05:17 G 30602327.48 30602327.72 30602327.96 0.0268 0.0052 Jupiter 79075-04-18 03:51 G 30602717.56 30602717.66 30602717.76 0.0512 0.0460 Jupiter 79081-10-25 04:20 G 30605099.46 30605099.68 30605099.90 0.0519 0.0138 Neptune 79085-04-26 14:24 G 30606378.95 30606379.10 30606379.26 0.0088 0.0069 Neptune 79086-04-29 02:10 G 30606746.38 30606746.59 30606746.83 0.0088 0.0046 Jupiter 79087-04-23 00:44 G 30607105.29 30607105.53 30607105.77 0.0509 0.0019 Neptune 79087-05-01 14:10 G 30607113.85 30607114.09 30607114.35 0.0088 0.0023 Neptune 79088-05-03 02:24 G 30607481.34 30607481.60 30607481.86 0.0088 0.0001 Saturn 79088-09-18 04:48 G 30607619.55 30607619.70 30607619.87 0.0291 0.0218 Neptune 79089-05-05 14:24 G 30607848.86 30607849.10 30607849.36 0.0088 0.0025 Neptune 79090-05-08 02:10 G 30608216.38 30608216.59 30608216.82 0.0088 0.0048 Neptune 79091-05-10 13:56 G 30608583.95 30608584.08 30608584.25 0.0088 0.0072 Jupiter 79099-04-27 17:46 G 30611493.18 30611493.24 30611493.33 0.0507 0.0479 Saturn 79103-03-20 00:29 G 30612914.30 30612914.52 30612914.73 0.0269 0.0134

Uranus 79108-03-21 18:00 G 30614743.18 30614743.25 30614743.36 0.0143 0.0134 Uranus 79109-03-26 18:29 G 30615113.06 30615113.27 30615113.48 0.0143 0.0082 Uranus 79110-03-31 18:58 G 30615483.04 30615483.29 30615483.54 0.0143 0.0029 Uranus 79111-04-05 19:56 G 30615853.08 30615853.33 30615853.59 0.0144 0.0025 Uranus 79112-04-09 21:36 G 30616223.19 30616223.40 30616223.62 0.0144 0.0079 Uranus 79113-04-14 23:32 G 30616593.40 30616593.48 30616593.59 0.0144 0.0133 Saturn 79118-09-27 12:29 G 30618584.79 30618585.02 30618585.26 0.0292 0.0073 Pluto 79123-06-04 01:27 G 30620295.34 30620295.56 30620295.80 0.0081 0.0039 Saturn 79133-03-26 12:00 G 30623878.77 30623879.00 30623879.23 0.0268 0.0098 Saturn 79147-09-21 15:08 G 30629170.93 30629171.13 30629171.33 0.0291 0.0161 Uranus 79148-09-23 03:08 G 30629538.58 30629538.63 30629538.72 0.0135 0.0130 Uranus 79149-09-27 12:15 G 30629907.82 30629908.01 30629908.21 0.0135 0.0085 Uranus 79150-10-01 20:10 G 30630277.11 30630277.34 30630277.59 0.0135 0.0042 Uranus 79151-10-06 04:20 G 30630646.43 30630646.68 30630646.93 0.0135 0.0002 Uranus 79152-10-09 11:03 G 30631015.74 30631015.96 30631016.21 0.0134 0.0046 Jupiter 79152-10-20 17:03 G 30631027.07 30631027.21 30631027.35 0.0516 0.0410 Uranus 79153-10-13 18:15 G 30631385.08 30631385.26 30631385.46 0.0134 0.0088 Uranus 79154-10-18 00:15 G 30631754.48 30631754.51 30631754.60 0.0134 0.0131 Saturn 79162-03-21 06:00 G 30634465.52 30634465.75 30634465.98 0.0269 0.0089 Jupiter 79164-10-25 10:34 G 30635414.71 30635414.94 30635415.17 0.0519 0.0071 Neptune 79167-10-29 15:22 G 30636513.98 30636514.14 30636514.32 0.0090 0.0067 Neptune 79168-10-31 02:39 G 30636881.40 30636881.61 30636881.84 0.0090 0.0043 Neptune 79169-11-02 13:56 G 30637248.84 30637249.08 30637249.34 0.0090 0.0019 Jupiter 79170-04-23 03:22 G 30637420.40 30637420.64 30637420.87 0.0510 0.0058 Neptune 79170-11-05 01:27 G 30637616.31 30637616.56 30637616.82 0.0090 0.0006 Neptune 79171-11-07 12:44 G 30637983.79 30637984.03 30637984.27 0.0090 0.0030 Neptune 79172-11-08 23:32 G 30638351.30 30638351.48 30638351.71 0.0090 0.0055 Neptune 79173-11-11 10:34 G 30638718.85 30638718.94 30638719.09 0.0090 0.0079 Saturn 79177-09-28 19:56 G 30640136.12 30640136.33 30640136.56 0.0292 0.0124 Jupiter 79182-04-27 19:41 G 30641808.18 30641808.32 30641808.46 0.0508 0.0404

Saturn 79191-03-16 10:48 G 30645052.93 30645052.95 30645053.00 0.0269 0.0266 Uranus 79192-03-22 03:22 G 30645424.55 30645424.64 30645424.77 0.0143 0.0129 Saturn 79192-03-27 16:20 G 30645429.97 30645430.18 30645430.40 0.0268 0.0140 Uranus 79193-03-27 03:51 G 30645794.45 30645794.66 30645794.88 0.0143 0.0076 Uranus 79194-04-01 04:20 G 30646164.43 30646164.68 30646164.94 0.0143 0.0023 Uranus 79195-04-06 05:32 G 30646534.49 30646534.73 30646534.99 0.0144 0.0031 Uranus 79196-04-10 07:12 G 30646904.59 30646904.80 30646905.01 0.0144 0.0085 Uranus 79197-04-15 09:08 G 30647274.83 30647274.88 30647274.96 0.0144 0.0139 79206-08-11 21:51 G 30650680.38 30650680.41 30650680.45 0.1918 0.1886 Mars Saturn 79206-09-22 21:22 G 30650722.17 30650722.39 30650722.62 0.0291 0.0111 Saturn 79221-03-22 10:05 G 30656016.68 30656016.92 30656017.17 0.0268 0.0047 Uranus 79232-09-23 16:48 G 30660220.11 30660220.20 30660220.32 0.0135 0.0123 Uranus 79233-09-28 01:27 G 30660589.37 30660589.56 30660589.78 0.0135 0.0079 Uranus 79234-10-02 09:51 G 30660958.67 30660958.91 30660959.16 0.0135 0.0035 Uranus 79235-10-06 17:46 G 30661327.99 30661328.24 30661328.49 0.0135 0.0009 Jupiter 79235-10-20 23:32 G 30661342.39 30661342.48 30661342.58 0.0515 0.0469 Saturn 79236-09-29 23:32 G 30661687.29 30661687.48 30661687.69 0.0292 0.0169 Uranus 79236-10-10 00:58 G 30661697.31 30661697.54 30661697.77 0.0134 0.0052 Uranus 79237-10-14 07:12 G 30662066.65 30662066.80 30662067.00 0.0134 0.0096 Jupiter 79247-10-25 15:51 G 30665729.93 30665730.16 30665730.39 0.0517 0.0006 Neptune 79249-04-26 19:56 G 30666279.25 30666279.33 30666279.48 0.0088 0.0079 Saturn 79250-03-17 14:24 G 30666603.97 30666604.10 30666604.24 0.0269 0.0224 Neptune 79250-04-29 07:56 G 30666646.65 30666646.83 30666647.05 0.0088 0.0056 Saturn 79251-03-29 18:58 G 30666981.12 30666981.29 30666981.49 0.0267 0.0181 Neptune 79251-05-01 20:10 G 30667014.10 30667014.34 30667014.59 0.0088 0.0032 Neptune 79252-05-03 08:10 G 30667381.59 30667381.84 30667382.11 0.0088 0.0009 Jupiter 79253-04-22 06:15 G 30667735.53 30667735.76 30667735.99 0.0511 0.0129 Neptune 79253-05-05 20:10 G 30667749.09 30667749.34 30667749.60 0.0088 0.0015 Neptune 79254-05-08 07:56 G 30668116.62 30668116.83 30668117.09 0.0088 0.0039 Neptune 79255-05-10 19:56 G 30668484.16 30668484.33 30668484.53 0.0088 0.0062

Neptune 79256-05-12 07:56 G 30668851.79 30668851.83 30668851.92 0.0088 0.0085 Jupiter 79259-10-30 06:29 G 30670117.69 30670117.77 30670117.86 0.0520 0.0476 Jupiter 79265-04-27 03:22 G 30672123.48 30672123.64 30672123.82 0.0509 0.0351 Saturn 79265-09-24 01:27 G 30672273.32 30672273.56 30672273.80 0.0292 0.0065 Uranus 79276-03-22 13:56 G 30676105.97 30676106.08 30676106.22 0.0143 0.0123 Mars 79277-02-04 07:41 G 30676424.67 30676424.82 30676424.96 0.1613 0.1038 Uranus 79277-03-27 14:10 G 30676475.87 30676476.09 30676476.32 0.0143 0.0070 Uranus 79278-04-01 14:39 G 30676845.86 30676846.11 30676846.37 0.0143 0.0017 Uranus 79279-04-06 15:36 G 30677215.91 30677216.15 30677216.41 0.0144 0.0037 Saturn 79280-03-23 12:29 G 30677567.78 30677568.02 30677568.27 0.0268 0.0008 Uranus 79280-04-10 16:48 G 30677586.03 30677586.20 30677586.42 0.0144 0.0092 Pluto 79280-12-04 01:56 G 30677823.36 30677823.58 30677823.83 0.0063 0.0023 Saturn 79295-10-02 00:15 G 30683238.35 30683238.51 30683238.68 0.0292 0.0210 Saturn 79309-03-19 16:05 G 30688155.00 30688155.17 30688155.36 0.0268 0.0185 Saturn 79310-03-31 20:39 G 30688532.23 30688532.36 30688532.52 0.0267 0.0219 Uranus 79316-09-25 06:00 G 30690901.64 30690901.75 30690901.89 0.0135 0.0117 Uranus 79317-09-29 14:53 G 30691270.92 30691271.12 30691271.34 0.0135 0.0073 Uranus 79318-10-03 23:03 G 30691640.22 30691640.46 30691640.72 0.0135 0.0029 Uranus 79319-10-08 06:58 G 30692009.55 30692009.79 30692010.05 0.0135 0.0016 Uranus 79320-10-11 13:56 G 30692378.86 30692379.08 30692379.31 0.0134 0.0059 Uranus 79321-10-15 20:39 G 30692748.21 30692748.36 30692748.54 0.0134 0.0102 Saturn 79324-09-26 01:56 G 30693824.34 30693824.58 30693824.83 0.0292 0.0024 Jupiter 79330-10-25 22:20 G 30696045.20 30696045.43 30696045.66 0.0517 0.0062 Neptune 79331-10-29 21:08 G 30696414.28 30696414.38 30696414.54 0.0090 0.0078 Neptune 79332-10-31 08:39 G 30696781.68 30696781.86 30696782.09 0.0090 0.0054 Neptune 79333-11-02 20:39 G 30697149.13 30697149.36 30697149.61 0.0090 0.0029 Neptune 79334-11-05 07:56 G 30697516.58 30697516.83 30697517.09 0.0090 0.0005 Neptune 79335-11-07 19:12 G 30697884.06 30697884.30 30697884.56 0.0090 0.0020 Jupiter 79336-04-22 15:51 G 30698050.94 30698051.16 30698051.38 0.0511 0.0176 Neptune 79336-11-09 06:15 G 30698251.55 30698251.76 30698252.00 0.0090 0.0044

Neptune 79337-11-11 17:32 G 30698619.08 30698619.23 30698619.41 0.0090 0.0068 Saturn 79339-03-26 13:41 G 30699118.83 30699119.07 30699119.32 0.0268 0.0031 Jupiter 79342-10-30 16:34 G 30700433.06 30700433.19 30700433.32 0.0519 0.0427 Jupiter 79348-04-27 11:46 G 30702438.80 30702438.99 30702439.18 0.0509 0.0299 Saturn 79353-09-19 21:08 G 30704410.29 30704410.38 30704410.47 0.0291 0.0270 Saturn 79354-10-03 23:03 G 30704789.35 30704789.46 30704789.60 0.0292 0.0249 79356-02-08 07:56 G 30705281.68 30705281.83 30705281.98 0.1611 0.0930 Mars Uranus 79360-03-23 23:03 G 30706787.32 30706787.46 30706787.61 0.0143 0.0118 Uranus 79361-03-28 23:03 G 30707157.23 30707157.46 30707157.69 0.0143 0.0066 Uranus 79362-04-02 23:17 G 30707527.21 30707527.47 30707527.72 0.0143 0.0012 Uranus 79363-04-08 00:00 G 30707897.27 30707897.50 30707897.76 0.0144 0.0043 Uranus 79364-04-12 01:27 G 30708267.39 30708267.56 30708267.76 0.0144 0.0097 Saturn 79368-03-20 16:48 G 30709706.00 30709706.20 30709706.41 0.0268 0.0146 Saturn 79369-04-01 21:08 G 30710083.32 30710083.38 30710083.46 0.0267 0.0255 Pluto 79370-06-06 06:00 G 30710513.54 30710513.75 30710514.01 0.0081 0.0037 Saturn 79383-09-28 01:27 G 30715375.32 30715375.56 30715375.80 0.0292 0.0016 Saturn 79398-03-27 14:24 G 30720669.87 30720670.10 30720670.35 0.0268 0.0068 Uranus 79400-09-26 19:12 G 30721583.17 30721583.30 30721583.46 0.0135 0.0110 Uranus 79401-10-01 04:20 G 30721952.47 30721952.68 30721952.91 0.0135 0.0066 Uranus 79402-10-05 12:44 G 30722321.78 30722322.03 30722322.28 0.0135 0.0022 Uranus 79403-10-09 20:24 G 30722691.11 30722691.35 30722691.60 0.0135 0.0022 Uranus 79404-10-13 03:22 G 30723060.43 30723060.64 30723060.87 0.0135 0.0066 Uranus 79405-10-17 10:05 G 30723429.79 30723429.92 30723430.08 0.0134 0.0109 Saturn 79412-09-21 18:44 G 30725961.14 30725961.28 30725961.42 0.0291 0.0233 Neptune 79413-04-28 02:39 G 30726179.61 30726179.61 30726179.63 0.0088 0.0087 Saturn 79413-10-05 20:39 G 30726340.32 30726340.36 30726340.42 0.0293 0.0285 Jupiter 79413-10-26 09:51 G 30726360.69 30726360.91 30726361.14 0.0516 0.0101 Neptune 79414-04-30 13:56 G 30726546.93 30726547.08 30726547.28 0.0088 0.0065 Neptune 79415-05-03 01:56 G 30726914.37 30726914.58 30726914.83 0.0088 0.0042 Neptune 79416-05-04 13:56 G 30727281.83 30727282.08 30727282.34 0.0088 0.0018

Neptune 79417-05-07 01:56 G 30727649.32 30727649.58 30727649.85 0.0088 0.0005 Neptune 79418-05-09 13:27 G 30728016.83 30728017.06 30728017.32 0.0088 0.0029 Jupiter 79419-04-23 18:44 G 30728366.08 30728366.28 30728366.49 0.0512 0.0249 Neptune 79419-05-12 01:27 G 30728384.37 30728384.56 30728384.79 0.0088 0.0052 Neptune 79420-05-13 13:27 G 30728751.95 30728752.06 30728752.22 0.0088 0.0075 Jupiter 79425-10-31 02:53 G 30730748.46 30730748.62 30730748.78 0.0518 0.0379 Saturn 79427-03-23 17:03 G 30731256.99 30731257.21 30731257.44 0.0268 0.0109 Jupiter 79431-04-28 14:39 G 30732753.90 30732754.11 30732754.33 0.0510 0.0229 Saturn 79442-09-30 00:15 G 30736926.28 30736926.51 30736926.76 0.0292 0.0056 Uranus 79444-03-25 11:32 G 30737468.84 30737468.98 30737469.16 0.0143 0.0112 Uranus 79445-03-30 11:17 G 30737838.75 30737838.97 30737839.22 0.0143 0.0059 Uranus 79446-04-04 11:46 G 30738208.73 30738208.99 30738209.25 0.0143 0.0005 Uranus 79447-04-09 12:15 G 30738578.78 30738579.01 30738579.27 0.0144 0.0050 Uranus 79448-04-13 13:27 G 30738948.90 30738949.06 30738949.26 0.0144 0.0104 Saturn 79457-03-29 15:22 G 30742220.91 30742221.14 30742221.37 0.0267 0.0105 Saturn 79471-09-23 17:03 G 30747512.04 30747512.21 30747512.40 0.0291 0.0194 Uranus 79484-09-27 08:24 G 30752264.71 30752264.85 30752265.03 0.0135 0.0105 Uranus 79485-10-01 17:46 G 30752634.02 30752634.24 30752634.48 0.0135 0.0060 Saturn 79486-03-24 17:17 G 30752807.98 30752808.22 30752808.46 0.0268 0.0071 Uranus 79486-10-06 02:10 G 30753003.34 30753003.59 30753003.84 0.0135 0.0015 Uranus 79487-10-10 09:51 G 30753372.67 30753372.91 30753373.16 0.0135 0.0029 Uranus 79488-10-13 16:34 G 30753741.99 30753742.19 30753742.42 0.0135 0.0073 Uranus 79489-10-17 23:17 G 30754111.36 30754111.47 30754111.62 0.0134 0.0116 79490-08-12 17:32 G 30754410.03 30754410.23 30754410.42 0.1914 0.0459 Mars Neptune 79495-10-30 01:56 G 30756314.57 30756314.58 30756314.65 0.0090 0.0089 Jupiter 79496-10-25 16:34 G 30756675.97 30756676.19 30756676.41 0.0515 0.0166 Neptune 79496-10-31 14:10 G 30756681.92 30756682.09 30756682.27 0.0090 0.0064 Neptune 79497-11-03 01:41 G 30757049.35 30757049.57 30757049.80 0.0090 0.0040 Neptune 79498-11-05 13:12 G 30757416.81 30757417.05 30757417.31 0.0090 0.0016 Neptune 79499-11-08 00:29 G 30757784.28 30757784.52 30757784.78 0.0090 0.0009

Neptune 79500-11-10 11:46 G 30758151.77 30758151.99 30758152.24 0.0090 0.0033 Saturn 79501-10-01 23:46 G 30758477.26 30758477.49 30758477.72 0.0292 0.0096 Neptune 79501-11-12 23:03 G 30758519.28 30758519.46 30758519.68 0.0090 0.0057 Jupiter 79502-04-24 02:53 G 30758681.43 30758681.62 30758681.81 0.0513 0.0304 Neptune 79502-11-15 10:20 G 30758886.84 30758886.93 30758887.06 0.0090 0.0081 Jupiter 79508-10-31 08:39 G 30761063.68 30761063.86 30761064.05 0.0518 0.0311 Jupiter 79514-04-29 01:12 G 30763069.33 30763069.55 30763069.77 0.0510 0.0185 Saturn 79515-03-20 12:29 G 30763394.95 30763395.02 30763395.09 0.0269 0.0256 Saturn 79516-03-31 16:48 G 30763772.00 30763772.20 30763772.41 0.0267 0.0144 Pluto 79527-12-09 06:29 G 30768041.54 30768041.77 30768042.02 0.0063 0.0020 Uranus 79528-03-27 00:15 G 30768150.35 30768150.51 30768150.69 0.0143 0.0105 Uranus 79529-03-31 23:46 G 30768520.26 30768520.49 30768520.74 0.0143 0.0052 Uranus 79530-04-05 23:46 G 30768890.24 30768890.49 30768890.75 0.0143 0.0004 Saturn 79530-09-25 16:48 G 30769063.00 30769063.20 30769063.41 0.0291 0.0153 Uranus 79531-04-11 00:44 G 30769260.30 30769260.53 30769260.77 0.0144 0.0056 Uranus 79532-04-15 01:56 G 30769630.42 30769630.58 30769630.75 0.0144 0.0110 Saturn 79545-03-26 18:29 G 30774359.02 30774359.27 30774359.51 0.0268 0.0031 Saturn 79560-10-03 01:12 G 30780028.35 30780028.55 30780028.77 0.0292 0.0141 Mars 79561-02-08 15:22 G 30780156.95 30780157.14 30780157.32 0.1614 0.0166 Uranus 79568-09-28 22:34 G 30782946.29 30782946.44 30782946.64 0.0136 0.0098 Uranus 79569-10-03 07:56 G 30783315.60 30783315.83 30783316.07 0.0135 0.0053 Uranus 79570-10-07 16:05 G 30783684.92 30783685.17 30783685.43 0.0135 0.0008 Uranus 79571-10-11 23:46 G 30784054.25 30784054.49 30784054.73 0.0135 0.0036 Uranus 79572-10-15 06:29 G 30784423.58 30784423.77 30784423.99 0.0135 0.0080 Uranus 79573-10-19 13:12 G 30784792.97 30784793.05 30784793.17 0.0134 0.0123 Saturn 79574-03-21 14:53 G 30784945.98 30784946.12 30784946.28 0.0269 0.0215 Saturn 79575-04-02 19:27 G 30785323.14 30785323.31 30785323.49 0.0267 0.0185 Neptune 79578-04-30 19:56 G 30786447.21 30786447.33 30786447.49 0.0088 0.0074 Neptune 79579-05-03 07:41 G 30786814.62 30786814.82 30786815.05 0.0088 0.0051 Jupiter 79579-10-27 00:44 G 30786991.33 30786991.53 30786991.74 0.0515 0.0224

Neptune 79580-05-04 19:41 G 30787182.08 30787182.32 30787182.58 0.0088 0.0028 Neptune 79581-05-07 07:27 G 30787549.55 30787549.81 30787550.08 0.0088 0.0005 Neptune 79582-05-09 19:12 G 30787917.05 30787917.30 30787917.57 0.0088 0.0019 Neptune 79583-05-12 06:58 G 30788284.58 30788284.79 30788285.04 0.0088 0.0042 Neptune 79584-05-13 18:44 G 30788652.12 30788652.28 30788652.47 0.0088 0.0065 Jupiter 79585-04-23 11:17 G 30788996.80 30788996.97 30788997.14 0.0513 0.0357 Neptune 79585-05-16 07:12 G 30789019.80 30789019.80 30789019.80 0.0088 0.0088 Saturn 79589-09-26 19:12 G 30790614.08 30790614.30 30790614.53 0.0291 0.0108 Jupiter 79591-10-31 19:27 G 30791379.12 30791379.31 30791379.52 0.0517 0.0266 Jupiter 79597-04-28 02:39 G 30793384.38 30793384.61 30793384.84 0.0511 0.0103 Saturn 79604-03-27 20:53 G 30795910.13 30795910.37 30795910.62 0.0268 0.0012 Uranus 79612-03-27 14:39 G 30798831.95 30798832.11 30798832.32 0.0143 0.0098 Uranus 79613-04-01 14:24 G 30799201.86 30799202.10 30799202.35 0.0143 0.0044 Uranus 79614-04-06 14:39 G 30799571.86 30799572.11 30799572.37 0.0143 0.0010 Uranus 79615-04-11 15:36 G 30799941.92 30799942.15 30799942.38 0.0144 0.0064 Uranus 79616-04-15 16:34 G 30800312.05 30800312.19 30800312.34 0.0144 0.0118 Pluto 79617-06-09 06:00 G 30800731.59 30800731.75 30800731.96 0.0081 0.0056 Saturn 79619-10-05 05:17 G 30801579.54 30801579.72 30801579.91 0.0292 0.0188 Saturn 79633-03-22 19:41 G 30806497.13 30806497.32 30806497.51 0.0269 0.0170 Saturn 79634-04-04 00:15 G 30806874.38 30806874.51 30806874.64 0.0267 0.0229 Saturn 79648-09-28 00:58 G 30812165.31 30812165.54 30812165.78 0.0291 0.0057 Uranus 79651-09-26 03:36 G 30813258.64 30813258.65 30813258.69 0.0136 0.0135 Uranus 79652-09-29 12:58 G 30813627.87 30813628.04 30813628.24 0.0135 0.0091 Uranus 79653-10-03 22:05 G 30813997.19 30813997.42 30813997.66 0.0135 0.0045 Uranus 79654-10-08 06:15 G 30814366.51 30814366.76 30814367.01 0.0135 0.0001 Uranus 79655-10-12 13:56 G 30814735.84 30814736.08 30814736.32 0.0135 0.0043 Uranus 79656-10-15 20:39 G 30815105.18 30815105.36 30815105.57 0.0135 0.0087 Uranus 79657-10-20 03:22 G 30815474.59 30815474.64 30815474.73 0.0134 0.0130 Neptune 79660-10-31 19:12 G 30816582.16 30816582.30 30816582.44 0.0090 0.0075 Neptune 79661-11-03 06:58 G 30816949.58 30816949.79 30816949.99 0.0090 0.0051

Jupiter 79662-10-26 10:05 G 30817306.73 30817306.92 30817307.12 0.0515 0.0278 Neptune 79662-11-05 18:15 G 30817317.02 30817317.26 30817317.50 0.0090 0.0027 Saturn 79663-03-30 01:12 G 30817461.31 30817461.55 30817461.80 0.0269 0.0056 Neptune 79663-11-08 05:46 G 30817684.49 30817684.74 30817685.00 0.0090 0.0003 Neptune 79664-11-09 17:03 G 30818051.97 30818052.21 30818052.47 0.0090 0.0022 Neptune 79665-11-12 04:05 G 30818419.47 30818419.67 30818419.91 0.0090 0.0046 Neptune 79666-11-14 15:22 G 30818787.01 30818787.14 30818787.33 0.0090 0.0070 Jupiter 79668-04-22 09:22 G 30819311.78 30819311.89 30819311.99 0.0513 0.0455 Jupiter 79674-10-30 22:34 G 30821694.22 30821694.44 30821694.65 0.0517 0.0182 Saturn 79677-09-22 12:00 G 30822751.92 30822752.00 30822752.09 0.0291 0.0271 Saturn 79678-10-06 13:12 G 30823130.93 30823131.05 30823131.20 0.0292 0.0241 Jupiter 79680-04-27 06:15 G 30823699.53 30823699.76 30823700.00 0.0512 0.0032 Saturn 79692-03-24 01:56 G 30828048.37 30828048.58 30828048.81 0.0269 0.0124 Uranus 79696-03-28 02:24 G 30829513.42 30829513.60 30829513.81 0.0143 0.0091 Uranus 79697-04-02 01:56 G 30829883.35 30829883.58 30829883.84 0.0143 0.0038 Uranus 79698-04-07 02:10 G 30830253.34 30830253.59 30830253.85 0.0143 0.0017 Uranus 79699-04-12 02:53 G 30830623.41 30830623.62 30830623.85 0.0144 0.0071 Uranus 79700-04-17 04:20 G 30830993.56 30830993.68 30830993.81 0.0144 0.0125 Saturn 79707-10-01 10:05 G 30833716.68 30833716.92 30833717.16 0.0291 0.0001 Saturn 79722-04-01 07:41 G 30839012.60 30839012.82 30839013.06 0.0269 0.0103 Uranus 79735-09-27 18:15 G 30843940.19 30843940.26 30843940.35 0.0136 0.0128 Saturn 79736-09-24 22:34 G 30844303.29 30844303.44 30844303.62 0.0291 0.0214 Uranus 79736-10-01 03:51 G 30844309.46 30844309.66 30844309.86 0.0135 0.0083 Uranus 79737-10-05 12:29 G 30844678.78 30844679.02 30844679.27 0.0135 0.0038 Uranus 79738-10-09 20:39 G 30845048.11 30845048.36 30845048.61 0.0135 0.0007 Uranus 79739-10-14 03:51 G 30845417.44 30845417.66 30845417.91 0.0135 0.0051 Uranus 79740-10-17 11:17 G 30845786.80 30845786.97 30845787.15 0.0135 0.0094 Neptune 79742-05-01 00:58 G 30846347.49 30846347.54 30846347.65 0.0088 0.0084 Neptune 79743-05-03 12:58 G 30846714.87 30846715.04 30846715.25 0.0088 0.0061 Neptune 79744-05-05 00:44 G 30847082.31 30847082.53 30847082.78 0.0088 0.0038

Neptune 79745-05-07 12:44 G 30847449.78 30847450.03 30847450.29 0.0088 0.0015 Jupiter 79745-10-26 10:05 G 30847621.76 30847621.92 30847622.08 0.0514 0.0371 Neptune 79746-05-10 00:29 G 30847817.27 30847817.52 30847817.79 0.0088 0.0009 Neptune 79747-05-12 12:00 G 30848184.77 30848185.00 30848185.26 0.0088 0.0032 Neptune 79748-05-13 23:46 G 30848552.31 30848552.49 30848552.72 0.0088 0.0055 Neptune 79749-05-16 11:32 G 30848919.88 30848919.98 30848920.12 0.0088 0.0078 Saturn 79751-03-27 10:20 G 30849599.70 30849599.93 30849600.17 0.0269 0.0074 Jupiter 79757-10-31 00:58 G 30852009.32 30852009.54 30852009.77 0.0516 0.0099 Jupiter 79763-04-28 10:48 G 30854014.72 30854014.95 30854015.19 0.0512 0.0040 79766-02-08 21:08 G 30855032.27 30855032.38 30855032.49 0.1618 0.1304 Mars Saturn 79766-10-02 23:03 G 30855268.22 30855268.46 30855268.70 0.0291 0.0060 Pluto 79774-12-11 06:29 G 30858259.52 30858259.77 30858260.03 0.0063 0.0002 Jupiter 79775-05-03 02:24 G 30858402.47 30858402.60 30858402.74 0.0510 0.0418 Uranus 79779-03-25 16:05 G 30859825.12 30859825.17 30859825.25 0.0142 0.0137 Saturn 79780-03-21 09:36 G 30860186.81 30860186.90 30860186.99 0.0270 0.0250 Uranus 79780-03-29 14:39 G 30860194.92 30860195.11 30860195.34 0.0143 0.0085 Saturn 79781-04-02 15:36 G 30860563.95 30860564.15 30860564.36 0.0269 0.0152 Uranus 79781-04-03 14:24 G 30860564.85 30860565.10 30860565.35 0.0143 0.0031 Uranus 79782-04-08 14:24 G 30860934.86 30860935.10 30860935.36 0.0143 0.0024 Uranus 79783-04-13 15:22 G 30861304.93 30861305.14 30861305.36 0.0144 0.0078 Uranus 79784-04-17 16:20 G 30861675.10 30861675.18 30861675.30 0.0144 0.0133 Saturn 79795-09-27 12:15 G 30865854.80 30865855.01 30865855.21 0.0291 0.0152 Saturn 79810-03-29 20:10 G 30871151.10 30871151.34 30871151.59 0.0268 0.0024 Uranus 79819-09-29 08:39 G 30874621.75 30874621.86 30874621.98 0.0136 0.0121 Uranus 79820-10-02 17:46 G 30874991.05 30874991.24 30874991.46 0.0136 0.0076 Uranus 79821-10-07 02:39 G 30875360.38 30875360.61 30875360.87 0.0135 0.0031 Uranus 79822-10-11 10:48 G 30875729.70 30875729.95 30875730.20 0.0135 0.0013 Uranus 79823-10-15 18:15 G 30876099.04 30876099.26 30876099.50 0.0135 0.0058 Uranus 79824-10-19 01:12 G 30876468.40 30876468.55 30876468.73 0.0135 0.0102 Neptune 79824-11-01 23:46 G 30876482.42 30876482.49 30876482.56 0.0090 0.0086

Saturn 79825-10-05 13:56 G 30876819.87 30876820.08 30876820.31 0.0292 0.0125 Neptune 79825-11-04 10:34 G 30876849.78 30876849.94 30876850.15 0.0090 0.0063 Neptune 79826-11-06 22:05 G 30877217.21 30877217.42 30877217.67 0.0090 0.0039 Neptune 79827-11-09 09:51 G 30877584.67 30877584.91 30877585.17 0.0090 0.0015 Jupiter 79828-10-26 13:56 G 30877936.97 30877937.08 30877937.19 0.0514 0.0448 Neptune 79828-11-10 21:36 G 30877952.15 30877952.40 30877952.65 0.0090 0.0010 Neptune 79829-11-13 09:08 G 30878319.65 30878319.88 30878320.12 0.0090 0.0034 Neptune 79830-11-15 20:24 G 30878687.17 30878687.35 30878687.55 0.0090 0.0058 Neptune 79831-11-18 07:41 G 30879054.74 30879054.82 30879054.94 0.0090 0.0082 Saturn 79839-03-24 18:58 G 30881738.13 30881738.29 30881738.45 0.0270 0.0200 Saturn 79840-04-05 00:58 G 30882115.37 30882115.54 30882115.70 0.0268 0.0201 Jupiter 79840-10-31 05:46 G 30882324.51 30882324.74 30882324.97 0.0516 0.0025 Mars 79845-02-11 22:48 G 30883889.28 30883889.45 30883889.62 0.1616 0.0714 Jupiter 79846-04-28 06:58 G 30884329.56 30884329.79 30884330.02 0.0512 0.0146 Jupiter 79852-11-04 18:29 G 30886712.20 30886712.27 30886712.34 0.0518 0.0489 Saturn 79854-09-30 03:36 G 30887406.42 30887406.65 30887406.89 0.0291 0.0089 Jupiter 79858-05-03 01:56 G 30888717.41 30888717.58 30888717.76 0.0511 0.0330 Uranus 79863-03-27 01:41 G 30890506.49 30890506.57 30890506.68 0.0142 0.0132 Uranus 79864-03-31 00:29 G 30890876.31 30890876.52 30890876.73 0.0143 0.0079 Uranus 79865-04-04 23:46 G 30891246.24 30891246.49 30891246.74 0.0143 0.0026 Uranus 79866-04-09 23:46 G 30891616.24 30891616.49 30891616.75 0.0143 0.0029 Uranus 79867-04-15 00:29 G 30891986.32 30891986.52 30891986.74 0.0143 0.0084 Uranus 79868-04-19 01:41 G 30892356.52 30892356.57 30892356.66 0.0144 0.0139 Saturn 79869-03-31 06:44 G 30892702.53 30892702.78 30892703.02 0.0268 0.0029 Saturn 79884-10-07 06:15 G 30898371.59 30898371.76 30898371.96 0.0292 0.0191 Saturn 79898-03-26 04:34 G 30903289.49 30903289.69 30903289.90 0.0270 0.0150 Saturn 79899-04-07 10:20 G 30903666.85 30903666.93 30903667.03 0.0268 0.0251 Uranus 79903-09-30 21:51 G 30905303.29 30905303.41 30905303.56 0.0136 0.0115 Uranus 79904-10-04 07:27 G 30905672.60 30905672.81 30905673.04 0.0136 0.0070 Uranus 79905-10-08 16:20 G 30906041.94 30906042.18 30906042.43 0.0135 0.0025

Uranus 79906-10-13 00:44 G 30906411.28 30906411.53 30906411.78 0.0135 0.0020 Neptune 79907-05-04 18:29 G 30906615.13 30906615.27 30906615.44 0.0088 0.0070 Uranus 79907-10-17 08:10 G 30906780.63 30906780.84 30906781.07 0.0135 0.0065 Neptune 79908-05-06 06:29 G 30906982.56 30906982.77 30906983.00 0.0088 0.0047 Uranus 79908-10-20 15:08 G 30907150.01 30907150.13 30907150.30 0.0135 0.0109 Neptune 79909-05-08 18:29 G 30907350.02 30907350.27 30907350.52 0.0088 0.0024 Neptune 79910-05-11 06:15 G 30907717.50 30907717.76 30907718.02 0.0088 0.0001 Neptune 79911-05-13 18:00 G 30908085.00 30908085.25 30908085.51 0.0088 0.0022 Neptune 79912-05-15 05:17 G 30908452.51 30908452.72 30908452.96 0.0088 0.0045 Neptune 79913-05-17 17:03 G 30908820.07 30908820.21 30908820.40 0.0088 0.0068 Saturn 79913-10-02 18:44 G 30908958.04 30908958.28 30908958.53 0.0291 0.0026 Jupiter 79923-11-01 03:36 G 30912639.42 30912639.65 30912639.88 0.0515 0.0077 Saturn 79928-04-02 16:48 G 30914253.97 30914254.20 30914254.44 0.0268 0.0079 Jupiter 79929-04-28 07:27 G 30914644.60 30914644.81 30914645.02 0.0513 0.0230 Jupiter 79935-11-05 17:46 G 30917027.09 30917027.24 30917027.39 0.0517 0.0392 Jupiter 79941-05-03 04:34 G 30919032.49 30919032.69 30919032.90 0.0511 0.0254 Saturn 79942-09-26 21:51 G 30919544.31 30919544.41 30919544.54 0.0290 0.0253 Saturn 79943-10-10 23:03 G 30919923.35 30919923.46 30919923.58 0.0292 0.0255 Uranus 79947-03-28 13:41 G 30921187.96 30921188.07 30921188.19 0.0142 0.0126 Uranus 79948-04-01 12:15 G 30921557.79 30921558.01 30921558.23 0.0143 0.0073 Uranus 79949-04-06 11:32 G 30921927.72 30921927.98 30921928.23 0.0143 0.0019 Uranus 79950-04-11 11:32 G 30922297.73 30922297.98 30922298.23 0.0143 0.0035 Uranus 79951-04-16 12:00 G 30922667.82 30922668.00 30922668.22 0.0143 0.0091 Saturn 79957-03-28 13:56 G 30924840.85 30924841.08 30924841.31 0.0269 0.0100 Saturn 79972-10-04 09:08 G 30930509.64 30930509.88 30930510.12 0.0292 0.0035 Saturn 79987-04-05 01:56 G 30935805.37 30935805.58 30935805.80 0.0268 0.0127 Uranus 79987-10-01 11:03 G 30935984.83 30935984.96 30935985.13 0.0136 0.0109 Uranus 79988-10-04 20:39 G 30936354.15 30936354.36 30936354.60 0.0136 0.0064 Uranus 79989-10-09 05:46 G 30936723.49 30936723.74 30936724.00 0.0135 0.0018 Neptune 79989-11-04 15:51 G 30936750.02 30936750.16 30936750.31 0.0090 0.0073

 Uranus
 79990-10-13 13:56 G
 30937092.84
 30937093.08
 30937093.34
 0.0135
 0.0027

 Neptune
 79990-11-07 02:53 G
 30937117.43
 30937117.62
 30937117.85
 0.0090
 0.0050

 Uranus
 79991-10-17 21:36 G
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 30937462.40
 30937462.63
 0.0135
 0.0072

 Neptune
 79991-11-09 14:24 G
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 30937485.10
 30937485.36
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 0.0026

 Uranus
 79992-10-21 05:03 G
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 30937831.86
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 0.0116

 Neptune
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 30937852.85
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 0.0002

 Neptune
 79993-11-13 13:12 G
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 30938220.05
 30938220.31
 0.0090
 0.0047

 Neptune
 79994-11-16 00:29 G
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 30938587.52
 30938955.18
 0.0090
 0.0070

## 81ST MILLENNIUM CE

#### This is a list of transits of Earth in the 81st millennium CE.

FROM MAX- C START MAX END SUNRAD DEPTH S
TRANSIT
TIME

 Saturn
 80001-09-28 12:00 G
 30941095.83
 30941096.00
 30941096.19
 0.0291
 0.0192

 Jupiter
 80006-10-31 05:46 G
 30942954.52
 30942954.74
 30942954.96
 0.0514
 0.0161

 Jupiter
 80012-04-27 09:08 G
 30944959.69
 30944959.88
 30944960.07
 0.0514
 0.0312

 Saturn
 80016-03-29 22:05 G
 30946392.18
 30946392.42
 30946392.66
 0.0269
 0.0053

 Jupiter
 80018-11-04 22:05 G
 30947342.24
 30947342.42
 30947342.61
 0.0517
 0.0317

 Pluto
 80021-12-14 03:22 G
 30948477.42
 30948477.64
 30948477.90
 0.0063
 0.0024

 Pluto
 80022-12-15 13:27 G
 30948844.04
 30948844.06
 30948844.12
 0.0063
 0.0063

 Jupiter
 80024-05-02 04:34 G
 30949347.46
 30949347.69
 30949347.91
 0.0511
 0.0165

 Uranus
 80031-03-29 01:56 G
 30951869.45
 30951869.58
 30951869.73
 0.0142
 0.0119

 Saturn
 80031-10-06 20:53 G
 30952061.14
 30952061.37
 30952061.60
 0.0292
 0.0092

Uranus 80032-04-02 00:15 G 30952239.29 30952239.51 30952239.74 0.0143 0.0067 Uranus 80033-04-06 23:32 G 30952609.23 30952609.48 30952609.74 0.0143 0.0013 Uranus 80034-04-11 23:17 G 30952979.23 30952979.47 30952979.72 0.0143 0.0042 Uranus 80035-04-17 00:00 G 30953349.31 30953349.50 30953349.69 0.0143 0.0097 Saturn 80045-03-25 04:05 G 30956979.54 30956979.67 30956979.80 0.0269 0.0226 Saturn 80046-04-06 09:08 G 30957356.71 30957356.88 30957357.08 0.0268 0.0173 80050-02-12 04:48 G 30958764.52 30958764.70 30958764.88 0.1620 0.0415 Mars Saturn 80060-09-29 23:32 G 30962647.28 30962647.48 30962647.71 0.0291 0.0135 Neptune 80071-05-03 22:48 G 30966515.38 30966515.45 30966515.59 0.0088 0.0080 Uranus 80071-10-01 23:32 G 30966666.34 30966666.48 30966666.67 0.0136 0.0104 Neptune 80072-05-05 11:03 G 30966882.78 30966882.96 30966883.18 0.0088 0.0057 Uranus 80072-10-05 09:36 G 30967035.68 30967035.90 30967036.13 0.0136 0.0057 Neptune 80073-05-07 23:03 G 30967250.24 30967250.46 30967250.72 0.0088 0.0034 Uranus 80073-10-09 18:44 G 30967405.03 30967405.28 30967405.53 0.0135 0.0012 Neptune 80074-05-10 11:17 G 30967617.72 30967617.97 30967618.24 0.0088 0.0011 Uranus 80074-10-14 02:53 G 30967774.39 30967774.62 30967774.88 0.0135 0.0034 Saturn 80075-04-01 04:34 G 30967943.44 30967943.69 30967943.93 0.0269 0.0010 Neptune 80075-05-12 22:48 G 30967985.20 30967985.45 30967985.72 0.0088 0.0013 Uranus 80075-10-18 11:17 G 30968143.77 30968143.97 30968144.18 0.0135 0.0078 Neptune 80076-05-14 11:03 G 30968352.72 30968352.96 30968353.20 0.0088 0.0035 Uranus 80076-10-21 18:15 G 30968513.18 30968513.26 30968513.39 0.0135 0.0123 Neptune 80077-05-16 22:34 G 30968720.26 30968720.44 30968720.65 0.0088 0.0058 Neptune 80078-05-19 10:05 G 30969087.84 30969087.92 30969088.04 0.0088 0.0081 Jupiter 80089-10-30 09:51 G 30973269.71 30973269.91 30973270.12 0.0514 0.0231 Saturn 80090-10-08 05:03 G 30973612.50 30973612.71 30973612.92 0.0292 0.0143 Jupiter 80095-04-27 08:10 G 30975274.70 30975274.84 30975274.99 0.0515 0.0402 Jupiter 80101-11-05 00:58 G 30977657.34 30977657.54 30977657.75 0.0515 0.0238 Saturn 80104-03-27 09:36 G 30978530.73 30978530.90 30978531.09 0.0269 0.0182 Saturn 80105-04-08 14:39 G 30978907.97 30978908.11 30978908.26 0.0268 0.0214 Jupiter 80107-05-03 05:32 G 30979662.50 30979662.73 30979662.96 0.0513 0.0086

80112-06-16 18:15 G 30981534.01 30981534.26 30981534.51 0.0081 0.0021 Pluto Uranus 80115-03-30 16:34 G 30982551.05 30982551.19 30982551.36 0.0142 0.0112 Uranus 80116-04-03 15:22 G 30982920.91 30982921.14 30982921.37 0.0143 0.0059 Uranus 80117-04-08 14:24 G 30983290.85 30983291.10 30983291.36 0.0143 0.0005 Uranus 80118-04-13 14:10 G 30983660.86 30983661.09 30983661.34 0.0143 0.0050 Uranus 80119-04-18 14:39 G 30984030.95 30984031.11 30984031.30 0.0143 0.0106 Saturn 80119-10-03 07:27 G 30984198.58 30984198.81 30984199.05 0.0291 0.0084 80129-02-15 06:15 G 30987621.73 30987621.76 30987621.79 0.1618 0.1589 Mars Saturn 80134-04-03 09:08 G 30989494.64 30989494.88 30989495.13 0.0268 0.0032 80137-08-19 03:51 G 30990728.49 30990728.66 30990728.83 0.1909 0.1050 Mars Saturn 80149-10-10 10:05 G 30995163.74 30995163.92 30995164.10 0.0292 0.0190 Neptune 80153-11-04 20:24 G 30996650.29 30996650.35 30996650.47 0.0090 0.0084 Neptune 80154-11-07 08:10 G 30997017.67 30997017.84 30997018.04 0.0090 0.0060 Uranus 80155-10-03 13:27 G 30997347.88 30997348.06 30997348.24 0.0136 0.0096 Neptune 80155-11-09 19:41 G 30997385.10 30997385.32 30997385.57 0.0090 0.0037 Uranus 80156-10-06 22:48 G 30997717.23 30997717.45 30997717.70 0.0136 0.0051 Neptune 80156-11-11 06:58 G 30997752.55 30997752.79 30997753.05 0.0090 0.0013 Uranus 80157-10-11 08:10 G 30998086.59 30998086.84 30998087.10 0.0135 0.0006 Neptune 80157-11-13 18:29 G 30998120.03 30998120.27 30998120.53 0.0090 0.0012 Uranus 80158-10-15 16:34 G 30998455.97 30998456.19 30998456.45 0.0135 0.0042 Neptune 80158-11-16 05:46 G 30998487.52 30998487.74 30998487.99 0.0090 0.0036 Uranus 80159-10-20 00:44 G 30998825.35 30998825.53 30998825.74 0.0135 0.0086 Neptune 80159-11-18 17:17 G 30998855.04 30998855.22 30998855.42 0.0090 0.0059 Uranus 80160-10-23 08:24 G 30999194.80 30999194.85 30999194.93 0.0135 0.0130 Neptune 80160-11-20 04:20 G 30999222.61 30999222.68 30999222.80 0.0090 0.0083 Saturn 80163-03-29 13:12 G 31000081.85 31000082.05 31000082.27 0.0269 0.0141 Saturn 80164-04-09 17:46 G 31000459.18 31000459.24 31000459.33 0.0267 0.0253 Jupiter 80172-10-30 14:24 G 31003584.92 31003585.10 31003585.29 0.0513 0.0305 Jupiter 80178-04-27 14:53 G 31005590.02 31005590.12 31005590.22 0.0515 0.0463 Saturn 80178-10-04 12:00 G 31005749.76 31005750.00 31005750.24 0.0292 0.0038

Jupiter 80184-11-04 06:15 G 31007972.54 31007972.76 31007972.98 0.0515 0.0167 Jupiter 80190-05-02 13:27 G 31009977.82 31009978.06 31009978.29 0.0513 0.0032 Saturn 80193-04-04 11:46 G 31011045.76 31011045.99 31011046.23 0.0268 0.0071 Uranus 80199-03-31 06:15 G 31013232.60 31013232.76 31013232.94 0.0142 0.0105 Uranus 80200-04-05 04:48 G 31013602.47 31013602.70 31013602.95 0.0142 0.0052 Uranus 80201-04-10 04:05 G 31013972.42 31013972.67 31013972.93 0.0143 0.0003 Uranus 80202-04-15 03:51 G 31014342.44 31014342.66 31014342.91 0.0143 0.0058 Uranus 80203-04-20 04:05 G 31014712.53 31014712.67 31014712.84 0.0143 0.0113 Saturn 80207-09-29 08:53 G 31016335.80 31016335.87 31016335.94 0.0291 0.0276 Saturn 80208-10-12 11:17 G 31016714.82 31016714.97 31016715.12 0.0292 0.0231 Saturn 80222-03-31 15:36 G 31021632.92 31021633.15 31021633.38 0.0269 0.0102 Neptune 80236-05-06 16:34 G 31026783.03 31026783.19 31026783.37 0.0088 0.0066 Neptune 80237-05-09 04:20 G 31027150.48 31027150.68 31027150.93 0.0088 0.0044 Saturn 80237-10-06 13:12 G 31027300.81 31027301.05 31027301.29 0.0292 0.0004 Neptune 80238-05-11 16:20 G 31027517.94 31027518.18 31027518.45 0.0088 0.0021 Neptune 80239-05-14 04:34 G 31027885.43 31027885.69 31027885.95 0.0088 0.0002 Uranus 80239-10-05 02:10 G 31028029.41 31028029.59 31028029.78 0.0136 0.0090 Neptune 80240-05-15 16:05 G 31028252.94 31028253.17 31028253.44 0.0088 0.0026 Uranus 80240-10-08 12:00 G 31028398.77 31028399.00 31028399.25 0.0136 0.0044 Neptune 80241-05-18 04:20 G 31028620.46 31028620.68 31028620.90 0.0088 0.0048 Uranus 80241-10-12 21:22 G 31028768.14 31028768.39 31028768.64 0.0135 0.0002 Neptune 80242-05-20 15:51 G 31028988.02 31028988.16 31028988.33 0.0088 0.0071 Uranus 80242-10-17 05:46 G 31029137.52 31029137.74 31029137.99 0.0135 0.0049 Uranus 80243-10-21 13:56 G 31029506.92 31029507.08 31029507.29 0.0135 0.0093 Saturn 80252-04-06 13:12 G 31032596.83 31032597.05 31032597.28 0.0268 0.0108 80255-02-13 10:20 G 31033639.89 31033639.93 31033639.97 0.1624 0.1582 Mars Jupiter 80255-10-31 23:46 G 31033900.33 31033900.49 31033900.66 0.0513 0.0356 Saturn 80266-09-30 07:41 G 31037886.69 31037886.82 31037886.96 0.0291 0.0238 Saturn 80267-10-14 10:20 G 31038265.84 31038265.93 31038266.03 0.0293 0.0269 Jupiter 80267-11-05 16:48 G 31038287.98 31038288.20 31038288.43 0.0515 0.0123

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Saturn 80355-10-10 10:34 G 31070402.71 31070402.94 31070403.18 0.0292 0.0080 Jupiter 80356-05-03 00:15 G 31070608.28 31070608.51 31070608.74 0.0515 0.0098 Pluto 80359-06-19 22:20 G 31071751.33 31071751.43 31071751.56 0.0081 0.0072 Uranus 80367-04-03 06:44 G 31074595.59 31074595.78 31074595.98 0.0142 0.0092 Uranus 80368-04-07 05:03 G 31074965.47 31074965.71 31074965.96 0.0142 0.0039 Jupiter 80368-05-07 23:32 G 31074996.34 31074996.48 31074996.63 0.0512 0.0399 Saturn 80369-03-29 10:20 G 31075321.79 31075321.93 31075322.09 0.0269 0.0211 Uranus 80369-04-12 04:05 G 31075335.42 31075335.67 31075335.93 0.0143 0.0016 Saturn 80370-04-10 14:24 G 31075698.93 31075699.10 31075699.29 0.0267 0.0181 Uranus 80370-04-17 03:36 G 31075705.44 31075705.65 31075705.88 0.0143 0.0072 Uranus 80371-04-22 03:36 G 31076075.55 31076075.65 31076075.79 0.0143 0.0127 Saturn 80384-10-03 02:24 G 31080988.41 31080988.60 31080988.81 0.0291 0.0166 Saturn 80399-04-05 16:20 G 31086285.93 31086286.18 31086286.43 0.0268 0.0010 Neptune 80400-05-06 22:20 G 31086683.30 31086683.43 31086683.57 0.0088 0.0075 Neptune 80401-05-09 09:36 G 31087050.71 31087050.90 31087051.13 0.0088 0.0053 Neptune 80402-05-11 21:51 G 31087418.17 31087418.41 31087418.66 0.0088 0.0030 Neptune 80403-05-14 10:05 G 31087785.66 31087785.92 31087786.18 0.0088 0.0007 Neptune 80404-05-15 21:51 G 31088153.16 31088153.41 31088153.67 0.0088 0.0016 Neptune 80405-05-18 09:36 G 31088520.68 31088520.90 31088521.15 0.0088 0.0039 Neptune 80406-05-20 21:08 G 31088888.22 31088888.38 31088888.60 0.0088 0.0062 Uranus 80406-10-02 17:17 G 31089023.13 31089023.22 31089023.33 0.0136 0.0125 Neptune 80407-05-23 09:36 G 31089255.84 31089255.90 31089255.99 0.0088 0.0084 Uranus 80407-10-07 03:36 G 31089392.46 31089392.65 31089392.87 0.0136 0.0078 Uranus 80408-10-10 13:56 G 31089761.84 31089762.08 31089762.33 0.0136 0.0031 Uranus 80409-10-14 23:17 G 31090131.23 31090131.47 31090131.73 0.0135 0.0016 Uranus 80410-10-19 08:10 G 31090500.62 31090500.84 31090501.07 0.0135 0.0062 Uranus 80411-10-23 16:34 G 31090870.04 31090870.19 31090870.34 0.0135 0.0106 Saturn 80414-10-11 09:08 G 31091953.66 31091953.88 31091954.10 0.0292 0.0118 80421-08-20 00:58 G 31094458.37 31094458.54 31094458.71 0.1904 0.1070 Mars Jupiter 80421-10-31 18:58 G 31094531.19 31094531.29 31094531.39 0.0511 0.0458

Saturn 80428-03-30 11:32 G 31096872.80 31096872.98 31096873.18 0.0269 0.0173 Saturn 80429-04-11 15:36 G 31097250.02 31097250.15 31097250.30 0.0267 0.0218 Jupiter 80433-11-05 10:20 G 31098918.70 31098918.93 31098919.16 0.0514 0.0012 Jupiter 80439-05-03 10:05 G 31100923.69 31100923.92 31100924.15 0.0515 0.0146 Saturn 80443-10-05 01:41 G 31102539.35 31102539.57 31102539.79 0.0291 0.0126 Jupiter 80445-11-10 04:05 G 31103306.63 31103306.67 31103306.74 0.0516 0.0499 Uranus 80450-03-29 19:27 G 31104907.29 31104907.31 31104907.37 0.0142 0.0140 Uranus 80451-04-03 16:48 G 31105277.02 31105277.20 31105277.42 0.0142 0.0087 Jupiter 80451-05-08 02:10 G 31105311.40 31105311.59 31105311.77 0.0513 0.0322 Uranus 80452-04-07 15:22 G 31105646.90 31105647.14 31105647.40 0.0142 0.0033 Uranus 80453-04-12 14:10 G 31106016.84 31106017.09 31106017.35 0.0143 0.0023 Uranus 80454-04-17 13:27 G 31106386.86 31106387.06 31106387.29 0.0143 0.0078 Uranus 80455-04-22 13:27 G 31106756.99 31106757.06 31106757.18 0.0143 0.0134 Saturn 80458-04-06 17:03 G 31107836.97 31107837.21 31107837.45 0.0268 0.0048 Saturn 80473-10-12 09:22 G 31113504.69 31113504.89 31113505.10 0.0292 0.0159 Neptune 80482-11-07 20:10 G 31116818.25 31116818.34 31116818.47 0.0090 0.0080 Neptune 80483-11-10 07:41 G 31117185.64 31117185.82 31117186.04 0.0090 0.0057 Neptune 80484-11-11 19:12 G 31117553.08 31117553.30 31117553.55 0.0090 0.0033 Neptune 80485-11-14 06:44 G 31117920.53 31117920.78 31117921.04 0.0090 0.0010 Neptune 80486-11-16 18:00 G 31118288.01 31118288.25 31118288.51 0.0090 0.0015 Saturn 80487-04-01 13:41 G 31118423.87 31118424.07 31118424.30 0.0269 0.0133 Neptune 80487-11-19 05:03 G 31118655.50 31118655.71 31118655.96 0.0090 0.0038 Saturn 80488-04-12 17:46 G 31118801.19 31118801.24 31118801.32 0.0267 0.0258 Neptune 80488-11-20 16:05 G 31119023.02 31119023.17 31119023.39 0.0090 0.0062 Neptune 80489-11-23 03:36 G 31119390.59 31119390.65 31119390.75 0.0090 0.0085 Uranus 80490-10-03 05:32 G 31119704.61 31119704.73 31119704.86 0.0136 0.0119 Uranus 80491-10-07 16:05 G 31120073.97 31120074.17 31120074.40 0.0136 0.0072 Uranus 80492-10-11 02:24 G 31120443.36 31120443.60 31120443.85 0.0136 0.0025 Uranus 80493-10-15 12:00 G 31120812.75 31120813.00 31120813.25 0.0136 0.0022 Uranus 80494-10-19 20:53 G 31121182.16 31121182.37 31121182.59 0.0135 0.0068

Uranus 80495-10-24 04:48 G 31121551.57 31121551.70 31121551.84 0.0135 0.0113 Saturn 80502-10-07 02:39 G 31124090.38 31124090.61 31124090.85 0.0291 0.0084 Jupiter 80504-11-01 06:15 G 31124846.72 31124846.76 31124846.81 0.0511 0.0501 Jupiter 80516-11-05 21:51 G 31129234.18 31129234.41 31129234.64 0.0513 0.0034 Pluto 80516-12-20 20:10 G 31129279.11 31129279.34 31129279.57 0.0063 0.0026 Saturn 80517-04-08 19:12 G 31129388.06 31129388.30 31129388.53 0.0269 0.0088 80517-12-22 05:32 G 31129645.67 31129645.73 31129645.84 0.0063 0.0059 Pluto Jupiter 80522-05-03 09:22 G 31131238.68 31131238.89 31131239.10 0.0515 0.0238 Jupiter 80528-11-10 09:51 G 31133621.79 31133621.91 31133622.04 0.0515 0.0427 Saturn 80532-10-14 12:44 G 31135055.86 31135056.03 31135056.21 0.0292 0.0205 Uranus 80534-03-31 06:58 G 31135588.72 31135588.79 31135588.88 0.0142 0.0134 Jupiter 80534-05-08 07:56 G 31135626.62 31135626.83 31135627.03 0.0513 0.0258 Uranus 80535-04-05 04:05 G 31135958.47 31135958.67 31135958.89 0.0142 0.0081 Uranus 80536-04-09 02:10 G 31136328.34 31136328.59 31136328.85 0.0142 0.0027 Uranus 80537-04-14 00:29 G 31136698.28 31136698.52 31136698.78 0.0143 0.0028 Uranus 80538-04-19 00:00 G 31137068.29 31137068.50 31137068.71 0.0143 0.0083 Mars 80539-02-16 16:20 G 31137372.01 31137372.18 31137372.34 0.1627 0.0745 Uranus 80539-04-23 23:46 G 31137438.43 31137438.49 31137438.56 0.0143 0.0138 Saturn 80546-04-03 17:46 G 31139975.01 31139975.24 31139975.47 0.0269 0.0090 Saturn 80561-10-08 07:27 G 31145641.57 31145641.81 31145642.05 0.0291 0.0036 Neptune 80564-05-07 03:51 G 31146583.61 31146583.66 31146583.76 0.0088 0.0084 Neptune 80565-05-09 15:36 G 31146950.99 31146951.15 31146951.36 0.0088 0.0062 Neptune 80566-05-12 03:36 G 31147318.43 31147318.65 31147318.90 0.0088 0.0039 Neptune 80567-05-14 15:51 G 31147685.90 31147686.16 31147686.42 0.0088 0.0016 Neptune 80568-05-16 03:36 G 31148053.40 31148053.65 31148053.92 0.0088 0.0007 Neptune 80569-05-18 15:08 G 31148420.90 31148421.13 31148421.39 0.0088 0.0030 Neptune 80570-05-21 03:22 G 31148788.44 31148788.64 31148788.87 0.0088 0.0052 Neptune 80571-05-23 15:08 G 31149156.02 31149156.13 31149156.29 0.0088 0.0075 Uranus 80574-10-04 15:22 G 31150386.02 31150386.14 31150386.30 0.0137 0.0115 Saturn 80575-03-29 16:34 G 31150562.14 31150562.19 31150562.24 0.0271 0.0264

Uranus 80575-10-09 02:10 G 31150755.39 31150755.59 31150755.83 0.0136 0.0068 Saturn 80576-04-09 22:48 G 31150939.23 31150939.45 31150939.67 0.0269 0.0130 Uranus 80576-10-12 12:58 G 31151124.79 31151125.04 31151125.29 0.0136 0.0020 Uranus 80577-10-16 22:34 G 31151494.20 31151494.44 31151494.69 0.0136 0.0027 Uranus 80578-10-21 07:27 G 31151863.60 31151863.81 31151864.03 0.0135 0.0074 Uranus 80579-10-25 15:08 G 31152233.04 31152233.13 31152233.28 0.0135 0.0120 Saturn 80590-10-02 17:46 G 31156228.11 31156228.24 31156228.37 0.0290 0.0246 Saturn 80591-10-16 19:12 G 31156607.18 31156607.30 31156607.42 0.0293 0.0254 Jupiter 80599-11-06 00:29 G 31159549.29 31159549.52 31159549.74 0.0512 0.0115 Saturn 80605-04-05 23:17 G 31161526.23 31161526.47 31161526.72 0.0269 0.0045 Jupiter 80605-05-03 15:36 G 31161553.96 31161554.15 31161554.35 0.0516 0.0301 80607-06-24 03:22 G 31162335.38 31162335.64 31162335.91 0.0081 0.0003 Pluto Jupiter 80611-11-11 14:53 G 31163936.96 31163937.12 31163937.29 0.0515 0.0355 Jupiter 80617-05-08 14:10 G 31165941.87 31165942.09 31165942.31 0.0514 0.0195 80618-02-19 18:00 G 31166229.14 31166229.25 31166229.36 0.1625 0.1294 Mars Uranus 80618-04-01 19:27 G 31166270.22 31166270.31 31166270.44 0.0142 0.0128 Uranus 80619-04-06 16:34 G 31166639.99 31166640.19 31166640.42 0.0142 0.0075 Uranus 80620-04-10 14:24 G 31167009.86 31167010.10 31167010.36 0.0142 0.0021 Saturn 80620-10-10 15:51 G 31167192.92 31167193.16 31167193.41 0.0291 0.0018 Uranus 80621-04-15 12:58 G 31167379.79 31167380.04 31167380.29 0.0143 0.0035 Uranus 80622-04-20 12:00 G 31167749.81 31167750.00 31167750.20 0.0143 0.0090 Saturn 80634-03-31 21:36 G 31172113.27 31172113.40 31172113.56 0.0271 0.0220 Saturn 80635-04-13 04:05 G 31172490.49 31172490.67 31172490.87 0.0269 0.0175 Neptune 80646-11-09 02:53 G 31176718.62 31176718.62 31176718.66 0.0090 0.0090 Neptune 80647-11-11 14:39 G 31177085.95 31177086.11 31177086.29 0.0090 0.0066 Neptune 80648-11-13 01:56 G 31177453.38 31177453.58 31177453.83 0.0090 0.0043 Saturn 80649-10-05 03:51 G 31177779.48 31177779.66 31177779.85 0.0290 0.0191 Neptune 80649-11-15 13:56 G 31177820.84 31177821.08 31177821.33 0.0090 0.0019 Neptune 80650-11-18 01:12 G 31178188.30 31178188.55 31178188.81 0.0090 0.0005 Neptune 80651-11-20 12:29 G 31178555.79 31178556.02 31178556.27 0.0090 0.0029

Neptune 80652-11-21 23:32 G 31178923.30 31178923.48 31178923.71 0.0090 0.0052 Neptune 80653-11-24 11:03 G 31179290.84 31179290.96 31179291.11 0.0090 0.0075 Uranus 80658-10-06 02:53 G 31181067.48 31181067.62 31181067.78 0.0137 0.0109 Uranus 80659-10-10 13:56 G 31181436.86 31181437.08 31181437.31 0.0136 0.0061 Uranus 80660-10-14 00:29 G 31181806.27 31181806.52 31181806.77 0.0136 0.0014 Uranus 80661-10-18 09:51 G 31182175.67 31182175.91 31182176.16 0.0136 0.0034 Uranus 80662-10-22 18:44 G 31182545.09 31182545.28 31182545.50 0.0136 0.0080 Uranus 80663-10-27 02:39 G 31182914.54 31182914.61 31182914.73 0.0135 0.0126 Saturn 80664-04-07 06:44 G 31183077.53 31183077.78 31183078.03 0.0269 0.0001 Saturn 80679-10-13 03:51 G 31188744.43 31188744.66 31188744.90 0.0291 0.0076 Jupiter 80682-11-06 06:15 G 31189864.54 31189864.76 31189864.98 0.0512 0.0184 Jupiter 80688-05-02 14:39 G 31191868.97 31191869.11 31191869.27 0.0516 0.0396 Saturn 80693-04-02 05:03 G 31193664.52 31193664.71 31193664.90 0.0271 0.0173 Saturn 80694-04-14 11:17 G 31194041.84 31194041.97 31194042.12 0.0269 0.0221 Jupiter 80694-11-10 21:22 G 31194252.20 31194252.39 31194252.58 0.0514 0.0288 Jupiter 80700-05-08 10:20 G 31196256.70 31196256.93 31196257.17 0.0514 0.0090 Uranus 80702-04-03 09:22 G 31196951.77 31196951.89 31196952.03 0.0141 0.0121 Uranus 80703-04-08 06:15 G 31197321.54 31197321.76 31197321.99 0.0142 0.0067 Uranus 80704-04-12 04:05 G 31197691.41 31197691.67 31197691.92 0.0142 0.0013 Uranus 80705-04-17 01:56 G 31198061.34 31198061.58 31198061.83 0.0142 0.0042 Uranus 80706-04-22 01:12 G 31198431.37 31198431.55 31198431.74 0.0143 0.0097 Saturn 80708-10-07 16:34 G 31199330.98 31199331.19 31199331.42 0.0291 0.0133 Saturn 80723-04-10 15:51 G 31204628.92 31204629.16 31204629.40 0.0269 0.0050 Neptune 80729-05-10 22:20 G 31206851.30 31206851.43 31206851.62 0.0088 0.0070 Neptune 80730-05-13 10:20 G 31207218.73 31207218.93 31207219.17 0.0088 0.0048 Neptune 80731-05-15 22:34 G 31207586.20 31207586.44 31207586.70 0.0088 0.0025 Neptune 80732-05-17 10:20 G 31207953.67 31207953.93 31207954.19 0.0088 0.0002 Neptune 80733-05-19 22:05 G 31208321.18 31208321.42 31208321.69 0.0088 0.0021 Neptune 80734-05-22 10:05 G 31208688.70 31208688.92 31208689.16 0.0088 0.0043 Neptune 80735-05-24 21:36 G 31209056.26 31209056.40 31209056.60 0.0088 0.0066 Saturn 80738-10-15 18:58 G 31210296.08 31210296.29 31210296.50 0.0291 0.0139 Uranus 80742-10-07 13:27 G 31211748.90 31211749.06 31211749.23 0.0137 0.0104 Uranus 80743-10-12 00:00 G 31212118.29 31212118.50 31212118.75 0.0136 0.0057 Uranus 80744-10-15 10:48 G 31212487.70 31212487.95 31212488.21 0.0136 0.0008 Uranus 80745-10-19 20:10 G 31212857.11 31212857.34 31212857.59 0.0136 0.0039 Uranus 80746-10-24 05:03 G 31213226.53 31213226.71 31213226.92 0.0136 0.0086 Uranus 80747-10-28 13:27 G 31213596.01 31213596.06 31213596.14 0.0135 0.0131 Saturn 80752-04-04 13:41 G 31215215.86 31215216.07 31215216.29 0.0270 0.0125 Saturn 80753-04-16 19:41 G 31215593.32 31215593.32 31215593.35 0.0269 0.0268 80764-12-24 15:36 G 31219862.90 31219863.15 31219863.41 0.0063 0.0002 Pluto Jupiter 80765-11-06 06:29 G 31220179.59 31220179.77 31220179.97 0.0511 0.0274 Saturn 80767-10-10 07:56 G 31220882.59 31220882.83 31220883.07 0.0291 0.0071 Jupiter 80771-05-03 12:44 G 31222183.97 31222184.03 31222184.10 0.0517 0.0494 Jupiter 80777-11-10 19:56 G 31224567.12 31224567.33 31224567.55 0.0513 0.0188 Saturn 80782-04-12 01:41 G 31226180.34 31226180.57 31226180.80 0.0269 0.0099 Jupiter 80783-05-08 11:17 G 31226571.74 31226571.97 31226572.21 0.0515 0.0009 Uranus 80786-04-03 22:05 G 31227633.27 31227633.42 31227633.57 0.0141 0.0114 Uranus 80787-04-08 18:44 G 31228003.06 31228003.28 31228003.52 0.0142 0.0061 Uranus 80788-04-12 16:34 G 31228372.93 31228373.19 31228373.44 0.0142 0.0007 Uranus 80789-04-17 14:39 G 31228742.87 31228743.11 31228743.35 0.0142 0.0049 Uranus 80790-04-22 13:41 G 31229112.90 31229113.07 31229113.25 0.0143 0.0104 Jupiter 80795-05-13 09:08 G 31230959.83 31230959.88 31230959.94 0.0513 0.0496 Saturn 80797-10-17 11:17 G 31231847.80 31231847.97 31231848.15 0.0292 0.0203 Saturn 80811-04-06 23:32 G 31236767.25 31236767.48 31236767.73 0.0270 0.0076 Neptune 80811-11-11 22:34 G 31236986.32 31236986.44 31236986.59 0.0090 0.0075 Neptune 80812-11-13 10:05 G 31237353.73 31237353.92 31237354.15 0.0090 0.0052 Neptune 80813-11-15 21:51 G 31237721.17 31237721.41 31237721.66 0.0090 0.0028 Neptune 80814-11-18 09:36 G 31238088.64 31238088.90 31238089.15 0.0090 0.0005 Neptune 80815-11-20 20:53 G 31238456.12 31238456.37 31238456.62 0.0090 0.0019 Neptune 80816-11-22 07:56 G 31238823.62 31238823.83 31238824.07 0.0090 0.0043

Neptune 80817-11-24 19:12 G 31239191.14 31239191.30 31239191.49 0.0090 0.0066 Neptune 80818-11-27 06:15 G 31239558.75 31239558.76 31239558.82 0.0090 0.0089 Mars 80823-02-19 22:05 G 31241104.23 31241104.42 31241104.60 0.1630 0.0089 Uranus 80826-10-08 01:12 G 31242430.38 31242430.55 31242430.73 0.0137 0.0098 Saturn 80826-10-11 23:46 G 31242434.24 31242434.49 31242434.73 0.0291 0.0010 Uranus 80827-10-12 11:46 G 31242799.77 31242799.99 31242800.24 0.0136 0.0051 Uranus 80828-10-15 22:34 G 31243169.19 31243169.44 31243169.69 0.0136 0.0003 Uranus 80829-10-20 07:56 G 31243538.59 31243538.83 31243539.07 0.0136 0.0045 Uranus 80830-10-24 17:03 G 31243908.02 31243908.21 31243908.40 0.0136 0.0091 Saturn 80840-04-01 05:17 G 31247354.63 31247354.72 31247354.83 0.0270 0.0246 Saturn 80841-04-13 12:00 G 31247731.79 31247732.00 31247732.20 0.0268 0.0148 Jupiter 80848-11-05 06:15 G 31250494.61 31250494.76 31250494.93 0.0511 0.0367 Pluto 80855-06-27 02:53 G 31252919.43 31252919.62 31252919.86 0.0081 0.0048 Saturn 80855-10-06 03:36 G 31253020.51 31253020.65 31253020.81 0.0290 0.0228 Saturn 80856-10-19 04:20 G 31253399.60 31253399.68 31253399.79 0.0292 0.0267 Jupiter 80860-11-09 21:36 G 31254882.17 31254882.40 31254882.62 0.0513 0.0102 Jupiter 80866-05-07 11:03 G 31256886.73 31256886.96 31256887.20 0.0515 0.0085 Uranus 80870-04-04 09:08 G 31258314.74 31258314.88 31258315.06 0.0141 0.0109 Saturn 80870-04-08 09:22 G 31258318.65 31258318.89 31258319.14 0.0270 0.0028 Uranus 80871-04-09 06:00 G 31258684.52 31258684.75 31258684.99 0.0142 0.0055 Uranus 80872-04-13 03:51 G 31259054.40 31259054.66 31259054.91 0.0142 0.0002 Uranus 80873-04-18 01:41 G 31259424.34 31259424.57 31259424.81 0.0142 0.0055 Uranus 80874-04-23 00:44 G 31259794.38 31259794.53 31259794.70 0.0143 0.0111 Jupiter 80878-05-12 06:44 G 31261274.64 31261274.78 31261274.93 0.0513 0.0397 Saturn 80885-10-13 14:10 G 31263985.86 31263986.09 31263986.34 0.0291 0.0051 Neptune 80893-05-10 05:32 G 31266751.63 31266751.73 31266751.87 0.0088 0.0078 Neptune 80894-05-12 17:32 G 31267119.05 31267119.23 31267119.45 0.0088 0.0056 Neptune 80895-05-15 05:32 G 31267486.49 31267486.73 31267486.97 0.0088 0.0033 Neptune 80896-05-16 17:17 G 31267853.97 31267854.22 31267854.49 0.0088 0.0011 Neptune 80897-05-19 05:03 G 31268221.46 31268221.71 31268221.98 0.0088 0.0012

Neptune 80898-05-21 16:48 G 31268588.98 31268589.20 31268589.46 0.0088 0.0035 Saturn 80899-04-03 15:36 G 31268906.00 31268906.15 31268906.33 0.0270 0.0197 Neptune 80899-05-24 04:34 G 31268956.52 31268956.69 31268956.91 0.0088 0.0057 Saturn 80900-04-15 21:51 G 31269283.25 31269283.41 31269283.58 0.0268 0.0195 Neptune 80900-05-26 16:48 G 31269324.10 31269324.20 31269324.32 0.0088 0.0079 Uranus 80910-10-09 11:32 G 31273111.80 31273111.98 31273112.16 0.0137 0.0093 Uranus 80911-10-13 22:05 G 31273481.19 31273481.42 31273481.67 0.0136 0.0045 Uranus 80912-10-17 08:39 G 31273850.61 31273850.86 31273851.11 0.0136 0.0003 Uranus 80913-10-21 18:00 G 31274220.02 31274220.25 31274220.49 0.0136 0.0050 Saturn 80914-10-08 18:29 G 31274572.08 31274572.27 31274572.48 0.0290 0.0168 Uranus 80914-10-26 02:53 G 31274589.46 31274589.62 31274589.81 0.0136 0.0097 Saturn 80929-04-10 18:44 G 31279870.03 31279870.28 31279870.52 0.0269 0.0020 Jupiter 80931-11-06 09:51 G 31280809.81 31280809.91 31280810.03 0.0510 0.0443 Jupiter 80943-11-10 23:17 G 31285197.24 31285197.47 31285197.70 0.0512 0.0021 Saturn 80944-10-16 03:08 G 31285537.42 31285537.63 31285537.87 0.0292 0.0109 Jupiter 80949-05-07 08:24 G 31287201.63 31287201.85 31287202.07 0.0516 0.0183 Uranus 80954-04-05 18:29 G 31288996.11 31288996.27 31288996.46 0.0141 0.0104 Uranus 80955-04-10 15:22 G 31289365.91 31289366.14 31289366.38 0.0142 0.0050 Jupiter 80955-11-15 13:27 G 31289584.99 31289585.06 31289585.13 0.0514 0.0488 Uranus 80956-04-14 12:58 G 31289735.78 31289736.04 31289736.29 0.0142 0.0005 Uranus 80957-04-19 11:03 G 31290105.73 31290105.96 31290106.20 0.0142 0.0060 Saturn 80958-04-06 00:44 G 31290457.33 31290457.53 31290457.74 0.0270 0.0149 Uranus 80958-04-24 10:20 G 31290475.78 31290475.93 31290476.08 0.0143 0.0116 Saturn 80959-04-18 06:29 G 31290834.66 31290834.77 31290834.88 0.0268 0.0240 Jupiter 80961-05-12 06:00 G 31291589.57 31291589.75 31291589.94 0.0514 0.0311 Saturn 80973-10-10 06:58 G 31296123.57 31296123.79 31296124.02 0.0291 0.0112 Neptune 80975-11-12 06:58 G 31296886.73 31296886.79 31296886.91 0.0090 0.0084 Neptune 80976-11-13 18:58 G 31297254.11 31297254.29 31297254.48 0.0090 0.0060 Neptune 80977-11-16 06:29 G 31297621.55 31297621.77 31297622.01 0.0090 0.0037 Neptune 80978-11-18 17:46 G 31297989.00 31297989.24 31297989.50 0.0090 0.0014

Neptune 80979-11-21 05:46 G 31298356.48 31298356.74 31298356.99 0.0090 0.0010 80980-11-22 16:48 G 31298723.98 31298724.20 31298724.45 0.0090 0.0034 80981-11-25 04:05 G 31299091.49 31299091.67 31299091.89 0.0090 0.0057 80982-11-27 15:36 G 31299459.05 31299459.15 31299459.28 0.0090 0.0080 80988-04-12 02:24 G 31301421.36 31301421.60 31301421.84 0.0269 0.0065 **Uranus** 80993-10-05 10:20 G 31303423.92 31303423.93 31303423.97 0.0137 0.0136 80994-10-09 21:51 G 31303793.23 31303793.41 31303793.62 0.0137 0.0088 **Uranus** 80995-10-14 08:53 G 31304162.64 31304162.87 31304163.12 0.0136 0.0040 Uranus Uranus 80996-10-17 19:27 G 31304532.06 31304532.31 31304532.57 0.0136 0.0009 80997-10-22 04:48 G 31304901.48 31304901.70 31304901.94 0.0136 0.0056 **Uranus Uranus** 80998-10-26 13:41 G 31305270.93 31305271.07 31305271.26 0.0136 0.0103

# 82ND MILLENNIUM CE

### This is a list of transits of Earth in the 82nd millennium CE.

FROM MAX- C START MAX END SUNRAD DEPTH S

TRANSIT

TIME

 Saturn
 81003-10-19 12:29 G
 31307088.82
 31307089.02
 31307089.23
 0.0292
 0.0160

 Pluto
 81012-12-28 09:08 G
 31310446.65
 31310446.88
 31310447.15
 0.0063
 0.0017

 Saturn
 81017-04-08 08:10 G
 31312008.61
 31312008.84
 31312009.07
 0.0270
 0.0104

 Jupiter
 81026-11-11 01:41 G
 31315512.34
 31315512.57
 31315512.80
 0.0511
 0.0061

 Mars
 81028-02-21 00:58 G
 31315979.41
 31315979.54
 31315979.67
 0.1636
 0.1164

 Jupiter
 81032-05-07 12:29 G
 31317516.82
 31317517.02
 31317517.23
 0.0517
 0.0255

 Saturn
 81032-10-12 16:20 G
 31317674.95
 31317675.18
 31317675.42
 0.0291
 0.0060

 Uranus
 81038-04-07 03:22 G
 31319677.48
 31319677.64
 31319677.84
 0.0141
 0.0100

Jupiter 81038-11-15 16:34 G 31319900.06 31319900.19 31319900.33 0.0514 0.0409 Uranus 81039-04-12 00:15 G 31320047.27 31320047.51 31320047.76 0.0142 0.0045 Uranus 81040-04-15 21:51 G 31320417.15 31320417.41 31320417.67 0.0142 0.0010 Uranus 81041-04-20 19:56 G 31320787.11 31320787.33 31320787.56 0.0142 0.0066 Uranus 81042-04-25 18:44 G 31321157.16 31321157.28 31321157.43 0.0143 0.0122 Jupiter 81044-05-12 11:17 G 31321904.77 31321904.97 31321905.18 0.0514 0.0246 Saturn 81047-04-15 08:24 G 31322972.62 31322972.85 31322973.08 0.0269 0.0107 Neptune 81057-05-11 13:27 G 31326652.04 31326652.06 31326652.14 0.0088 0.0086 Neptune 81058-05-14 01:12 G 31327019.40 31327019.55 31327019.76 0.0088 0.0064 Neptune 81059-05-16 13:41 G 31327386.85 31327387.07 31327387.31 0.0088 0.0041 Neptune 81060-05-18 01:27 G 31327754.31 31327754.56 31327754.82 0.0088 0.0019 Neptune 81061-05-20 13:27 G 31328121.80 31328122.06 31328122.33 0.0088 0.0004 Saturn 81061-10-06 16:20 G 31328261.16 31328261.18 31328261.23 0.0290 0.0287 Neptune 81062-05-23 01:12 G 31328489.31 31328489.55 31328489.81 0.0088 0.0026 Saturn 81062-10-20 18:15 G 31328640.10 31328640.26 31328640.44 0.0292 0.0206 Neptune 81063-05-25 12:29 G 31328856.83 31328857.02 31328857.26 0.0088 0.0049 Neptune 81064-05-27 00:29 G 31329224.39 31329224.52 31329224.70 0.0088 0.0071 81068-08-26 09:36 G 31330776.70 31330776.90 31330777.10 0.1895 0.0402 Mars Saturn 81076-04-09 13:12 G 31333559.81 31333560.05 31333560.29 0.0269 0.0062 Uranus 81077-10-06 18:44 G 31334105.23 31334105.28 31334105.36 0.0137 0.0132 Uranus 81078-10-11 06:44 G 31334474.59 31334474.78 31334474.99 0.0137 0.0084 Uranus 81079-10-15 17:46 G 31334844.00 31334844.24 31334844.49 0.0136 0.0036 Uranus 81080-10-19 04:20 G 31335213.43 31335213.68 31335213.93 0.0136 0.0013 Uranus 81081-10-23 13:56 G 31335582.86 31335583.08 31335583.31 0.0136 0.0060 Uranus 81082-10-27 22:48 G 31335952.32 31335952.45 31335952.63 0.0136 0.0108 Saturn 81091-10-14 21:08 G 31339226.14 31339226.38 31339226.63 0.0291 0.0015 81103-07-01 20:24 G 31343503.29 31343503.35 31343503.48 0.0081 0.0075 Pluto Saturn 81105-04-05 06:44 G 31344146.69 31344146.78 31344146.90 0.0270 0.0243 Saturn 81106-04-17 12:15 G 31344523.81 31344524.01 31344524.22 0.0268 0.0146 81107-02-24 03:22 G 31344836.48 31344836.64 31344836.79 0.1633 0.0907 Mars

Jupiter 81109-11-11 09:22 G 31345827.66 31345827.89 31345828.11 0.0511 0.0120 Jupiter 81115-05-08 18:44 G 31347832.09 31347832.28 31347832.46 0.0517 0.0317 Saturn 81120-10-08 18:44 G 31349812.16 31349812.28 31349812.42 0.0290 0.0245 Saturn 81121-10-22 20:39 G 31350191.25 31350191.36 31350191.50 0.0292 0.0248 Jupiter 81121-11-16 00:58 G 31350215.38 31350215.54 31350215.71 0.0513 0.0356 Uranus 81122-04-08 12:58 G 31350358.87 31350359.04 31350359.25 0.0141 0.0095 Uranus 81123-04-13 09:51 G 31350728.67 31350728.91 31350729.16 0.0142 0.0040 Uranus 81124-04-17 07:12 G 31351098.55 31351098.80 31351099.06 0.0142 0.0015 Uranus 81125-04-22 05:03 G 31351468.51 31351468.71 31351468.95 0.0142 0.0071 Uranus 81126-04-27 04:20 G 31351838.57 31351838.68 31351838.80 0.0143 0.0127 Jupiter 81127-05-13 12:00 G 31352219.78 31352220.00 31352220.22 0.0515 0.0162 Saturn 81135-04-12 15:51 G 31355110.91 31355111.16 31355111.40 0.0269 0.0023 Neptune 81140-11-15 04:05 G 31357154.53 31357154.67 31357154.86 0.0090 0.0069 Neptune 81141-11-17 15:22 G 31357521.95 31357522.14 31357522.38 0.0090 0.0046 Neptune 81142-11-20 03:22 G 31357889.40 31357889.64 31357889.89 0.0090 0.0022 Neptune 81143-11-22 14:53 G 31358256.87 31358257.12 31358257.38 0.0090 0.0001 Neptune 81144-11-24 02:10 G 31358624.35 31358624.59 31358624.84 0.0090 0.0025 Neptune 81145-11-26 13:27 G 31358991.86 31358992.06 31358992.29 0.0090 0.0048 Neptune 81146-11-29 01:12 G 31359359.40 31359359.55 31359359.71 0.0090 0.0071 Saturn 81150-10-16 23:03 G 31360777.22 31360777.46 31360777.70 0.0291 0.0028 Uranus 81161-10-08 03:51 G 31364786.59 31364786.66 31364786.76 0.0137 0.0128 Uranus 81162-10-12 16:05 G 31365155.97 31365156.17 31365156.38 0.0137 0.0079 Uranus 81163-10-17 03:08 G 31365525.39 31365525.63 31365525.88 0.0137 0.0031 Saturn 81164-04-06 09:08 G 31365697.72 31365697.88 31365698.04 0.0270 0.0204 Uranus 81164-10-20 13:41 G 31365894.82 31365895.07 31365895.33 0.0136 0.0018 Saturn 81165-04-18 13:56 G 31366074.91 31366075.08 31366075.27 0.0268 0.0183 Uranus 81165-10-24 23:03 G 31366264.26 31366264.46 31366264.70 0.0136 0.0066 Uranus 81166-10-29 08:39 G 31366633.74 31366633.86 31366634.02 0.0136 0.0113 Saturn 81179-10-10 18:00 G 31371363.08 31371363.25 31371363.42 0.0290 0.0207 Saturn 81180-10-23 19:56 G 31371742.29 31371742.33 31371742.39 0.0292 0.0286

Jupiter 81192-11-10 20:24 G 31376143.13 31376143.35 31376143.57 0.0510 0.0163 Saturn 81194-04-13 16:34 G 31376661.94 31376662.19 31376662.43 0.0269 0.0014 Jupiter 81198-05-07 19:27 G 31378147.17 31378147.31 31378147.46 0.0518 0.0402 Jupiter 81204-11-15 08:24 G 31380530.66 31380530.85 31380531.04 0.0512 0.0294 Uranus 81206-04-09 00:58 G 31381040.35 31381040.54 31381040.75 0.0141 0.0088 Uranus 81207-04-13 21:36 G 31381410.15 31381410.40 31381410.65 0.0142 0.0034 Uranus 81208-04-17 18:44 G 31381780.04 31381780.28 31381780.54 0.0142 0.0022 Uranus 81209-04-22 17:03 G 31382150.00 31382150.21 31382150.43 0.0142 0.0077 Saturn 81209-10-17 22:05 G 31382328.18 31382328.42 31382328.66 0.0292 0.0065 Uranus 81210-04-27 15:22 G 31382520.08 31382520.14 31382520.25 0.0142 0.0134 Jupiter 81210-05-12 19:56 G 31382535.10 31382535.33 31382535.57 0.0516 0.0107 Neptune 81222-05-14 09:51 G 31386919.77 31386919.91 31386920.07 0.0088 0.0071 Saturn 81223-04-08 09:51 G 31387248.73 31387248.91 31387249.11 0.0270 0.0168 Neptune 81223-05-16 21:36 G 31387287.20 31387287.40 31387287.63 0.0088 0.0049 Saturn 81224-04-19 14:39 G 31387625.97 31387626.11 31387626.26 0.0268 0.0218 Neptune 81224-05-18 09:36 G 31387654.67 31387654.90 31387655.16 0.0088 0.0027 Neptune 81225-05-20 21:51 G 31388022.15 31388022.41 31388022.67 0.0088 0.0004 Neptune 81226-05-23 09:22 G 31388389.65 31388389.89 31388390.16 0.0088 0.0019 Neptune 81227-05-25 21:22 G 31388757.17 31388757.39 31388757.63 0.0088 0.0041 Neptune 81228-05-27 09:08 G 31389124.71 31389124.88 31389125.08 0.0088 0.0063 Neptune 81229-05-29 21:08 G 31389492.33 31389492.38 31389492.46 0.0088 0.0085 Saturn 81238-10-11 15:08 G 31392913.95 31392914.13 31392914.34 0.0290 0.0172 Uranus 81245-10-08 12:00 G 31395467.91 31395468.00 31395468.12 0.0137 0.0124 Uranus 81246-10-13 00:00 G 31395837.30 31395837.50 31395837.73 0.0137 0.0076 Uranus 81247-10-17 11:32 G 31396206.74 31396206.98 31396207.23 0.0137 0.0027 Uranus 81248-10-20 22:05 G 31396576.18 31396576.42 31396576.67 0.0136 0.0022 Uranus 81249-10-25 07:56 G 31396945.63 31396945.83 31396946.06 0.0136 0.0070 Uranus 81250-10-29 17:17 G 31397315.12 31397315.22 31397315.37 0.0136 0.0118 Saturn 81253-04-14 15:51 G 31398212.92 31398213.16 31398213.41 0.0269 0.0050 Pluto 81259-12-30 14:10 G 31400664.02 31400664.09 31400664.18 0.0063 0.0059

81260-12-30 23:46 G 31401030.27 31401030.49 31401030.74 0.0063 0.0025 Pluto Saturn 81268-10-18 19:41 G 31403879.10 31403879.32 31403879.55 0.0292 0.0101 Jupiter 81275-11-11 04:05 G 31406458.47 31406458.67 31406458.88 0.0510 0.0223 Jupiter 81281-05-07 06:44 G 31408462.66 31408462.78 31408462.90 0.0519 0.0445 Saturn 81282-04-09 09:51 G 31408799.70 31408799.91 31408800.13 0.0269 0.0131 Saturn 81283-04-21 14:10 G 31409177.02 31409177.09 31409177.18 0.0267 0.0252 Jupiter 81287-11-15 18:58 G 31410846.09 31410846.29 31410846.49 0.0512 0.0246 Uranus 81289-04-04 16:48 G 31411352.16 31411352.20 31411352.29 0.0141 0.0136 Uranus 81290-04-09 12:29 G 31411721.83 31411722.02 31411722.25 0.0141 0.0083 Uranus 81291-04-14 09:22 G 31412091.65 31412091.89 31412092.15 0.0142 0.0028 Uranus 81292-04-18 06:58 G 31412461.54 31412461.79 31412462.04 0.0142 0.0028 Uranus 81293-04-23 04:48 G 31412831.51 31412831.70 31412831.92 0.0142 0.0085 Jupiter 81293-05-12 06:29 G 31412850.53 31412850.77 31412851.00 0.0516 0.0061 Uranus 81294-04-28 03:36 G 31413201.63 31413201.65 31413201.71 0.0142 0.0141 Saturn 81297-10-12 11:46 G 31414464.78 31414464.99 31414465.21 0.0290 0.0137 Neptune 81304-11-15 14:39 G 31417054.99 31417055.11 31417055.26 0.0090 0.0076 Neptune 81305-11-18 02:10 G 31417422.40 31417422.59 31417422.81 0.0090 0.0053 Neptune 81306-11-20 13:41 G 31417789.84 31417790.07 31417790.32 0.0090 0.0030 Neptune 81307-11-23 01:12 G 31418157.29 31418157.55 31418157.80 0.0090 0.0007 Neptune 81308-11-24 12:29 G 31418524.77 31418525.02 31418525.27 0.0090 0.0017 Neptune 81309-11-26 23:32 G 31418892.27 31418892.48 31418892.72 0.0090 0.0040 Neptune 81310-11-29 11:03 G 31419259.80 31419259.96 31419260.16 0.0090 0.0063 Neptune 81311-12-01 22:20 G 31419627.38 31419627.43 31419627.52 0.0090 0.0086 81312-02-24 06:29 G 31419711.59 31419711.77 31419711.95 0.1639 0.0337 Mars Saturn 81312-04-16 15:08 G 31419763.90 31419764.13 31419764.37 0.0269 0.0085 Saturn 81327-10-21 17:17 G 31425430.02 31425430.22 31425430.45 0.0292 0.0137 Uranus 81329-10-09 21:36 G 31426149.30 31426149.40 31426149.54 0.0137 0.0120 Uranus 81330-10-14 09:51 G 31426518.71 31426518.91 31426519.14 0.0137 0.0071 Uranus 81331-10-18 21:22 G 31426888.14 31426888.39 31426888.64 0.0136 0.0022 Uranus 81332-10-22 08:10 G 31427257.59 31427257.84 31427258.09 0.0136 0.0027

Uranus 81333-10-26 17:46 G 31427627.05 31427627.24 31427627.47 0.0136 0.0076 Uranus 81334-10-31 03:36 G 31427996.56 31427996.65 31427996.77 0.0136 0.0123 Saturn 81341-04-11 09:36 G 31430350.68 31430350.90 31430351.14 0.0269 0.0095 81352-08-27 09:51 G 31434506.78 31434506.91 31434507.04 0.1888 0.1409 Mars Saturn 81356-10-14 09:22 G 31436015.67 31436015.89 31436016.12 0.0290 0.0101 Jupiter 81358-11-11 17:03 G 31436774.02 31436774.21 31436774.41 0.0509 0.0259 Saturn 81370-04-06 07:41 G 31440937.79 31440937.82 31440937.87 0.0271 0.0267 Jupiter 81370-11-16 08:10 G 31441161.63 31441161.84 31441162.05 0.0511 0.0210 Saturn 81371-04-18 14:24 G 31441314.88 31441315.10 31441315.32 0.0269 0.0120 Uranus 81373-04-06 04:05 G 31442033.59 31442033.67 31442033.78 0.0141 0.0130 Uranus 81374-04-11 00:00 G 31442403.30 31442403.50 31442403.73 0.0141 0.0076 Uranus 81375-04-15 20:53 G 31442773.12 31442773.37 31442773.63 0.0142 0.0021 Uranus 81376-04-19 18:15 G 31443143.02 31443143.26 31443143.52 0.0142 0.0035 Jupiter 81376-05-12 07:12 G 31443165.57 31443165.80 31443166.04 0.0517 0.0027 Uranus 81377-04-24 16:20 G 31443513.00 31443513.18 31443513.39 0.0142 0.0091 Neptune 81386-05-14 18:15 G 31446820.18 31446820.26 31446820.41 0.0088 0.0079 Saturn 81386-10-22 15:51 G 31446980.98 31446981.16 31446981.36 0.0292 0.0174 Neptune 81387-05-17 06:44 G 31447187.59 31447187.78 31447187.99 0.0088 0.0056 Jupiter 81388-05-17 06:58 G 31447553.70 31447553.79 31447553.87 0.0515 0.0477 Neptune 81388-05-18 18:44 G 31447555.05 31447555.28 31447555.53 0.0088 0.0034 Neptune 81389-05-21 06:29 G 31447922.52 31447922.77 31447923.04 0.0088 0.0012 Neptune 81390-05-23 18:29 G 31448290.02 31448290.27 31448290.54 0.0088 0.0011 Neptune 81391-05-26 06:29 G 31448657.53 31448657.77 31448658.02 0.0088 0.0033 Neptune 81392-05-27 18:29 G 31449025.07 31449025.27 31449025.48 0.0088 0.0055 Neptune 81393-05-30 06:15 G 31449392.65 31449392.76 31449392.89 0.0088 0.0077 Saturn 81400-04-13 10:48 G 31451901.71 31451901.95 31451902.19 0.0269 0.0057 Uranus 81413-10-11 07:12 G 31456830.67 31456830.80 31456830.95 0.0137 0.0115 Uranus 81414-10-15 19:12 G 31457200.09 31457200.30 31457200.53 0.0137 0.0066 Saturn 81415-10-17 09:08 G 31457566.64 31457566.88 31457567.12 0.0290 0.0062 Uranus 81415-10-20 06:44 G 31457569.53 31457569.78 31457570.03 0.0136 0.0017

Uranus 81416-10-23 17:17 G 31457938.98 31457939.22 31457939.47 0.0136 0.0032 Uranus 81417-10-28 03:08 G 31458308.45 31458308.63 31458308.85 0.0136 0.0081 Uranus 81418-11-01 12:58 G 31458677.97 31458678.04 31458678.13 0.0136 0.0128 Saturn 81429-04-08 08:24 G 31462488.72 31462488.85 31462488.98 0.0271 0.0230 Saturn 81430-04-20 15:08 G 31462865.93 31462866.13 31462866.33 0.0269 0.0157 Jupiter 81441-11-12 00:44 G 31467089.36 31467089.53 31467089.72 0.0509 0.0319 Saturn 81444-10-10 16:48 G 31468153.12 31468153.20 31468153.29 0.0289 0.0270 Saturn 81445-10-24 17:46 G 31468532.08 31468532.24 31468532.41 0.0292 0.0216 Jupiter 81453-11-16 13:56 G 31471476.85 31471477.08 31471477.30 0.0511 0.0140 Uranus 81457-04-07 13:41 G 31472714.97 31472715.07 31472715.20 0.0141 0.0125 Uranus 81458-04-12 09:22 G 31473084.69 31473084.89 31473085.13 0.0141 0.0072 Saturn 81459-04-15 13:12 G 31473452.81 31473453.05 31473453.30 0.0269 0.0018 Uranus 81459-04-17 06:44 G 31473454.52 31473454.78 31473455.03 0.0142 0.0016 Jupiter 81459-05-13 16:05 G 31473480.94 31473481.17 31473481.40 0.0518 0.0078 Uranus 81460-04-21 04:05 G 31473824.42 31473824.67 31473824.91 0.0142 0.0040 Uranus 81461-04-26 01:56 G 31474194.40 31474194.58 31474194.77 0.0142 0.0097 Neptune 81468-11-16 00:29 G 31476955.46 31476955.52 31476955.64 0.0090 0.0084 Neptune 81469-11-18 12:15 G 31477322.85 31477323.01 31477323.22 0.0090 0.0061 Neptune 81470-11-20 23:46 G 31477690.27 31477690.49 31477690.74 0.0090 0.0038 Jupiter 81471-05-18 15:22 G 31477869.01 31477869.14 31477869.28 0.0515 0.0424 Neptune 81471-11-23 11:32 G 31478057.73 31478057.98 31478058.24 0.0090 0.0015 Neptune 81472-11-24 22:48 G 31478425.20 31478425.45 31478425.71 0.0090 0.0009 Neptune 81473-11-27 10:05 G 31478792.70 31478792.92 31478793.17 0.0090 0.0032 Saturn 81474-10-18 11:46 G 31479117.75 31479117.99 31479118.24 0.0290 0.0019 Neptune 81474-11-29 21:22 G 31479160.20 31479160.39 31479160.61 0.0090 0.0055 Neptune 81475-12-02 08:24 G 31479527.75 31479527.85 31479528.00 0.0090 0.0078 Saturn 81488-04-09 10:48 G 31484039.78 31484039.95 31484040.13 0.0271 0.0190 Saturn 81489-04-21 17:32 G 31484417.07 31484417.23 31484417.41 0.0269 0.0197 Uranus 81497-10-11 17:32 G 31487512.08 31487512.23 31487512.37 0.0137 0.0110 Uranus 81498-10-16 05:17 G 31487881.50 31487881.72 31487881.96 0.0137 0.0061

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Saturn 81665-04-15 07:12 G 31548693.56 31548693.80 31548694.04 0.0271 0.0056 Uranus 81665-10-13 10:34 G 31548874.78 31548874.94 31548875.12 0.0137 0.0102 Uranus 81666-10-17 22:48 G 31549244.22 31549244.45 31549244.69 0.0137 0.0052 Uranus 81667-10-22 10:20 G 31549613.68 31549613.93 31549614.19 0.0136 0.0002 Uranus 81668-10-25 21:08 G 31549983.15 31549983.38 31549983.62 0.0136 0.0047 Uranus 81669-10-30 06:58 G 31550352.63 31550352.79 31550352.98 0.0136 0.0096 Saturn 81680-10-18 09:22 G 31554358.65 31554358.89 31554359.13 0.0290 0.0059 Saturn 81694-04-10 11:32 G 31559280.85 31559280.98 31559281.13 0.0272 0.0225 Saturn 81695-04-22 19:41 G 31559658.13 31559658.32 31559658.52 0.0269 0.0163 Jupiter 81702-11-17 01:12 G 31562422.32 31562422.55 31562422.77 0.0509 0.0090 Jupiter 81708-05-12 18:15 G 31564426.09 31564426.26 31564426.44 0.0519 0.0342 Uranus 81709-04-10 15:08 G 31564758.98 31564759.13 31564759.28 0.0141 0.0112 Saturn 81709-10-13 13:56 G 31564945.00 31564945.08 31564945.17 0.0288 0.0270 Uranus 81710-04-15 10:34 G 31565128.71 31565128.94 31565129.17 0.0141 0.0058 Saturn 81710-10-27 12:58 G 31565323.88 31565324.04 31565324.22 0.0291 0.0208 Uranus 81711-04-20 06:58 G 31565498.54 31565498.79 31565499.05 0.0142 0.0002 Uranus 81712-04-24 03:51 G 31565868.42 31565868.66 31565868.90 0.0142 0.0054 Uranus 81713-04-29 01:12 G 31566238.41 31566238.55 31566238.72 0.0142 0.0111 Jupiter 81714-11-21 15:51 G 31566810.01 31566810.16 31566810.32 0.0511 0.0378 Neptune 81715-05-19 02:10 G 31566988.44 31566988.59 31566988.75 0.0088 0.0070 Neptune 81716-05-20 13:56 G 31567355.87 31567356.08 31567356.30 0.0088 0.0048 Neptune 81717-05-23 01:41 G 31567723.32 31567723.57 31567723.82 0.0088 0.0026 Neptune 81718-05-25 13:41 G 31568090.81 31568091.07 31568091.33 0.0088 0.0004 Neptune 81719-05-28 01:27 G 31568458.31 31568458.56 31568458.82 0.0088 0.0018 Jupiter 81720-05-17 14:39 G 31568813.89 31568814.11 31568814.34 0.0516 0.0153 Neptune 81720-05-29 13:27 G 31568825.83 31568826.06 31568826.29 0.0088 0.0040 Neptune 81721-06-01 01:27 G 31569193.38 31569193.56 31569193.75 0.0088 0.0062 Neptune 81722-06-03 13:27 G 31569561.00 31569561.06 31569561.14 0.0088 0.0084 Saturn 81724-04-17 17:32 G 31570244.98 31570245.23 31570245.47 0.0271 0.0008 Saturn 81739-10-22 01:27 G 31575910.32 31575910.56 31575910.81 0.0290 0.0005

Uranus 81749-10-14 18:15 G 31579556.09 31579556.26 31579556.44 0.0137 0.0098 Uranus 81750-10-19 06:29 G 31579925.53 31579925.77 31579926.01 0.0137 0.0048 Uranus 81751-10-23 18:00 G 31580295.00 31580295.25 31580295.51 0.0137 0.0002 Uranus 81752-10-27 04:48 G 31580664.47 31580664.70 31580664.94 0.0136 0.0052 Saturn 81753-04-12 22:34 G 31580832.26 31580832.44 31580832.63 0.0271 0.0175 Uranus 81753-10-31 14:53 G 31581033.95 31581034.12 31581034.29 0.0136 0.0100 Saturn 81754-04-25 06:15 G 31581209.62 31581209.76 31581209.92 0.0269 0.0211 Pluto 81756-01-06 13:27 G 31581831.02 31581831.06 31581831.18 0.0063 0.0060 Pluto 81757-01-06 23:46 G 31582197.26 31582197.49 31582197.73 0.0063 0.0024 Saturn 81768-10-15 06:58 G 31586496.63 31586496.79 31586496.97 0.0289 0.0209 Saturn 81769-10-29 06:44 G 31586875.70 31586875.78 31586875.87 0.0291 0.0271 Saturn 81783-04-20 03:51 G 31591796.42 31591796.66 31591796.91 0.0270 0.0040 Jupiter 81785-11-16 04:05 G 31592737.45 31592737.67 31592737.89 0.0509 0.0169 Jupiter 81791-05-12 15:22 G 31594741.03 31594741.14 31594741.27 0.0519 0.0444 Uranus 81793-04-11 01:12 G 31595440.40 31595440.55 31595440.73 0.0141 0.0107 Uranus 81794-04-15 20:39 G 31595810.14 31595810.36 31595810.61 0.0141 0.0052 Uranus 81795-04-20 17:17 G 31596179.96 31596180.22 31596180.47 0.0142 0.0004 Uranus 81796-04-24 13:41 G 31596549.85 31596550.07 31596550.32 0.0142 0.0061 Uranus 81797-04-29 11:17 G 31596919.84 31596919.97 31596920.13 0.0142 0.0117 Neptune 81797-11-19 09:36 G 31597123.79 31597123.90 31597124.07 0.0090 0.0076 Jupiter 81797-11-20 16:20 G 31597124.99 31597125.18 31597125.37 0.0511 0.0291 Saturn 81798-10-23 17:17 G 31597461.98 31597462.22 31597462.46 0.0290 0.0061 Neptune 81798-11-21 21:22 G 31597491.20 31597491.39 31597491.62 0.0090 0.0053 Neptune 81799-11-24 09:22 G 31597858.66 31597858.89 31597859.14 0.0090 0.0030 Neptune 81800-11-26 20:53 G 31598226.12 31598226.37 31598226.63 0.0090 0.0007 81801-02-27 13:27 G 31598318.90 31598319.06 31598319.22 0.1650 0.0819 Mars Neptune 81801-11-29 08:10 G 31598593.60 31598593.84 31598594.10 0.0090 0.0017 Neptune 81802-12-01 19:27 G 31598961.10 31598961.31 31598961.56 0.0090 0.0040 Jupiter 81803-05-18 10:48 G 31599128.72 31599128.95 31599129.19 0.0518 0.0051 Neptune 81803-12-04 06:58 G 31599328.62 31599328.79 31599328.99 0.0090 0.0062

Neptune 81804-12-05 18:15 G 31599696.20 31599696.26 31599696.36 0.0090 0.0085 Saturn 81812-04-15 09:51 G 31602383.69 31602383.91 31602384.13 0.0271 0.0126 Saturn 81813-04-27 16:48 G 31602761.14 31602761.20 31602761.27 0.0269 0.0258 Saturn 81827-10-18 23:17 G 31608048.27 31608048.47 31608048.69 0.0289 0.0149 Uranus 81833-10-16 02:39 G 31610237.44 31610237.61 31610237.80 0.0137 0.0095 Uranus 81834-10-20 14:53 G 31610606.89 31610607.12 31610607.37 0.0137 0.0044 Uranus 81835-10-25 02:39 G 31610976.36 31610976.61 31610976.86 0.0137 0.0007 Uranus 81836-10-28 13:12 G 31611345.83 31611346.05 31611346.29 0.0136 0.0056 Uranus 81837-11-01 23:03 G 31611715.32 31611715.46 31611715.64 0.0136 0.0106 Saturn 81842-04-22 13:41 G 31613347.84 31613348.07 31613348.30 0.0270 0.0086 81847-07-11 06:29 G 31615253.70 31615253.77 31615253.89 0.0081 0.0075 Pluto Saturn 81857-10-26 07:27 G 31619013.58 31619013.81 31619014.03 0.0291 0.0118 Jupiter 81868-11-16 05:46 G 31623052.54 31623052.74 31623052.94 0.0508 0.0250 Saturn 81871-04-17 19:41 G 31623935.09 31623935.32 31623935.56 0.0271 0.0079 Uranus 81877-04-12 11:32 G 31626121.83 31626121.98 31626122.18 0.0141 0.0102 Uranus 81878-04-17 07:12 G 31626491.57 31626491.80 31626492.05 0.0141 0.0047 Uranus 81879-04-22 03:51 G 31626861.40 31626861.66 31626861.91 0.0142 0.0010 Neptune 81879-05-19 12:15 G 31626888.91 31626889.01 31626889.16 0.0088 0.0077 Mars 81880-03-01 16:48 G 31627176.09 31627176.20 31627176.32 0.1647 0.1319 Uranus 81880-04-26 00:29 G 31627231.30 31627231.52 31627231.75 0.0142 0.0066 Neptune 81880-05-21 00:00 G 31627256.32 31627256.50 31627256.72 0.0088 0.0055 Jupiter 81880-11-20 16:48 G 31627439.99 31627440.20 31627440.41 0.0510 0.0199 Uranus 81881-04-30 21:51 G 31627601.31 31627601.41 31627601.56 0.0142 0.0124 Neptune 81881-05-23 12:00 G 31627623.77 31627624.00 31627624.25 0.0088 0.0033 Neptune 81882-05-26 00:00 G 31627991.24 31627991.50 31627991.76 0.0088 0.0011 Neptune 81883-05-28 11:46 G 31628358.73 31628358.99 31628359.25 0.0088 0.0011 Neptune 81884-05-29 23:32 G 31628726.24 31628726.48 31628726.73 0.0088 0.0033 Neptune 81885-06-01 11:17 G 31629093.78 31629093.97 31629094.18 0.0088 0.0055 Jupiter 81886-05-17 12:58 G 31629443.80 31629444.04 31629444.28 0.0518 0.0032 Neptune 81886-06-03 23:17 G 31629461.36 31629461.47 31629461.61 0.0088 0.0077

Saturn 81886-10-20 12:58 G 31629599.81 31629600.04 31629600.27 0.0290 0.0092 Jupiter 81898-05-22 11:46 G 31633831.90 31633831.99 31633832.08 0.0516 0.0470 Saturn 81900-04-12 14:24 G 31634522.03 31634522.10 31634522.19 0.0272 0.0256 Saturn 81901-04-24 22:20 G 31634899.23 31634899.43 31634899.66 0.0270 0.0132 Saturn 81916-10-28 18:15 G 31640565.07 31640565.26 31640565.46 0.0291 0.0171 Uranus 81917-10-17 11:17 G 31640918.80 31640918.97 31640919.18 0.0137 0.0090 Uranus 81918-10-21 23:46 G 31641288.25 31641288.49 31641288.73 0.0137 0.0039 Uranus 81919-10-26 11:17 G 31641657.71 31641657.97 31641658.22 0.0136 0.0012 Uranus 81920-10-29 21:36 G 31642027.19 31642027.40 31642027.64 0.0136 0.0061 Uranus 81921-11-03 07:27 G 31642396.68 31642396.81 31642396.98 0.0136 0.0110 Saturn 81930-04-20 03:51 G 31645486.41 31645486.66 31645486.90 0.0270 0.0034 Saturn 81945-10-22 23:03 G 31651151.22 31651151.46 31651151.71 0.0290 0.0041 Jupiter 81951-11-17 08:39 G 31653367.69 31653367.86 31653368.04 0.0508 0.0330 Saturn 81959-04-14 22:05 G 31656073.28 31656073.42 31656073.58 0.0271 0.0211 Saturn 81960-04-26 05:17 G 31656450.54 31656450.72 31656450.91 0.0269 0.0173 Uranus 81961-04-13 21:36 G 31656803.22 31656803.40 31656803.59 0.0141 0.0096 Neptune 81961-11-20 20:24 G 31657024.28 31657024.35 31657024.47 0.0090 0.0083 Uranus 81962-04-18 17:03 G 31657172.97 31657173.21 31657173.46 0.0141 0.0041 Neptune 81962-11-23 08:24 G 31657391.68 31657391.85 31657392.05 0.0090 0.0060 Uranus 81963-04-23 13:27 G 31657542.81 31657543.06 31657543.31 0.0142 0.0015 Jupiter 81963-11-21 22:05 G 31657755.19 31657755.42 31657755.64 0.0510 0.0131 Neptune 81963-11-25 20:10 G 31657759.12 31657759.34 31657759.58 0.0090 0.0037 Uranus 81964-04-27 10:05 G 31657912.71 31657912.92 31657913.15 0.0142 0.0072 Neptune 81964-11-27 07:56 G 31658126.58 31658126.83 31658127.08 0.0090 0.0014 Uranus 81965-05-02 08:10 G 31658282.74 31658282.84 31658282.95 0.0142 0.0129 Neptune 81965-11-29 19:27 G 31658494.06 31658494.31 31658494.57 0.0090 0.0009 Neptune 81966-12-02 06:44 G 31658861.55 31658861.78 31658862.03 0.0090 0.0032 Neptune 81967-12-04 18:00 G 31659229.07 31659229.25 31659229.47 0.0090 0.0055 Neptune 81968-12-06 05:32 G 31659596.61 31659596.73 31659596.87 0.0090 0.0077 Jupiter 81969-05-17 16:05 G 31659758.94 31659759.17 31659759.40 0.0518 0.0108

 Saturn
 81974-10-17 00:29 G
 31661737.43
 31661737.52
 31661737.64
 0.0289
 0.0259

 Saturn
 81975-10-31 00:58 G
 31662116.39
 31662116.54
 31662116.71
 0.0291
 0.0218

 Jupiter
 81981-05-22 09:51 G
 31664146.76
 31664146.91
 31664147.08
 0.0517
 0.0378

 Saturn
 81989-04-21 09:51 G
 31667037.66
 31667037.91
 31667038.16
 0.0270
 0.0009

 Mars
 81999-09-04 05:46 G
 31670825.55
 31670825.74
 31670825.92
 0.1879
 0.0743

 Uranus
 82000-10-13 08:39 G
 31671230.83
 31671230.86
 31671230.89
 0.0137
 0.0136

### 83RD MILLENNIUM CE

#### This is a list of transits of Earth in the 83rd millennium CE.

FROM MAX- C START MAX END SUNRAD DEPTH S
TRANSIT

Uranus 82001-10-17 20:53 G 31671600.19 31671600.37 31671600.59 0.0137 0.0085

Uranus 82002-10-22 09:08 G 31671969.64 31671969.88 31671970.13 0.0137 0.0034

Uranus 82003-10-26 20:24 G 31672339.11 31672339.35 31672339.61 0.0136 0.0017

Saturn 82004-10-24 05:17 G 31672702.47 31672702.72 31672702.96 0.0290 0.0007

Uranus 82004-10-30 06:44 G 31672708.58 31672708.78 31672709.02 0.0136 0.0067

Pluto 82005-01-10 08:24 G 31672780.61 31672780.85 31672781.11 0.0063 0.0015

Uranus 82005-11-03 16:48 G 31673078.08 31673078.20 31673078.35 0.0136 0.0115

Saturn 82018-04-16 03:51 G 31677624.47 31677624.66 31677624.85 0.0271 0.0169

Saturn 82033-10-18 03:36 G 31683288.50 31683288.65 31683288.82 0.0289 0.0217

Saturn 82034-11-01 04:34 G 31683667.59 31683667.69 31683667.80 0.0292 0.0260

Jupiter 82034-11-16 16:34 G 31683683.05 31683683.19 31683683.35 0.0507 0.0383

Neptune 82043-05-19 22:20 G 31686789.37 31686789.43 31686789.53 0.0088 0.0088

Neptune 82044-05-21 10:05 G 31687156.76 31687156.92 31687157.13 0.0088 0.0062 Uranus 82045-04-14 05:46 G 31687484.55 31687484.74 31687484.93 0.0141 0.0092 Neptune 82045-05-23 21:51 G 31687524.20 31687524.41 31687524.66 0.0088 0.0040 Uranus 82046-04-19 01:12 G 31687854.30 31687854.55 31687854.79 0.0141 0.0037 Neptune 82046-05-26 09:51 G 31687891.66 31687891.91 31687892.17 0.0088 0.0018 Jupiter 82046-11-21 06:44 G 31688070.55 31688070.78 31688071.01 0.0509 0.0078 Uranus 82047-04-23 21:22 G 31688224.15 31688224.39 31688224.65 0.0142 0.0020 Neptune 82047-05-28 21:51 G 31688259.15 31688259.41 31688259.67 0.0088 0.0004 Saturn 82048-04-22 13:27 G 31688588.82 31688589.06 31688589.30 0.0270 0.0049 Uranus 82048-04-27 18:29 G 31688594.06 31688594.27 31688594.48 0.0142 0.0076 Neptune 82048-05-30 09:22 G 31688626.65 31688626.89 31688627.15 0.0088 0.0026 Uranus 82049-05-02 15:51 G 31688964.11 31688964.16 31688964.27 0.0142 0.0135 Neptune 82049-06-01 21:08 G 31688994.18 31688994.38 31688994.62 0.0088 0.0048 Neptune 82050-06-04 08:53 G 31689361.73 31689361.87 31689362.05 0.0088 0.0070 Jupiter 82052-05-16 15:08 G 31690073.92 31690074.13 31690074.35 0.0520 0.0201 Saturn 82063-10-26 07:12 G 31694253.56 31694253.80 31694254.05 0.0291 0.0047 Jupiter 82064-05-21 16:05 G 31694461.99 31694462.17 31694462.36 0.0518 0.0315 Saturn 82077-04-17 07:12 G 31699175.59 31699175.80 31699176.02 0.0271 0.0130 Saturn 82078-04-29 13:12 G 31699552.96 31699553.05 31699553.14 0.0268 0.0250 Uranus 82084-10-13 17:32 G 31701912.17 31701912.23 31701912.32 0.0137 0.0131 82085-03-01 17:32 G 31702051.05 31702051.23 31702051.42 0.1654 0.0031 Mars Uranus 82085-10-18 06:15 G 31702281.57 31702281.76 31702281.98 0.0137 0.0080 Uranus 82086-10-22 18:15 G 31702651.02 31702651.26 31702651.51 0.0137 0.0030 Uranus 82087-10-27 05:32 G 31703020.49 31703020.73 31703020.99 0.0136 0.0022 Uranus 82088-10-30 16:05 G 31703389.96 31703390.17 31703390.39 0.0136 0.0071 Uranus 82089-11-04 01:41 G 31703759.47 31703759.57 31703759.71 0.0136 0.0120 Saturn 82092-10-19 03:08 G 31704839.45 31704839.63 31704839.83 0.0289 0.0180 Pluto 82095-07-13 09:51 G 31705836.70 31705836.91 31705837.14 0.0081 0.0043 Saturn 82107-04-25 15:08 G 31710139.90 31710140.13 31710140.37 0.0270 0.0086 Jupiter 82117-11-17 01:12 G 31713998.44 31713998.55 31713998.66 0.0506 0.0440

Saturn 82122-10-28 06:58 G 31715804.56 31715804.79 31715805.03 0.0291 0.0084 Neptune 82125-11-21 07:41 G 31716924.82 31716924.82 31716924.86 0.0090 0.0089 Neptune 82126-11-23 19:27 G 31717292.15 31717292.31 31717292.49 0.0090 0.0067 Neptune 82127-11-26 07:12 G 31717659.58 31717659.80 31717660.03 0.0090 0.0044 Neptune 82128-11-27 18:44 G 31718027.04 31718027.28 31718027.53 0.0090 0.0022 Uranus 82129-04-15 12:15 G 31718165.82 31718166.01 31718166.22 0.0141 0.0089 Jupiter 82129-11-21 13:41 G 31718385.84 31718386.07 31718386.31 0.0508 0.0019 Neptune 82129-11-30 06:29 G 31718394.51 31718394.77 31718395.02 0.0090 0.0002 Uranus 82130-04-20 07:56 G 31718535.58 31718535.83 31718536.08 0.0141 0.0033 Neptune 82130-12-02 17:46 G 31718762.01 31718762.24 31718762.50 0.0090 0.0025 Uranus 82131-04-25 04:05 G 31718905.43 31718905.67 31718905.93 0.0142 0.0024 Neptune 82131-12-05 05:32 G 31719129.52 31719129.73 31719129.95 0.0090 0.0047 Uranus 82132-04-29 00:58 G 31719275.35 31719275.54 31719275.77 0.0142 0.0081 Neptune 82132-12-06 16:34 G 31719497.05 31719497.19 31719497.37 0.0090 0.0070 Uranus 82133-05-03 23:03 G 31719645.42 31719645.46 31719645.54 0.0142 0.0138 Jupiter 82135-05-18 01:12 G 31720389.35 31720389.55 31720389.76 0.0520 0.0247 Saturn 82136-04-19 08:39 G 31720726.63 31720726.86 31720727.10 0.0270 0.0092 Jupiter 82141-11-26 03:36 G 31722773.59 31722773.65 31722773.73 0.0511 0.0483 Jupiter 82147-05-23 01:27 G 31724777.36 31724777.56 31724777.77 0.0518 0.0265 Saturn 82151-10-22 00:29 G 31726390.31 31726390.52 31726390.73 0.0289 0.0146 Saturn 82165-04-14 07:27 G 31731313.76 31731313.81 31731313.89 0.0272 0.0261 Saturn 82166-04-26 15:22 G 31731690.92 31731691.14 31731691.36 0.0270 0.0121 Uranus 82168-10-15 02:24 G 31732593.53 31732593.60 31732593.71 0.0137 0.0127 Uranus 82169-10-19 15:08 G 31732962.94 31732963.13 31732963.36 0.0137 0.0076 Uranus 82170-10-24 03:22 G 31733332.39 31733332.64 31733332.89 0.0137 0.0025 Uranus 82171-10-28 14:39 G 31733701.87 31733702.11 31733702.37 0.0136 0.0026 Uranus 82172-11-01 01:12 G 31734071.34 31734071.55 31734071.76 0.0136 0.0075 Uranus 82173-11-05 11:17 G 31734440.88 31734440.97 31734441.07 0.0136 0.0124 Saturn 82181-10-29 04:05 G 31737355.45 31737355.67 31737355.89 0.0291 0.0118 Saturn 82195-04-21 09:08 G 31742277.64 31742277.88 31742278.12 0.0270 0.0056

Jupiter 82200-11-17 11:32 G 31744313.92 31744313.98 31744314.04 0.0506 0.0488 Neptune 82208-05-22 20:39 G 31747057.21 31747057.36 31747057.54 0.0088 0.0068 Neptune 82209-05-25 08:39 G 31747424.64 31747424.86 31747425.08 0.0088 0.0046 Neptune 82210-05-27 20:10 G 31747792.10 31747792.34 31747792.60 0.0088 0.0025 Saturn 82210-10-23 20:53 G 31747941.15 31747941.37 31747941.61 0.0289 0.0113 Neptune 82211-05-30 08:10 G 31748159.58 31748159.84 31748160.10 0.0088 0.0003 Uranus 82212-04-12 00:44 G 31748477.51 31748477.53 31748477.55 0.0141 0.0140 Neptune 82212-05-31 19:56 G 31748527.08 31748527.33 31748527.59 0.0088 0.0019 Jupiter 82212-11-22 02:53 G 31748701.38 31748701.62 31748701.85 0.0508 0.0022 Uranus 82213-04-16 19:12 G 31748847.11 31748847.30 31748847.51 0.0141 0.0086 Neptune 82213-06-03 07:27 G 31748894.59 31748894.81 31748895.05 0.0088 0.0041 Uranus 82214-04-21 14:39 G 31749216.87 31749217.11 31749217.36 0.0141 0.0030 Neptune 82214-06-05 18:44 G 31749262.13 31749262.28 31749262.49 0.0088 0.0063 Uranus 82215-04-26 11:03 G 31749586.72 31749586.96 31749587.22 0.0142 0.0027 Neptune 82215-06-08 06:58 G 31749629.73 31749629.79 31749629.87 0.0088 0.0084 Uranus 82216-04-30 07:56 G 31749956.64 31749956.83 31749957.05 0.0142 0.0085 Jupiter 82218-05-18 03:51 G 31750704.49 31750704.66 31750704.85 0.0520 0.0328 Saturn 82224-04-16 06:44 G 31752864.65 31752864.78 31752864.93 0.0272 0.0226 Jupiter 82224-11-26 17:32 G 31753089.12 31753089.23 31753089.34 0.0510 0.0448 Saturn 82225-04-28 14:39 G 31753241.91 31753242.11 31753242.31 0.0269 0.0156 Jupiter 82230-05-23 02:53 G 31755092.40 31755092.62 31755092.84 0.0518 0.0180 Saturn 82240-10-31 01:12 G 31758906.34 31758906.55 31758906.75 0.0291 0.0152 Uranus 82252-10-16 10:20 G 31763274.84 31763274.93 31763275.05 0.0137 0.0124 Pluto 82253-01-13 15:51 G 31763363.91 31763364.16 31763364.42 0.0063 0.0001 Uranus 82253-10-20 23:17 G 31763644.26 31763644.47 31763644.69 0.0137 0.0072 Saturn 82254-04-23 08:53 G 31763828.63 31763828.87 31763829.12 0.0270 0.0021 Uranus 82254-10-25 11:32 G 31764013.73 31764013.98 31764014.23 0.0137 0.0021 Uranus 82255-10-29 22:48 G 31764383.20 31764383.45 31764383.70 0.0136 0.0030 Uranus 82256-11-02 09:08 G 31764752.69 31764752.88 31764753.10 0.0136 0.0080 Uranus 82257-11-06 19:27 G 31765122.25 31765122.31 31765122.40 0.0136 0.0129

Saturn 82269-10-24 17:32 G 31769492.00 31769492.23 31769492.47 0.0289 0.0079 Saturn 82283-04-18 05:17 G 31774415.56 31774415.72 31774415.91 0.0272 0.0192 82283-09-05 10:20 G 31774555.75 31774555.93 31774556.12 0.1871 0.0707 Mars Saturn 82284-04-29 13:27 G 31774792.89 31774793.06 31774793.24 0.0270 0.0190 Mars 82290-03-02 17:32 G 31776926.13 31776926.23 31776926.33 0.1662 0.1409 Neptune 82290-11-24 06:15 G 31777192.63 31777192.76 31777192.91 0.0090 0.0074 Neptune 82291-11-26 17:32 G 31777560.04 31777560.23 31777560.46 0.0090 0.0052 Neptune 82292-11-28 05:17 G 31777927.48 31777927.72 31777927.97 0.0090 0.0029 Neptune 82293-11-30 16:48 G 31778294.96 31778295.20 31778295.46 0.0090 0.0007 Neptune 82294-12-03 04:20 G 31778662.44 31778662.68 31778662.94 0.0090 0.0017 Jupiter 82295-11-22 12:29 G 31779016.79 31779017.02 31779017.25 0.0507 0.0072 Neptune 82295-12-05 15:36 G 31779029.94 31779030.15 31779030.40 0.0090 0.0040 Uranus 82296-04-12 08:53 G 31779158.84 31779158.87 31779158.96 0.0141 0.0137 Neptune 82296-12-07 03:22 G 31779397.47 31779397.64 31779397.84 0.0090 0.0062 Uranus 82297-04-17 03:51 G 31779528.47 31779528.66 31779528.88 0.0141 0.0081 Neptune 82297-12-09 14:39 G 31779765.06 31779765.11 31779765.22 0.0090 0.0085 Uranus 82298-04-21 23:32 G 31779898.23 31779898.48 31779898.73 0.0141 0.0025 Saturn 82298-10-18 23:46 G 31780078.45 31780078.49 31780078.55 0.0288 0.0281 Uranus 82299-04-26 19:41 G 31780268.08 31780268.32 31780268.58 0.0142 0.0033 Saturn 82299-11-01 23:03 G 31780457.28 31780457.46 31780457.66 0.0291 0.0187 Uranus 82300-05-01 16:48 G 31780638.02 31780638.20 31780638.41 0.0142 0.0090 Jupiter 82301-05-18 11:03 G 31781019.81 31781019.96 31781020.12 0.0521 0.0389 Jupiter 82307-11-28 01:27 G 31783404.41 31783404.56 31783404.71 0.0509 0.0388 Saturn 82313-04-25 09:08 G 31785379.64 31785379.88 31785380.13 0.0270 0.0016 Jupiter 82313-05-23 13:27 G 31785407.83 31785408.06 31785408.28 0.0519 0.0135 Saturn 82328-10-26 16:34 G 31791042.95 31791043.19 31791043.43 0.0289 0.0042 Uranus 82336-10-17 18:44 G 31793956.16 31793956.28 31793956.41 0.0137 0.0120 Uranus 82337-10-22 07:27 G 31794325.60 31794325.81 31794326.04 0.0137 0.0068 Uranus 82338-10-26 19:41 G 31794695.07 31794695.32 31794695.58 0.0137 0.0017 Uranus 82339-10-31 07:12 G 31795064.56 31795064.80 31795065.05 0.0136 0.0034

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82502-01-18 05:46 G 31854313.72 31854313.74 31854313.81 0.0063 0.0062 Pluto Uranus 82504-10-19 13:12 G 31855318.93 31855319.05 31855319.22 0.0137 0.0112 Uranus 82505-10-24 02:24 G 31855688.39 31855688.60 31855688.84 0.0137 0.0059 Saturn 82505-11-01 08:53 G 31855696.65 31855696.87 31855697.11 0.0290 0.0096 Uranus 82506-10-28 14:53 G 31856057.86 31856058.12 31856058.37 0.0137 0.0007 Uranus 82507-11-02 02:10 G 31856427.36 31856427.59 31856427.84 0.0136 0.0045 Uranus 82508-11-05 12:58 G 31856796.87 31856797.04 31856797.23 0.0136 0.0095 Saturn 82519-04-25 14:53 G 31860619.88 31860620.12 31860620.36 0.0272 0.0038 Saturn 82534-10-26 21:36 G 31866283.18 31866283.40 31866283.63 0.0288 0.0103 Neptune 82536-05-23 16:05 G 31866858.08 31866858.17 31866858.27 0.0088 0.0081 Neptune 82537-05-26 03:22 G 31867225.47 31867225.64 31867225.85 0.0088 0.0060 Neptune 82538-05-28 15:36 G 31867592.92 31867593.15 31867593.39 0.0088 0.0038 Neptune 82539-05-31 03:22 G 31867960.39 31867960.64 31867960.90 0.0088 0.0017 Neptune 82540-06-01 15:22 G 31868327.88 31868328.14 31868328.40 0.0088 0.0005 Neptune 82541-06-04 02:53 G 31868695.38 31868695.62 31868695.88 0.0027 Neptune 82542-06-06 14:24 G 31869062.91 31869063.10 31869063.34 0.0088 0.0049 Neptune 82543-06-09 02:39 G 31869430.46 31869430.61 31869430.77 0.0088 0.0070 Jupiter 82544-11-22 08:53 G 31869962.68 31869962.87 31869963.08 0.0506 0.0260 Uranus 82548-04-15 15:36 G 31871203.04 31871203.15 31871203.29 0.0141 0.0122 Saturn 82548-04-19 16:05 G 31871207.02 31871207.17 31871207.34 0.0273 0.0208 Uranus 82549-04-20 11:03 G 31871572.73 31871572.96 31871573.18 0.0141 0.0065 Saturn 82549-05-02 02:24 G 31871584.41 31871584.60 31871584.79 0.0270 0.0175 Uranus 82550-04-25 06:44 G 31871942.53 31871942.78 31871943.04 0.0141 0.0008 Uranus 82551-04-30 03:22 G 31872312.40 31872312.64 31872312.88 0.0142 0.0050 Uranus 82552-05-04 00:29 G 31872682.36 31872682.52 31872682.69 0.0142 0.0108 Jupiter 82556-11-26 20:10 G 31874350.12 31874350.34 31874350.55 0.0508 0.0190 Jupiter 82562-05-22 21:36 G 31876353.17 31876353.40 31876353.63 0.0520 0.0105 Saturn 82564-11-02 21:51 G 31877248.21 31877248.41 31877248.63 0.0290 0.0151 82574-03-05 19:27 G 31880658.14 31880658.31 31880658.48 0.1667 0.0685 Mars Jupiter 82574-05-27 18:00 G 31880741.10 31880741.25 31880741.41 0.0518 0.0392

Saturn 82578-04-26 23:03 G 31882171.22 31882171.46 31882171.71 0.0272 0.0007 Uranus 82588-10-20 00:29 G 31886000.36 31886000.52 31886000.68 0.0137 0.0106 Uranus 82589-10-24 13:27 G 31886369.82 31886370.06 31886370.29 0.0137 0.0053 Uranus 82590-10-29 01:27 G 31886739.31 31886739.56 31886739.82 0.0137 0.0002 82591-07-19 08:10 G 31887002.65 31887002.84 31887003.08 0.0081 0.0047 Pluto Uranus 82591-11-02 12:44 G 31887108.80 31887109.03 31887109.28 0.0136 0.0050 Uranus 82592-11-05 23:46 G 31887478.32 31887478.49 31887478.66 0.0136 0.0100 Saturn 82593-10-28 11:32 G 31887834.74 31887834.98 31887835.22 0.0289 0.0048 Saturn 82607-04-23 02:10 G 31892758.40 31892758.59 31892758.80 0.0273 0.0161 Saturn 82608-05-04 12:00 G 31893135.87 31893136.00 31893136.15 0.0270 0.0221 Neptune 82618-11-26 02:39 G 31896993.59 31896993.61 31896993.68 0.0089 0.0088 Neptune 82619-11-28 14:24 G 31897360.95 31897361.10 31897361.30 0.0090 0.0066 Neptune 82620-11-30 02:24 G 31897728.38 31897728.60 31897728.83 0.0090 0.0043 Neptune 82621-12-02 13:56 G 31898095.84 31898096.08 31898096.34 0.0090 0.0021 Saturn 82622-10-23 17:17 G 31898421.11 31898421.22 31898421.35 0.0287 0.0250 Neptune 82622-12-05 01:41 G 31898463.31 31898463.57 31898463.82 0.0090 0.0002 Saturn 82623-11-06 14:39 G 31898799.94 31898800.11 31898800.28 0.0290 0.0210 Neptune 82623-12-07 12:44 G 31898830.80 31898831.03 31898831.29 0.0090 0.0025 Neptune 82624-12-09 00:15 G 31899198.31 31899198.51 31899198.74 0.0090 0.0047 Neptune 82625-12-11 11:46 G 31899565.85 31899565.99 31899566.17 0.0090 0.0069 Jupiter 82627-11-23 11:32 G 31900277.81 31900277.98 31900278.15 0.0506 0.0342 Uranus 82632-04-16 23:46 G 31901884.37 31901884.49 31901884.65 0.0141 0.0118 Uranus 82633-04-21 18:58 G 31902254.07 31902254.29 31902254.53 0.0141 0.0061 Uranus 82634-04-26 15:08 G 31902623.87 31902624.13 31902624.38 0.0141 0.0004 Uranus 82635-05-01 11:32 G 31902993.75 31902993.98 31902994.22 0.0142 0.0055 Uranus 82636-05-05 08:39 G 31903363.72 31903363.86 31903364.02 0.0142 0.0113 Saturn 82637-04-29 08:53 G 31903722.63 31903722.87 31903723.12 0.0272 0.0053 Jupiter 82639-11-27 23:46 G 31904665.27 31904665.49 31904665.72 0.0508 0.0114 Jupiter 82645-05-22 18:15 G 31906668.05 31906668.26 31906668.48 0.0520 0.0210 Saturn 82652-10-31 03:08 G 31909386.38 31909386.63 31909386.87 0.0289 0.0010

82653-03-08 23:17 G 31909515.39 31909515.47 31909515.54 0.1663 0.1511 Mars Jupiter 82657-05-27 14:24 G 31911055.91 31911056.10 31911056.30 0.0519 0.0289 Saturn 82666-04-24 13:56 G 31914309.86 31914310.08 31914310.31 0.0273 0.0112 Saturn 82667-05-06 22:48 G 31914687.44 31914687.45 31914687.50 0.0270 0.0268 Uranus 82672-10-21 11:17 G 31916681.81 31916681.97 31916682.15 0.0137 0.0100 Uranus 82673-10-26 00:15 G 31917051.28 31917051.51 31917051.76 0.0137 0.0048 Uranus 82674-10-30 12:29 G 31917420.76 31917421.02 31917421.27 0.0137 0.0004 Uranus 82675-11-04 00:00 G 31917790.27 31917790.50 31917790.73 0.0136 0.0056 Uranus 82676-11-07 10:20 G 31918159.79 31918159.93 31918160.10 0.0136 0.0107 Saturn 82681-10-25 10:05 G 31919972.75 31919972.92 31919973.12 0.0287 0.0192 Saturn 82682-11-08 07:56 G 31920351.75 31920351.83 31920351.93 0.0291 0.0271 Saturn 82696-04-30 20:10 G 31925274.12 31925274.34 31925274.58 0.0271 0.0101 Neptune 82700-05-25 01:27 G 31926758.56 31926758.56 31926758.57 0.0088 0.0088 Neptune 82701-05-27 12:29 G 31927125.88 31927126.02 31927126.22 0.0088 0.0067 Neptune 82702-05-30 00:44 G 31927493.32 31927493.53 31927493.76 0.0088 0.0045 Neptune 82703-06-01 12:44 G 31927860.78 31927861.03 31927861.28 0.0088 0.0023 Neptune 82704-06-03 00:29 G 31928228.26 31928228.52 31928228.78 0.0088 0.0002 Neptune 82705-06-05 12:15 G 31928595.76 31928596.01 31928596.27 0.0088 0.0020 Neptune 82706-06-07 23:46 G 31928963.28 31928963.49 31928963.74 0.0088 0.0042 Neptune 82707-06-10 11:46 G 31929330.83 31929330.99 31929331.19 0.0088 0.0063 Neptune 82708-06-11 23:03 G 31929698.43 31929698.46 31929698.57 0.0088 0.0085 Jupiter 82710-11-23 12:29 G 31930592.90 31930593.02 31930593.15 0.0505 0.0424 Saturn 82711-11-03 19:41 G 31930938.08 31930938.32 31930938.55 0.0289 0.0069 Uranus 82716-04-18 07:27 G 31932565.68 31932565.81 31932565.98 0.0141 0.0114 Uranus 82717-04-23 02:39 G 31932935.38 31932935.61 31932935.85 0.0141 0.0057 Uranus 82718-04-27 22:34 G 31933305.18 31933305.44 31933305.69 0.0141 0.0001 Uranus 82719-05-02 18:44 G 31933675.06 31933675.28 31933675.52 0.0142 0.0059 Uranus 82720-05-06 15:36 G 31934045.03 31934045.15 31934045.31 0.0142 0.0118 Jupiter 82722-11-28 00:15 G 31934980.28 31934980.51 31934980.74 0.0507 0.0028 Saturn 82725-04-27 01:41 G 31935861.34 31935861.57 31935861.81 0.0272 0.0063

Jupiter 82728-05-22 14:39 G 31936982.92 31936983.11 31936983.30 0.0522 0.0314 Jupiter 82734-12-02 10:34 G 31939367.86 31939367.94 31939368.02 0.0509 0.0474 Jupiter 82740-05-27 15:08 G 31941370.92 31941371.13 31941371.35 0.0520 0.0202 Saturn 82740-10-28 02:53 G 31941524.41 31941524.62 31941524.84 0.0288 0.0133 Pluto 82749-01-19 23:46 G 31944530.34 31944530.49 31944530.68 0.0063 0.0047 Pluto 82750-01-21 09:36 G 31944896.71 31944896.90 31944897.13 0.0063 0.0036 Saturn 82754-04-21 20:53 G 31946448.25 31946448.37 31946448.49 0.0274 0.0237 Saturn 82755-05-04 07:41 G 31946825.61 31946825.82 31946826.03 0.0271 0.0147 Uranus 82756-10-22 21:36 G 31947363.23 31947363.40 31947363.59 0.0137 0.0096 Uranus 82757-10-27 10:20 G 31947732.70 31947732.93 31947733.19 0.0137 0.0043 Uranus 82758-10-31 22:48 G 31948102.20 31948102.45 31948102.70 0.0137 0.0010 Uranus 82759-11-05 09:51 G 31948471.70 31948471.91 31948472.15 0.0136 0.0062 Uranus 82760-11-08 20:24 G 31948841.23 31948841.35 31948841.51 0.0136 0.0113 Saturn 82770-11-05 10:05 G 31952489.71 31952489.92 31952490.15 0.0290 0.0125 Neptune 82783-11-29 00:15 G 31957261.39 31957261.51 31957261.68 0.0090 0.0073 Saturn 82784-04-28 12:58 G 31957412.80 31957413.04 31957413.29 0.0272 0.0015 Neptune 82784-11-30 12:00 G 31957628.81 31957629.00 31957629.24 0.0090 0.0051 Neptune 82785-12-03 00:00 G 31957996.26 31957996.50 31957996.75 0.0090 0.0028 Neptune 82786-12-05 11:32 G 31958363.73 31958363.98 31958364.24 0.0090 0.0006 Neptune 82787-12-07 23:03 G 31958731.21 31958731.46 31958731.72 0.0090 0.0017 Neptune 82788-12-09 10:20 G 31959098.72 31959098.93 31959099.17 0.0090 0.0039 Neptune 82789-12-11 22:05 G 31959466.23 31959466.42 31959466.60 0.0090 0.0061 Neptune 82790-12-14 09:22 G 31959833.80 31959833.89 31959833.98 0.0090 0.0083 Saturn 82799-10-30 17:46 G 31963076.01 31963076.24 31963076.48 0.0288 0.0077 Uranus 82800-04-18 15:36 G 31963247.00 31963247.15 31963247.31 0.0141 0.0110 Uranus 82801-04-23 10:05 G 31963616.69 31963616.92 31963617.17 0.0141 0.0053 Uranus 82802-04-28 06:00 G 31963986.49 31963986.75 31963987.00 0.0141 0.0005 Uranus 82803-05-03 01:56 G 31964356.37 31964356.58 31964356.82 0.0142 0.0064 Uranus 82804-05-06 22:48 G 31964726.34 31964726.45 31964726.60 0.0142 0.0122 Jupiter 82805-11-27 01:12 G 31965295.32 31965295.55 31965295.78 0.0506 0.0061

Jupiter 82811-05-22 16:34 G 31967298.05 31967298.19 31967298.35 0.0522 0.0396 Saturn 82813-04-23 07:56 G 31967999.66 31967999.83 31968000.01 0.0273 0.0189 Saturn 82814-05-05 17:32 G 31968377.07 31968377.23 31968377.42 0.0270 0.0193 Jupiter 82817-12-01 13:41 G 31969682.93 31969683.07 31969683.22 0.0509 0.0398 Jupiter 82823-05-27 15:36 G 31971685.92 31971686.15 31971686.38 0.0520 0.0114 Saturn 82828-10-24 00:44 G 31973662.49 31973662.53 31973662.60 0.0287 0.0280 Saturn 82829-11-06 22:20 G 31974041.24 31974041.43 31974041.63 0.0290 0.0178 Uranus 82840-10-23 07:27 G 31978044.63 31978044.81 31978045.01 0.0137 0.0091 Uranus 82841-10-27 20:24 G 31978414.11 31978414.35 31978414.60 0.0137 0.0038 Uranus 82842-11-01 08:39 G 31978783.61 31978783.86 31978784.11 0.0137 0.0015 Saturn 82843-04-30 22:34 G 31978964.20 31978964.44 31978964.69 0.0271 0.0031 Uranus 82843-11-05 19:56 G 31979153.12 31979153.33 31979153.56 0.0136 0.0067 Uranus 82844-11-09 06:15 G 31979522.66 31979522.76 31979522.91 0.0136 0.0118 82858-03-08 20:53 G 31984390.18 31984390.37 31984390.56 0.1672 0.0031 Mars Saturn 82858-11-01 05:03 G 31984627.47 31984627.71 31984627.96 0.0289 0.0025 Neptune 82865-05-26 21:51 G 31987026.28 31987026.41 31987026.56 0.0088 0.0073 Neptune 82866-05-29 09:22 G 31987393.70 31987393.89 31987394.11 0.0088 0.0052 Neptune 82867-05-31 20:53 G 31987761.14 31987761.37 31987761.63 0.0088 0.0031 Neptune 82868-06-02 08:53 G 31988128.61 31988128.87 31988129.13 0.0088 0.0009 Neptune 82869-06-04 20:39 G 31988496.11 31988496.36 31988496.62 0.0088 0.0013 Neptune 82870-06-07 08:24 G 31988863.62 31988863.85 31988864.10 0.0088 0.0034 Neptune 82871-06-09 19:56 G 31989231.15 31989231.33 31989231.55 0.0088 0.0056 Saturn 82872-04-24 16:48 G 31989551.01 31989551.20 31989551.42 0.0273 0.0144 Neptune 82872-06-11 07:41 G 31989598.72 31989598.82 31989598.97 0.0088 0.0077 Saturn 82873-05-07 01:41 G 31989928.46 31989928.57 31989928.70 0.0270 0.0235 Uranus 82884-04-19 01:41 G 31993928.41 31993928.57 31993928.75 0.0141 0.0105 Uranus 82885-04-23 20:10 G 31994298.12 31994298.34 31994298.59 0.0141 0.0049 Uranus 82886-04-28 16:05 G 31994667.91 31994668.17 31994668.42 0.0141 0.0010 Uranus 82887-05-03 11:46 G 31995037.78 31995037.99 31995038.22 0.0142 0.0069 Saturn 82887-10-26 08:24 G 31995213.72 31995213.85 31995214.01 0.0287 0.0233

Uranus 82888-05-07 08:53 G 31995407.76 31995407.87 31995407.99 0.0142 0.0127 Saturn 82888-11-08 06:44 G 31995592.64 31995592.78 31995592.94 0.0290 0.0226 Jupiter 82888-11-26 06:29 G 31995610.55 31995610.77 31995610.99 0.0506 0.0126 Jupiter 82894-05-21 13:12 G 31997612.99 31997613.05 31997613.12 0.0523 0.0501 Jupiter 82900-12-01 19:27 G 31999998.14 31999998.31 31999998.49 0.0508 0.0333 Saturn 82902-05-03 05:46 G 32000515.51 32000515.74 32000515.99 0.0271 0.0075 Jupiter 82906-05-27 12:44 G 32002000.79 32002001.03 32002001.26 0.0521 0.0013 Saturn 82917-11-03 12:29 G 32006178.78 32006179.02 32006179.27 0.0289 0.0022 Uranus 82924-10-24 17:03 G 32008726.03 32008726.21 32008726.43 0.0137 0.0087 Uranus 82925-10-29 06:15 G 32009095.52 32009095.76 32009096.01 0.0137 0.0033 Uranus 82926-11-02 18:29 G 32009465.02 32009465.27 32009465.52 0.0137 0.0020 Uranus 82927-11-07 05:32 G 32009834.54 32009834.73 32009834.97 0.0136 0.0073 Uranus 82928-11-10 16:05 G 32010204.09 32010204.17 32010204.30 0.0136 0.0124 82930-09-12 06:44 G 32010874.65 32010874.78 32010874.90 0.1859 0.1453 Mars Saturn 82931-04-27 23:32 G 32011102.25 32011102.48 32011102.71 0.0272 0.0101 Saturn 82946-10-28 12:15 G 32016764.84 32016765.01 32016765.21 0.0287 0.0192 Saturn 82947-11-11 11:03 G 32017143.88 32017143.96 32017144.06 0.0291 0.0268 Neptune 82947-11-29 09:22 G 32017161.79 32017161.89 32017162.01 0.0089 0.0080 Neptune 82948-11-30 21:08 G 32017529.20 32017529.38 32017529.59 0.0089 0.0058 Neptune 82949-12-03 08:53 G 32017896.65 32017896.87 32017897.11 0.0090 0.0036 Neptune 82950-12-05 20:39 G 32018264.12 32018264.36 32018264.62 0.0090 0.0014 Neptune 82951-12-08 08:24 G 32018631.60 32018631.85 32018632.11 0.0090 0.0009 Neptune 82952-12-09 19:41 G 32018999.10 32018999.32 32018999.57 0.0090 0.0032 Neptune 82953-12-12 06:58 G 32019366.61 32019366.79 32019367.02 0.0090 0.0054 Neptune 82954-12-14 18:29 G 32019734.16 32019734.27 32019734.43 0.0090 0.0076 Saturn 82960-04-21 23:46 G 32021689.44 32021689.49 32021689.55 0.0274 0.0266 Saturn 82961-05-04 10:20 G 32022066.71 32022066.93 32022067.15 0.0271 0.0114 Uranus 82968-04-20 12:15 G 32024609.85 32024610.01 32024610.20 0.0141 0.0100 Uranus 82969-04-25 06:58 G 32024979.56 32024979.79 32024980.04 0.0141 0.0043 Uranus 82970-04-30 02:39 G 32025349.36 32025349.61 32025349.87 0.0141 0.0016

Uranus 82971-05-04 22:34 G 32025719.24 32025719.44 32025719.67 0.0142 0.0075

Jupiter 82971-11-27 12:58 G 32025925.82 32025926.04 32025926.25 0.0505 0.0190

Uranus 82972-05-08 19:27 G 32026089.24 32026089.31 32026089.41 0.0142 0.0134

Saturn 82976-11-04 15:22 G 32027729.91 32027730.14 32027730.38 0.0290 0.0063

Jupiter 82983-12-02 00:58 G 32030313.35 32030313.54 32030313.75 0.0507 0.0264

Jupiter 82989-05-26 20:53 G 32032316.13 32032316.37 32032316.60 0.0521 0.0043

Saturn 82990-04-29 03:36 G 32032653.41 32032653.65 32032653.89 0.0272 0.0061

Pluto 82998-01-23 10:48 G 32035479.70 32035479.95 32035480.21 0.0063 0.0004

## 84TH MILLENNIUM CE

### This is a list of transits of Earth in the 84th millennium CE.

FROM MAX- C START MAX END SUNRAD DEPTH S

TRANSIT

TIME

 Jupiter
 83001-06-01 20:53 G
 32036704.28
 32036704.37
 32036704.47
 0.0519
 0.0472

 Saturn
 83005-10-30 12:44 G
 32038315.83
 32038316.03
 32038316.24
 0.0288
 0.0154

 Uranus
 83007-10-22 14:39 G
 32039038.07
 32039038.11
 32039038.18
 0.0138
 0.0134

 Uranus
 83008-10-26 04:34 G
 32039407.49
 32039407.69
 32039407.90
 0.0137
 0.0080

 Uranus
 83009-10-30 17:32 G
 32039776.98
 32039777.23
 32039777.48
 0.0137
 0.0027

 Uranus
 83010-11-04 05:32 G
 32040146.48
 32040146.73
 32040146.98
 0.0137
 0.0026

 Uranus
 83011-11-08 17:03 G
 32040516.00
 32040516.21
 32040516.42
 0.0136
 0.0078

 Uranus
 83012-11-12 03:08 G
 32040885.58
 32040885.63
 32040885.73
 0.0136
 0.0129

 Saturn
 83029-04-25 01:56 G
 32043240.46
 32043240.58
 32043240.73
 0.0274
 0.0228

 Saturn
 83029-05-28 06:29 G
 32046926.69
 32046926.77
 32046926.90
 0.0088
 0.0080

Neptune 83030-05-30 18:00 G 32047294.08 32047294.25 32047294.47 0.0088 0.0059 Neptune 83031-06-02 05:32 G 32047661.51 32047661.73 32047661.99 0.0088 0.0038 Neptune 83032-06-03 17:32 G 32048028.98 32048029.23 32048029.49 0.0088 0.0016 Neptune 83033-06-06 05:17 G 32048396.46 32048396.72 32048396.98 0.0088 0.0005 Neptune 83034-06-08 16:34 G 32048763.96 32048764.19 32048764.45 0.0088 0.0027 Neptune 83035-06-11 04:20 G 32049131.47 32049131.68 32049131.91 0.0088 0.0048 Saturn 83035-11-07 15:08 G 32049280.90 32049281.13 32049281.36 0.0290 0.0099 Neptune 83036-06-12 15:51 G 32049499.03 32049499.16 32049499.34 0.0088 0.0070 Saturn 83049-05-01 05:03 G 32054204.47 32054204.71 32054204.96 0.0272 0.0025 Uranus 83052-04-22 00:00 G 32055291.32 32055291.50 32055291.70 0.0141 0.0094 Uranus 83053-04-26 18:44 G 32055661.04 32055661.28 32055661.54 0.0141 0.0036 Uranus 83054-05-01 14:24 G 32056030.85 32056031.10 32056031.36 0.0141 0.0022 Jupiter 83054-11-27 21:51 G 32056241.22 32056241.41 32056241.62 0.0505 0.0243 Uranus 83055-05-06 10:20 G 32056400.73 32056400.93 32056401.15 0.0142 0.0081 Uranus 83056-05-10 07:27 G 32056770.79 32056770.81 32056770.86 0.0142 0.0140 Mars 83063-03-09 16:05 G 32059265.10 32059265.17 32059265.23 0.1682 0.1565 Saturn 83064-10-31 09:51 G 32059866.69 32059866.91 32059867.14 0.0288 0.0121 Jupiter 83066-12-02 12:44 G 32060628.82 32060629.03 32060629.24 0.0507 0.0222 Jupiter 83072-05-26 22:20 G 32062631.20 32062631.43 32062631.66 0.0522 0.0128 Saturn 83078-04-26 02:24 G 32064791.43 32064791.60 32064791.78 0.0274 0.0191 Saturn 83079-05-08 11:46 G 32065168.83 32065168.99 32065169.18 0.0270 0.0186 Jupiter 83084-05-31 21:51 G 32067019.25 32067019.41 32067019.56 0.0520 0.0385 Pluto 83088-07-26 01:12 G 32068535.29 32068535.55 32068535.81 0.0081 0.0001 Uranus 83091-10-23 02:24 G 32069719.54 32069719.60 32069719.72 0.0138 0.0129 Uranus 83092-10-26 16:20 G 32070088.98 32070089.18 32070089.41 0.0137 0.0075 Uranus 83093-10-31 05:03 G 32070458.47 32070458.71 32070458.97 0.0137 0.0021 Uranus 83094-11-04 17:17 G 32070827.98 32070828.22 32070828.47 0.0137 0.0032 Saturn 83094-11-08 12:00 G 32070831.79 32070832.00 32070832.22 0.0290 0.0132 Uranus 83095-11-09 04:20 G 32071197.50 32071197.68 32071197.89 0.0136 0.0084 Uranus 83096-11-12 14:39 G 32071567.10 32071567.11 32071567.17 0.0136 0.0135

Saturn 83108-05-03 05:03 G 32075755.47 32075755.71 32075755.96 0.0271 0.0011 Neptune 83111-11-30 17:17 G 32077062.19 32077062.22 32077062.29 0.0089 0.0088 Neptune 83112-12-02 05:03 G 32077429.55 32077429.71 32077429.90 0.0090 0.0066 Neptune 83113-12-04 16:48 G 32077796.99 32077797.20 32077797.44 0.0090 0.0044 Neptune 83114-12-07 04:48 G 32078164.46 32078164.70 32078164.96 0.0090 0.0021 Neptune 83115-12-09 16:48 G 32078531.95 32078532.20 32078532.46 0.0090 0.0001 Neptune 83116-12-11 04:05 G 32078899.44 32078899.67 32078899.93 0.0090 0.0024 Neptune 83117-12-13 15:36 G 32079266.95 32079267.15 32079267.39 0.0090 0.0046 Neptune 83118-12-16 03:08 G 32079634.48 32079634.63 32079634.81 0.0090 0.0068 Neptune 83119-12-18 14:39 G 32080002.11 32080002.11 32080002.15 0.0090 0.0090 Saturn 83123-11-03 05:46 G 32081417.51 32081417.74 32081417.98 0.0288 0.0089 Uranus 83136-04-23 09:36 G 32085972.72 32085972.90 32085973.11 0.0141 0.0089 Saturn 83137-04-28 00:58 G 32086342.34 32086342.54 32086342.74 0.0274 0.0158 Uranus 83137-04-28 04:34 G 32086342.44 32086342.69 32086342.94 0.0141 0.0031 \* Jupiter 83137-11-28 12:29 G 32086556.83 32086557.02 32086557.22 0.0505 0.0274 Uranus 83138-05-03 00:00 G 32086712.26 32086712.50 32086712.76 0.0142 0.0027 Saturn 83138-05-10 10:34 G 32086719.80 32086719.94 32086720.09 0.0270 0.0218 Uranus 83139-05-07 20:10 G 32087082.15 32087082.34 32087082.55 0.0142 0.0087 Mars 83142-03-12 21:51 G 32088122.24 32088122.41 32088122.58 0.1678 0.0736 Jupiter 83149-12-02 23:17 G 32090944.25 32090944.47 32090944.69 0.0506 0.0174 Saturn 83153-11-10 07:56 G 32092382.63 32092382.83 32092383.03 0.0290 0.0163 Jupiter 83155-05-28 06:00 G 32092946.53 32092946.75 32092946.97 0.0522 0.0188 Saturn 83167-05-05 04:34 G 32097306.44 32097306.69 32097306.93 0.0271 0.0044 Jupiter 83167-06-02 08:53 G 32097334.70 32097334.87 32097335.05 0.0520 0.0343 Uranus 83175-10-24 15:36 G 32100401.05 32100401.15 32100401.28 0.0138 0.0122 Uranus 83176-10-28 05:03 G 32100770.50 32100770.71 32100770.95 0.0137 0.0068 Uranus 83177-11-01 18:00 G 32101140.00 32101140.25 32101140.50 0.0137 0.0014 Uranus 83178-11-06 05:46 G 32101509.51 32101509.74 32101510.00 0.0137 0.0039 Uranus 83179-11-10 17:03 G 32101879.03 32101879.21 32101879.41 0.0136 0.0090 Saturn 83182-11-04 01:27 G 32102968.32 32102968.56 32102968.80 0.0288 0.0058

Neptune 83193-05-28 14:10 G 32106827.08 32106827.09 32106827.16 0.0088 0.0087 Neptune 83194-05-31 01:41 G 32107194.43 32107194.57 32107194.77 0.0088 0.0066 Neptune 83195-06-02 13:27 G 32107561.86 32107562.06 32107562.31 0.0088 0.0045 Saturn 83196-04-28 23:17 G 32107893.26 32107893.47 32107893.70 0.0274 0.0125 Neptune 83196-06-04 01:27 G 32107929.31 32107929.56 32107929.81 0.0088 0.0023 Saturn 83197-05-11 09:08 G 32108270.79 32108270.88 32108270.98 0.0270 0.0250 Neptune 83197-06-06 12:58 G 32108296.78 32108297.04 32108297.31 0.0088 0.0003 Neptune 83198-06-09 00:15 G 32108664.27 32108664.51 32108664.78 0.0088 0.0020 Neptune 83199-06-11 11:46 G 32109031.78 32109031.99 32109032.24 0.0088 0.0041 Neptune 83200-06-12 23:32 G 32109399.32 32109399.48 32109399.68 0.0088 0.0062 Neptune 83201-06-15 11:17 G 32109766.91 32109766.97 32109767.07 0.0088 0.0083 Saturn 83211-10-29 07:56 G 32113554.73 32113554.83 32113554.95 0.0286 0.0255 Saturn 83212-11-11 04:48 G 32113933.53 32113933.70 32113933.89 0.0290 0.0196 83214-09-13 16:05 G 32114604.98 32114605.17 32114605.37 0.1850 0.0363 Mars Uranus 83220-04-23 19:27 G 32116654.11 32116654.31 32116654.52 0.0141 0.0084 Jupiter 83220-11-27 21:36 G 32116872.22 32116872.40 32116872.57 0.0504 0.0327 Uranus 83221-04-28 13:56 G 32117023.84 32117024.08 32117024.34 0.0141 0.0027 Uranus 83222-05-03 09:36 G 32117393.66 32117393.90 32117394.15 0.0142 0.0033 Uranus 83223-05-08 05:46 G 32117763.56 32117763.74 32117763.95 0.0142 0.0092 Saturn 83226-05-06 03:36 G 32118857.42 32118857.65 32118857.89 0.0271 0.0078 Jupiter 83232-12-02 09:22 G 32121259.66 32121259.89 32121260.11 0.0506 0.0124 Jupiter 83238-05-27 17:03 G 32123262.00 32123262.21 32123262.42 0.0522 0.0233 Saturn 83241-11-04 22:20 G 32124519.19 32124519.43 32124519.67 0.0288 0.0025 Pluto 83246-01-26 11:46 G 32126062.77 32126062.99 32126063.22 0.0063 0.0030 Pluto 83247-01-27 21:22 G 32126429.26 32126429.39 32126429.54 0.0063 0.0052 Jupiter 83250-06-01 12:29 G 32127649.82 32127650.02 32127650.22 0.0520 0.0266 Saturn 83255-04-30 22:20 G 32129444.20 32129444.43 32129444.67 0.0274 0.0091 Uranus 83259-10-25 04:05 G 32131082.54 32131082.67 32131082.82 0.0138 0.0116 Uranus 83260-10-28 17:46 G 32131452.01 32131452.24 32131452.47 0.0137 0.0062 Uranus 83261-11-02 06:15 G 32131821.51 32131821.76 32131822.02 0.0137 0.0009

Uranus 83262-11-06 18:15 G 32132191.03 32132191.26 32132191.51 0.0137 0.0045 Uranus 83263-11-11 05:03 G 32132560.56 32132560.71 32132560.91 0.0136 0.0098 Saturn 83270-10-30 06:29 G 32135105.62 32135105.77 32135105.93 0.0286 0.0220 Saturn 83271-11-13 03:22 G 32135484.50 32135484.64 32135484.79 0.0290 0.0230 Neptune 83276-12-01 12:29 G 32137329.90 32137330.02 32137330.19 0.0089 0.0074 Neptune 83277-12-04 00:29 G 32137697.32 32137697.52 32137697.74 0.0090 0.0052 Neptune 83278-12-06 12:15 G 32138064.79 32138065.01 32138065.27 0.0090 0.0030 Neptune 83279-12-09 00:15 G 32138432.26 32138432.51 32138432.77 0.0090 0.0007 Neptune 83280-12-10 11:46 G 32138799.75 32138799.99 32138800.25 0.0090 0.0016 Neptune 83281-12-12 23:46 G 32139167.26 32139167.49 32139167.72 0.0090 0.0037 Neptune 83282-12-15 11:03 G 32139534.79 32139534.96 32139535.17 0.0090 0.0060 Neptune 83283-12-17 22:48 G 32139902.35 32139902.45 32139902.56 0.0090 0.0081 Saturn 83284-04-24 16:20 G 32140031.14 32140031.18 32140031.24 0.0275 0.0268 Saturn 83285-05-07 04:20 G 32140408.46 32140408.68 32140408.91 0.0271 0.0113 Saturn 83300-11-06 22:48 G 32146070.21 32146070.45 32146070.70 0.0288 0.0013 Uranus 83303-04-21 08:24 G 32146965.82 32146965.85 32146965.92 0.0140 0.0138 Jupiter 83303-11-29 09:08 G 32147187.73 32147187.88 32147188.04 0.0504 0.0371 Uranus 83304-04-25 02:24 G 32147335.41 32147335.60 32147335.83 0.0141 0.0081 Uranus 83305-04-29 21:22 G 32147705.14 32147705.39 32147705.64 0.0141 0.0023 Uranus 83306-05-04 16:48 G 32148074.96 32148075.20 32148075.45 0.0141 0.0037 Uranus 83307-05-09 13:12 G 32148444.87 32148445.05 32148445.24 0.0142 0.0096 Saturn 83314-05-02 22:34 G 32150995.21 32150995.44 32150995.69 0.0274 0.0057 Jupiter 83315-12-03 22:05 G 32151575.19 32151575.42 32151575.65 0.0506 0.0086 Jupiter 83321-05-27 17:32 G 32153577.04 32153577.23 32153577.41 0.0522 0.0325 Saturn 83329-11-01 08:24 G 32156656.66 32156656.85 32156657.04 0.0286 0.0182 Saturn 83330-11-15 05:17 G 32157035.63 32157035.72 32157035.81 0.0290 0.0269 Jupiter 83333-06-01 17:17 G 32157965.01 32157965.22 32157965.44 0.0521 0.0196 Pluto 83336-07-28 15:08 G 32159118.10 32159118.13 32159118.21 0.0081 0.0080 Saturn 83343-04-27 18:15 G 32161582.14 32161582.26 32161582.40 0.0275 0.0231 Uranus 83343-10-26 15:51 G 32161764.02 32161764.16 32161764.32 0.0138 0.0110

Saturn 83344-05-09 06:44 G 32161959.58 32161959.78 32161959.99 0.0271 0.0150 Uranus 83344-10-30 05:17 G 32162133.50 32162133.72 32162133.96 0.0137 0.0056 Uranus 83345-11-03 18:15 G 32162503.01 32162503.26 32162503.52 0.0137 0.0003 Uranus 83346-11-08 06:29 G 32162872.54 32162872.77 32162873.01 0.0137 0.0051 Mars 83347-03-12 16:48 G 32162997.04 32162997.20 32162997.36 0.1688 0.0861 Uranus 83347-11-12 17:17 G 32163242.07 32163242.22 32163242.40 0.0136 0.0104 Neptune 83358-05-31 09:36 G 32167094.78 32167094.90 32167095.07 0.0088 0.0073 Neptune 83359-06-02 21:08 G 32167462.19 32167462.38 32167462.61 0.0088 0.0052 Saturn 83359-11-09 02:39 G 32167621.37 32167621.61 32167621.85 0.0288 0.0054 Neptune 83360-06-04 08:53 G 32167829.64 32167829.87 32167830.13 0.0088 0.0031 Neptune 83361-06-06 20:39 G 32168197.10 32168197.36 32168197.62 0.0088 0.0009 Neptune 83362-06-09 08:10 G 32168564.58 32168564.84 32168565.10 0.0088 0.0012 Neptune 83363-06-11 19:27 G 32168932.08 32168932.31 32168932.56 0.0088 0.0033 Neptune 83364-06-13 06:58 G 32169299.60 32169299.79 32169300.01 0.0088 0.0054 Neptune 83365-06-15 18:29 G 32169667.15 32169667.27 32169667.42 0.0088 0.0075 Saturn 83373-05-04 01:12 G 32172546.30 32172546.55 32172546.80 0.0274 0.0019 Jupiter 83386-11-28 16:20 G 32177503.06 32177503.18 32177503.30 0.0504 0.0430 Uranus 83387-04-21 18:58 G 32177647.22 32177647.29 32177647.38 0.0140 0.0133 Uranus 83388-04-25 12:44 G 32178016.83 32178017.03 32178017.26 0.0141 0.0076 Saturn 83388-11-02 14:24 G 32178207.89 32178208.10 32178208.32 0.0287 0.0139 Uranus 83389-04-30 07:27 G 32178386.56 32178386.81 32178387.06 0.0141 0.0017 Uranus 83390-05-05 02:53 G 32178756.38 32178756.62 32178756.87 0.0141 0.0042 Uranus 83391-05-09 23:03 G 32179126.30 32179126.46 32179126.65 0.0142 0.0102 Jupiter 83398-12-03 03:08 G 32181890.40 32181890.63 32181890.87 0.0505 0.0020 Saturn 83402-04-29 23:03 G 32183133.29 32183133.46 32183133.64 0.0275 0.0191 Saturn 83403-05-12 11:32 G 32183510.81 32183510.98 32183511.16 0.0271 0.0188 Jupiter 83404-05-27 22:05 G 32183892.27 32183892.42 32183892.57 0.0523 0.0396 Jupiter 83410-12-08 14:10 G 32186278.01 32186278.09 32186278.18 0.0507 0.0467 Jupiter 83416-06-01 23:46 G 32188280.26 32188280.49 32188280.72 0.0521 0.0131 Saturn 83418-11-11 11:17 G 32189172.74 32189172.97 32189173.20 0.0288 0.0102

83426-03-15 22:34 G 32191854.34 32191854.44 32191854.53 0.1683 0.1447 Mars Uranus 83427-10-28 02:39 G 32192445.45 32192445.61 32192445.78 0.0138 0.0105 Uranus 83428-10-31 16:20 G 32192814.95 32192815.18 32192815.43 0.0137 0.0051 Uranus 83429-11-05 05:32 G 32193184.47 32193184.73 32193184.98 0.0137 0.0004 Uranus 83430-11-09 17:32 G 32193554.01 32193554.23 32193554.47 0.0137 0.0057 Uranus 83431-11-14 04:48 G 32193923.57 32193923.70 32193923.87 0.0136 0.0110 Saturn 83432-05-06 06:00 G 32194097.50 32194097.75 32194097.99 0.0274 0.0020 Neptune 83440-12-02 18:58 G 32197230.21 32197230.29 32197230.41 0.0090 0.0082 Neptune 83441-12-05 06:58 G 32197597.62 32197597.79 32197597.99 0.0090 0.0060 Neptune 83442-12-07 18:58 G 32197965.06 32197965.29 32197965.52 0.0090 0.0038 Neptune 83443-12-10 06:29 G 32198332.52 32198332.77 32198333.03 0.0090 0.0016 Neptune 83444-12-11 18:15 G 32198700.01 32198700.26 32198700.52 0.0090 0.0006 Neptune 83445-12-14 05:46 G 32199067.52 32199067.74 32199068.00 0.0090 0.0029 Neptune 83446-12-16 17:32 G 32199435.04 32199435.23 32199435.46 0.0090 0.0051 Saturn 83447-11-06 00:15 G 32199759.28 32199759.51 32199759.75 0.0287 0.0091 Neptune 83447-12-19 05:03 G 32199802.59 32199802.71 32199802.88 0.0090 0.0073 Saturn 83461-05-01 06:00 G 32204684.55 32204684.75 32204684.96 0.0275 0.0149 Saturn 83462-05-13 18:15 G 32205062.14 32205062.26 32205062.40 0.0271 0.0230 Uranus 83471-04-23 05:32 G 32208328.65 32208328.73 32208328.85 0.0140 0.0128 Uranus 83472-04-26 23:32 G 32208698.27 32208698.48 32208698.71 0.0141 0.0070 Uranus 83473-05-01 18:15 G 32209068.01 32209068.26 32209068.51 0.0141 0.0012 Uranus 83474-05-06 13:41 G 32209437.83 32209438.07 32209438.31 0.0141 0.0048 Uranus 83475-05-11 09:51 G 32209807.76 32209807.91 32209808.08 0.0142 0.0108 Saturn 83477-11-12 23:32 G 32210724.29 32210724.48 32210724.70 0.0289 0.0155 Jupiter 83481-12-03 08:10 G 32212205.61 32212205.84 32212206.07 0.0505 0.0056 Jupiter 83487-05-27 22:48 G 32214207.37 32214207.45 32214207.55 0.0523 0.0484 Saturn 83491-05-08 13:41 G 32215648.83 32215649.07 32215649.31 0.0273 0.0062 Jupiter 83493-12-07 20:10 G 32216593.20 32216593.34 32216593.48 0.0507 0.0401 Pluto 83495-01-30 20:24 G 32217012.10 32217012.35 32217012.60 0.0063 0.0013 83498-09-15 05:17 G 32218335.53 32218335.72 32218335.91 0.1841 0.0512 Mars

Jupiter 83499-06-01 21:22 G 32218595.16 32218595.39 32218595.63 0.0521 0.0029 Saturn 83506-11-08 13:56 G 32221310.84 32221311.08 32221311.32 0.0287 0.0038 Uranus 83511-10-29 14:39 G 32223126.93 32223127.11 32223127.28 0.0138 0.0099 Uranus 83512-11-02 04:20 G 32223496.45 32223496.68 32223496.93 0.0137 0.0045 Uranus 83513-11-06 17:32 G 32223865.98 32223866.23 32223866.48 0.0137 0.0010 Uranus 83514-11-11 05:32 G 32224235.52 32224235.73 32224235.97 0.0137 0.0064 Uranus 83515-11-15 17:03 G 32224605.09 32224605.21 32224605.36 0.0136 0.0116 Saturn 83520-05-03 15:22 G 32226235.91 32226236.14 32226236.36 0.0274 0.0104 Neptune 83522-06-01 16:20 G 32226995.09 32226995.18 32226995.30 0.0088 0.0080 Neptune 83523-06-04 04:05 G 32227362.50 32227362.67 32227362.88 0.0088 0.0059 Neptune 83524-06-05 15:51 G 32227729.93 32227730.16 32227730.40 0.0088 0.0038 Neptune 83525-06-08 03:22 G 32228097.39 32228097.64 32228097.91 0.0088 0.0017 Neptune 83526-06-10 15:08 G 32228464.87 32228465.13 32228465.39 0.0088 0.0004 Neptune 83527-06-13 02:24 G 32228832.37 32228832.60 32228832.87 0.0088 0.0026 Neptune 83528-06-14 13:41 G 32229199.88 32229200.07 32229200.32 0.0088 0.0047 Neptune 83529-06-17 01:12 G 32229567.41 32229567.55 32229567.74 0.0088 0.0068 Saturn 83535-11-02 21:08 G 32231897.25 32231897.38 32231897.53 0.0285 0.0231 Saturn 83536-11-15 15:22 G 32232275.98 32232276.14 32232276.32 0.0289 0.0211 Saturn 83550-05-10 23:17 G 32237200.25 32237200.47 32237200.70 0.0273 0.0107 Uranus 83555-04-24 19:27 G 32239010.20 32239010.31 32239010.45 0.0140 0.0121 Uranus 83556-04-28 13:27 G 32239379.84 32239380.06 32239380.29 0.0141 0.0063 Uranus 83557-05-03 08:10 G 32239749.59 32239749.84 32239750.09 0.0141 0.0004 Uranus 83558-05-08 03:36 G 32240119.43 32240119.65 32240119.89 0.0141 0.0056 Uranus 83559-05-12 23:46 G 32240489.36 32240489.49 32240489.65 0.0142 0.0116 Jupiter 83564-12-03 09:22 G 32242520.67 32242520.89 32242521.12 0.0504 0.0136 Saturn 83565-11-10 05:17 G 32242862.48 32242862.72 32242862.97 0.0287 0.0018 Jupiter 83576-12-07 20:39 G 32246908.18 32246908.36 32246908.55 0.0506 0.0314 Saturn 83579-05-06 02:39 G 32247787.37 32247787.61 32247787.85 0.0274 0.0056 Jupiter 83582-06-01 18:29 G 32248910.04 32248910.27 32248910.51 0.0522 0.0073 Pluto 83585-08-02 07:56 G 32250067.58 32250067.83 32250068.10 0.0081 0.0007

Jupiter 83594-06-06 19:27 G 32253298.19 32253298.31 32253298.43 0.0521 0.0447 Saturn 83594-11-04 14:39 G 32253448.92 32253449.11 32253449.31 0.0286 0.0174 Uranus 83595-10-30 03:22 G 32253808.45 32253808.64 32253808.82 0.0138 0.0093 Saturn 83595-11-18 09:22 G 32253827.82 32253827.89 32253827.99 0.0289 0.0270 Uranus 83596-11-02 17:03 G 32254177.98 32254178.21 32254178.47 0.0137 0.0038 Uranus 83597-11-07 06:29 G 32254547.52 32254547.77 32254548.02 0.0137 0.0016 Uranus 83598-11-11 18:29 G 32254917.07 32254917.27 32254917.50 0.0137 0.0071 Uranus 83599-11-16 06:00 G 32255286.67 32255286.75 32255286.88 0.0136 0.0124 Neptune 83605-12-05 12:44 G 32257497.89 32257498.03 32257498.22 0.0090 0.0069 Neptune 83606-12-08 00:44 G 32257865.33 32257865.53 32257865.76 0.0090 0.0047 Neptune 83607-12-10 12:29 G 32258232.78 32258233.02 32258233.28 0.0090 0.0025 Saturn 83608-04-29 19:56 G 32258374.22 32258374.33 32258374.48 0.0276 0.0231 Neptune 83608-12-12 00:29 G 32258600.26 32258600.52 32258600.78 0.0090 0.0003 Saturn 83609-05-12 10:20 G 32258751.73 32258751.93 32258752.14 0.0273 0.0152 Neptune 83609-12-14 12:00 G 32258967.76 32258968.00 32258968.25 0.0090 0.0020 Neptune 83610-12-16 23:17 G 32259335.26 32259335.47 32259335.72 0.0090 0.0042 Neptune 83611-12-19 10:48 G 32259702.80 32259702.95 32259703.16 0.0090 0.0064 Neptune 83612-12-20 22:48 G 32260070.39 32260070.45 32260070.54 0.0090 0.0085 Saturn 83624-11-11 21:51 G 32264414.18 32264414.41 32264414.65 0.0288 0.0074 83631-03-15 17:17 G 32266729.03 32266729.22 32266729.40 0.1694 0.0167 Mars Saturn 83638-05-07 14:53 G 32269338.87 32269339.12 32269339.36 0.0274 0.0009 Uranus 83639-04-25 07:41 G 32269691.68 32269691.82 32269691.97 0.0140 0.0115 Uranus 83640-04-29 01:27 G 32270061.34 32270061.56 32270061.80 0.0141 0.0057 Uranus 83641-05-03 20:24 G 32270431.09 32270431.35 32270431.60 0.0141 0.0003 Uranus 83642-05-08 15:51 G 32270800.94 32270801.16 32270801.39 0.0141 0.0062 Uranus 83643-05-13 12:00 G 32271170.88 32271171.00 32271171.13 0.0142 0.0123 Jupiter 83647-12-03 09:22 G 32272835.68 32272835.89 32272836.10 0.0504 0.0228 Saturn 83653-11-06 07:27 G 32275000.60 32275000.81 32275001.04 0.0286 0.0117 Jupiter 83659-12-07 20:53 G 32277223.17 32277223.37 32277223.58 0.0506 0.0223 Jupiter 83665-05-31 18:58 G 32279225.07 32279225.29 32279225.52 0.0522 0.0162

Saturn 83667-05-02 09:22 G 32279925.70 32279925.89 32279926.07 0.0275 0.0181 Saturn 83668-05-13 22:20 G 32280303.27 32280303.43 32280303.61 0.0272 0.0199 Jupiter 83677-06-05 17:17 G 32283613.06 32283613.22 32283613.41 0.0521 0.0350 Uranus 83679-10-30 17:17 G 32284490.03 32284490.22 32284490.43 0.0138 0.0086 Uranus 83680-11-03 07:41 G 32284859.57 32284859.82 32284860.07 0.0137 0.0031 Uranus 83681-11-07 20:39 G 32285229.11 32285229.36 32285229.62 0.0137 0.0024 Uranus 83682-11-12 09:08 G 32285598.68 32285598.88 32285599.09 0.0137 0.0078 Saturn 83683-11-14 13:12 G 32285965.84 32285966.05 32285966.28 0.0288 0.0130 Uranus 83683-11-16 20:24 G 32285968.30 32285968.35 32285968.44 0.0136 0.0131 Neptune 83686-05-31 22:48 G 32286895.45 32286895.45 32286895.49 0.0088 0.0088 Neptune 83687-06-03 10:05 G 32287262.78 32287262.92 32287263.11 0.0088 0.0067 Neptune 83688-06-04 21:36 G 32287630.20 32287630.40 32287630.65 0.0088 0.0046 Neptune 83689-06-07 09:36 G 32287997.66 32287997.90 32287998.16 0.0088 0.0025 Neptune 83690-06-09 21:22 G 32288365.13 32288365.39 32288365.65 0.0088 0.0004 Neptune 83691-06-12 08:39 G 32288732.62 32288732.86 32288733.13 0.0088 0.0018 Neptune 83692-06-13 20:10 G 32289100.12 32289100.34 32289100.59 0.0088 0.0039 Neptune 83693-06-16 07:27 G 32289467.65 32289467.81 32289468.03 0.0088 0.0060 Neptune 83694-06-18 18:58 G 32289835.22 32289835.29 32289835.42 0.0088 0.0081 Saturn 83697-05-09 02:53 G 32290890.38 32290890.62 32290890.87 0.0273 0.0040 Saturn 83712-11-08 23:03 G 32296552.23 32296552.46 32296552.71 0.0287 0.0062 Uranus 83723-04-26 20:24 G 32300373.21 32300373.35 32300373.53 0.0140 0.0109 Uranus 83724-04-30 14:39 G 32300742.88 32300743.11 32300743.36 0.0141 0.0050 Uranus 83725-05-05 09:22 G 32301112.64 32301112.89 32301113.15 0.0141 0.0010 Saturn 83726-05-04 21:22 G 32301477.18 32301477.39 32301477.61 0.0275 0.0132 Uranus 83726-05-10 04:48 G 32301482.49 32301482.70 32301482.93 0.0141 0.0070 Uranus 83727-05-15 01:12 G 32301852.46 32301852.55 32301852.65 0.0142 0.0130 Saturn 83727-05-17 09:36 G 32301854.80 32301854.90 32301855.01 0.0272 0.0244 Jupiter 83730-12-03 11:03 G 32303150.78 32303150.96 32303151.15 0.0504 0.0309 Saturn 83741-11-03 07:41 G 32307138.72 32307138.82 32307138.93 0.0285 0.0256 Saturn 83742-11-17 01:56 G 32307517.41 32307517.58 32307517.78 0.0289 0.0183

Jupiter 83742-12-07 23:17 G 32307538.25 32307538.47 32307538.69 0.0505 0.0147 Pluto 83743-02-02 20:24 G 32307595.12 32307595.35 32307595.60 0.0063 0.0023 Pluto 83744-02-04 05:46 G 32307961.68 32307961.74 32307961.85 0.0063 0.0059 Jupiter 83748-05-31 13:27 G 32309539.86 32309540.06 32309540.26 0.0523 0.0276 Saturn 83756-05-11 14:10 G 32312441.86 32312442.09 32312442.32 0.0273 0.0087 Jupiter 83760-06-05 12:44 G 32313927.82 32313928.03 32313928.24 0.0522 0.0240 Uranus 83762-10-27 17:17 G 32314802.17 32314802.22 32314802.29 0.0138 0.0134 Uranus 83763-11-01 07:56 G 32315171.63 32315171.83 32315172.05 0.0138 0.0079 Uranus 83764-11-04 22:05 G 32315541.18 32315541.42 32315541.68 0.0137 0.0023 Uranus 83765-11-09 11:17 G 32315910.73 32315910.97 32315911.22 0.0137 0.0032 Uranus 83766-11-13 23:32 G 32316280.29 32316280.48 32316280.68 0.0137 0.0086 Neptune 83769-12-05 18:00 G 32317398.13 32317398.25 32317398.39 0.0089 0.0077 Neptune 83770-12-08 05:32 G 32317765.55 32317765.73 32317765.95 0.0090 0.0055 Saturn 83771-11-11 11:17 G 32318103.72 32318103.97 32318104.21 0.0287 0.0011 Neptune 83771-12-10 17:32 G 32318133.00 32318133.23 32318133.48 0.0090 0.0034 Neptune 83772-12-12 05:32 G 32318500.48 32318500.73 32318500.99 0.0090 0.0012 Neptune 83773-12-14 17:03 G 32318867.96 32318868.21 32318868.47 0.0090 0.0011 Neptune 83774-12-17 04:34 G 32319235.47 32319235.69 32319235.94 0.0090 0.0033 Neptune 83775-12-19 16:34 G 32319602.99 32319603.19 32319603.39 0.0090 0.0054 Neptune 83776-12-21 04:05 G 32319970.55 32319970.67 32319970.82 0.0090 0.0076 83782-09-16 20:24 G 32322066.21 32322066.35 32322066.50 0.1832 0.1213 Mars Saturn 83785-05-06 08:10 G 32323028.61 32323028.84 32323029.08 0.0274 0.0085 Saturn 83800-11-05 17:03 G 32328690.05 32328690.21 32328690.38 0.0285 0.0209 Saturn 83801-11-19 12:00 G 32329068.87 32329069.00 32329069.16 0.0289 0.0231 Uranus 83807-04-28 06:44 G 32331054.63 32331054.78 32331054.97 0.0140 0.0103 Uranus 83808-05-02 00:29 G 32331424.29 32331424.52 32331424.77 0.0141 0.0045 Uranus 83809-05-06 19:12 G 32331794.05 32331794.30 32331794.56 0.0141 0.0015 Uranus 83810-05-11 14:24 G 32332163.90 32332164.10 32332164.33 0.0141 0.0076 Uranus 83811-05-16 10:34 G 32332533.88 32332533.94 32332534.01 0.0142 0.0136 Jupiter 83813-12-03 17:46 G 32333466.08 32333466.24 32333466.39 0.0503 0.0370

Saturn 83814-05-02 09:08 G 32333615.78 32333615.88 32333616.00 0.0276 0.0247 Saturn 83815-05-14 22:48 G 32333993.24 32333993.45 32333993.67 0.0272 0.0131 Jupiter 83825-12-08 03:08 G 32337853.40 32337853.63 32337853.86 0.0504 0.0071 Saturn 83830-11-13 19:12 G 32339655.06 32339655.30 32339655.54 0.0288 0.0036 Jupiter 83831-06-01 15:22 G 32339854.97 32339855.14 32339855.31 0.0524 0.0361 Pluto 83833-08-04 20:24 G 32340650.31 32340650.35 32340650.45 0.0081 0.0079 Jupiter 83843-06-06 18:00 G 32344243.03 32344243.25 32344243.47 0.0522 0.0172 Saturn 83844-05-08 16:34 G 32344579.95 32344580.19 32344580.44 0.0274 0.0041 Uranus 83846-10-29 07:12 G 32345483.71 32345483.80 32345483.91 0.0138 0.0128 Uranus 83847-11-02 22:05 G 32345853.21 32345853.42 32345853.65 0.0138 0.0071 Uranus 83848-11-06 12:29 G 32346222.77 32346223.02 32346223.27 0.0137 0.0016 Uranus 83849-11-11 01:12 G 32346592.32 32346592.55 32346592.81 0.0137 0.0040 Uranus 83850-11-15 13:41 G 32346961.90 32346962.07 32346962.27 0.0137 0.0094 Neptune 83851-06-04 16:34 G 32347163.07 32347163.19 32347163.34 0.0088 0.0074 Neptune 83852-06-06 04:20 G 32347530.48 32347530.68 32347530.89 0.0088 0.0053 Neptune 83853-06-08 15:22 G 32347897.92 32347898.14 32347898.40 0.0088 0.0033 Neptune 83854-06-11 03:22 G 32348265.39 32348265.64 32348265.90 0.0088 0.0011 Neptune 83855-06-13 14:53 G 32348632.87 32348633.12 32348633.38 0.0088 0.0010 Neptune 83856-06-15 02:24 G 32349000.37 32349000.60 32349000.86 0.0088 0.0031 Neptune 83857-06-17 13:41 G 32349367.88 32349368.07 32349368.31 0.0088 0.0052 Neptune 83858-06-20 01:12 G 32349735.44 32349735.55 32349735.73 0.0088 0.0073 Saturn 83859-11-07 21:36 G 32350241.21 32350241.40 32350241.61 0.0286 0.0167 Saturn 83860-11-20 17:32 G 32350620.16 32350620.23 32350620.31 0.0289 0.0273 Saturn 83873-05-03 16:05 G 32355167.02 32355167.17 32355167.34 0.0276 0.0203 Saturn 83874-05-16 05:03 G 32355544.53 32355544.71 32355544.91 0.0272 0.0172 Saturn 83889-11-14 23:32 G 32361206.25 32361206.48 32361206.72 0.0288 0.0077 Uranus 83891-04-28 18:00 G 32361736.08 32361736.25 32361736.45 0.0140 0.0097 Uranus 83892-05-02 11:46 G 32362105.75 32362105.99 32362106.24 0.0141 0.0039 Uranus 83893-05-07 06:15 G 32362475.51 32362475.76 32362476.01 0.0141 0.0021 Uranus 83894-05-12 01:12 G 32362845.35 32362845.55 32362845.77 0.0141 0.0082

Jupiter 83896-12-02 23:03 G 32363781.35 32363781.46 32363781.57 0.0502 0.0438 Saturn 83903-05-11 22:20 G 32366131.19 32366131.43 32366131.68 0.0273 0.0001 Jupiter 83908-12-08 10:05 G 32368168.69 32368168.92 32368169.15 0.0504 0.0010 Jupiter 83914-06-01 22:20 G 32370170.30 32370170.43 32370170.57 0.0524 0.0423 Mars 83915-03-19 16:34 G 32370461.02 32370461.19 32370461.37 0.1700 0.0506 Saturn 83918-11-09 22:34 G 32371792.23 32371792.44 32371792.66 0.0286 0.0130 Jupiter 83920-12-12 23:46 G 32372556.42 32372556.49 32372556.58 0.0506 0.0472 Jupiter 83926-06-06 17:32 G 32374558.00 32374558.23 32374558.46 0.0523 0.0078 Uranus 83930-10-30 19:56 G 32376165.23 32376165.33 32376165.47 0.0138 0.0122 Uranus 83931-11-04 11:03 G 32376534.75 32376534.96 32376535.20 0.0138 0.0065 Saturn 83932-05-05 19:56 G 32376718.13 32376718.33 32376718.52 0.0275 0.0164 Uranus 83932-11-08 01:27 G 32376904.31 32376904.56 32376904.82 0.0138 0.0009 Saturn 83933-05-18 08:10 G 32377095.70 32377095.84 32377096.01 0.0272 0.0210 Uranus 83933-11-12 14:24 G 32377273.88 32377274.10 32377274.35 0.0137 0.0047 Neptune 83933-12-06 22:34 G 32377298.38 32377298.44 32377298.52 0.0089 0.0086 Uranus 83934-11-17 03:08 G 32377643.47 32377643.63 32377643.81 0.0137 0.0101 Neptune 83934-12-09 10:34 G 32377665.77 32377665.94 32377666.12 0.0089 0.0064 Neptune 83935-12-11 22:05 G 32378033.22 32378033.42 32378033.67 0.0090 0.0043 Neptune 83936-12-13 10:05 G 32378400.68 32378400.92 32378401.18 0.0090 0.0021 Neptune 83937-12-15 21:51 G 32378768.16 32378768.41 32378768.67 0.0090 0.0001 Neptune 83938-12-18 09:36 G 32379135.65 32379135.90 32379136.14 0.0090 0.0023 Neptune 83939-12-20 20:53 G 32379503.17 32379503.37 32379503.61 0.0090 0.0045 Neptune 83940-12-22 08:10 G 32379870.70 32379870.84 32379871.04 0.0090 0.0067 Neptune 83941-12-24 19:56 G 32380238.30 32380238.33 32380238.40 0.0090 0.0088 Saturn 83948-11-16 23:32 G 32382757.26 32382757.48 32382757.71 0.0288 0.0113 Saturn 83962-05-13 01:12 G 32387682.30 32387682.55 32387682.79 0.0273 0.0038 Uranus 83975-04-30 05:17 G 32392417.54 32392417.72 32392417.93 0.0140 0.0092 Uranus 83976-05-03 22:34 G 32392787.20 32392787.44 32392787.70 0.0140 0.0033 Uranus 83977-05-08 16:48 G 32393156.95 32393157.20 32393157.45 0.0141 0.0027 Saturn 83977-11-10 20:24 G 32393343.13 32393343.35 32393343.59 0.0286 0.0097

Uranus 83978-05-13 11:32 G 32393526.79 32393526.98 32393527.19 0.0141 0.0088

Jupiter 83979-12-04 10:05 G 32394096.86 32394096.92 32394096.99 0.0502 0.0481

Pluto 83991-02-05 19:56 G 32398178.30 32398178.33 32398178.36 0.0062 0.0062

Saturn 83991-05-07 20:53 G 32398269.16 32398269.37 32398269.59 0.0275 0.0128

Jupiter 83991-12-08 23:17 G 32398484.24 32398484.47 32398484.71 0.0504 0.0028

Pluto 83992-02-07 05:17 G 32398544.48 32398544.72 32398544.97 0.0063 0.0019

Saturn 83992-05-19 09:08 G 32398646.78 32398646.88 32398646.99 0.0272 0.0244

Jupiter 83997-05-31 21:51 G 32400485.39 32400485.41 32400485.45 0.0525 0.0519

### 85TH MILLENNIUM CE

### This is a list of transits of Earth in the 85th millennium CE.

FROM MAX- C START MAX END SUNRAD DEPTH S

TRANSIT

TIME

Jupiter 84003-12-13 09:51 G 32402871.79 32402871.91 32402872.05 0.0505 0.0421
Saturn 84007-11-18 21:08 G 32404308.17 32404308.38 32404308.59 0.0288 0.0146
Jupiter 84009-06-06 00:15 G 32404873.28 32404873.51 32404873.75 0.0523 0.0015
Uranus 84014-10-31 07:56 G 32406846.70 32406846.83 32406846.98 0.0138 0.0116
Neptune 84015-06-04 22:05 G 32407063.35 32407063.42 32407063.54 0.0088 0.0082
Uranus 84015-11-04 23:17 G 32407216.24 32407216.47 32407216.70 0.0138 0.0058
Neptune 84016-06-06 09:36 G 32407430.73 32407430.90 32407431.10 0.0088 0.0061
Uranus 84016-11-08 13:41 G 32407585.82 32407586.07 32407586.33 0.0138 0.0003
Neptune 84017-06-08 21:22 G 32407798.16 32407798.39 32407798.62 0.0088 0.0040
Uranus 84017-11-13 02:53 G 32407955.39 32407955.62 32407955.86 0.0137 0.0054
Neptune 84018-06-11 08:24 G 32408165.61 32408165.85 32408166.12 0.0088 0.0020

Uranus 84018-11-17 15:22 G 32408325.00 32408325.14 32408325.31 0.0137 0.0108 Neptune 84019-06-13 20:10 G 32408533.08 32408533.34 32408533.61 0.0088 0.0002 Neptune 84020-06-15 07:27 G 32408900.58 32408900.81 32408901.08 0.0088 0.0023 Saturn 84021-05-14 01:12 G 32409233.32 32409233.55 32409233.79 0.0273 0.0072 Neptune 84021-06-17 19:41 G 32409268.09 32409268.32 32409268.54 0.0088 0.0043 Neptune 84022-06-20 06:58 G 32409635.62 32409635.79 32409635.97 0.0088 0.0064 Neptune 84023-06-22 18:15 G 32410003.22 32410003.26 32410003.35 0.0088 0.0085 Saturn 84036-11-11 16:05 G 32414893.94 32414894.17 32414894.42 0.0286 0.0067 Saturn 84050-05-08 19:41 G 32419820.09 32419820.32 32419820.55 0.0275 0.0095 Uranus 84059-04-30 19:41 G 32423099.14 32423099.32 32423099.54 0.0140 0.0084 Uranus 84060-05-04 12:58 G 32423468.80 32423469.04 32423469.30 0.0140 0.0026 Uranus 84061-05-09 07:12 G 32423838.56 32423838.80 32423839.05 0.0141 0.0035 Uranus 84062-05-14 01:41 G 32424208.40 32424208.57 32424208.77 0.0141 0.0096 Saturn 84065-11-05 23:03 G 32425480.36 32425480.46 32425480.57 0.0285 0.0256 84066-09-18 13:12 G 32425797.02 32425797.05 32425797.08 0.1823 0.1795 Mars Saturn 84066-11-19 16:48 G 32425859.01 32425859.20 32425859.39 0.0289 0.0176 Jupiter 84074-12-08 08:53 G 32428799.64 32428799.87 32428800.10 0.0503 0.0078 Saturn 84079-05-03 09:22 G 32430406.87 32430406.89 32430406.93 0.0276 0.0273 Saturn 84080-05-15 00:15 G 32430784.28 32430784.51 32430784.74 0.0273 0.0105 Pluto 84082-08-08 13:27 G 32431599.80 32431600.06 32431600.33 0.0081 0.0008 Jupiter 84086-12-12 20:24 G 32433187.20 32433187.35 32433187.51 0.0505 0.0373 Jupiter 84092-06-05 11:46 G 32435188.76 32435188.99 32435189.23 0.0524 0.0030 Saturn 84095-11-13 11:46 G 32436444.75 32436444.99 32436445.23 0.0286 0.0036 Uranus 84098-10-31 20:39 G 32437528.22 32437528.36 32437528.53 0.0138 0.0109 Neptune 84098-12-08 14:39 G 32437565.97 32437566.11 32437566.27 0.0089 0.0073 Uranus 84099-11-05 12:00 G 32437897.78 32437898.00 32437898.25 0.0138 0.0052 Neptune 84099-12-11 02:24 G 32437933.41 32437933.60 32437933.83 0.0089 0.0052 Uranus 84100-11-10 02:24 G 32438267.35 32438267.60 32438267.86 0.0138 0.0006 Neptune 84100-12-13 14:24 G 32438300.87 32438301.10 32438301.35 0.0089 0.0030 Uranus 84101-11-14 15:51 G 32438636.94 32438637.16 32438637.39 0.0137 0.0060

Neptune 84101-12-16 02:24 G 32438668.34 32438668.60 32438668.85 0.0090 0.0008 Uranus 84102-11-19 04:20 G 32439006.56 32439006.68 32439006.83 0.0137 0.0115 Neptune 84102-12-18 14:10 G 32439035.84 32439036.09 32439036.35 0.0090 0.0014 Neptune 84103-12-21 01:27 G 32439403.34 32439403.56 32439403.81 0.0090 0.0036 Jupiter 84104-06-11 07:41 G 32439576.72 32439576.82 32439576.92 0.0521 0.0471 Neptune 84104-12-22 13:27 G 32439770.87 32439771.06 32439771.26 0.0090 0.0057 Neptune 84105-12-25 00:29 G 32440138.43 32440138.52 32440138.67 0.0090 0.0079 Saturn 84109-05-10 16:48 G 32441370.97 32441371.20 32441371.45 0.0275 0.0065 84120-03-18 06:15 G 32445335.65 32445335.76 32445335.87 0.1711 0.1381 Mars Saturn 84124-11-07 18:44 G 32447031.14 32447031.28 32447031.44 0.0285 0.0227 Saturn 84125-11-21 12:29 G 32447409.85 32447410.02 32447410.19 0.0289 0.0205 Saturn 84138-05-05 07:27 G 32451957.70 32451957.81 32451957.93 0.0276 0.0242 Saturn 84139-05-17 22:20 G 32452335.22 32452335.43 32452335.65 0.0273 0.0136 Uranus 84142-04-27 17:46 G 32453411.18 32453411.24 32453411.32 0.0140 0.0134 Uranus 84143-05-02 10:20 G 32453780.72 32453780.93 32453781.14 0.0140 0.0076 Uranus 84144-05-06 03:08 G 32454150.39 32454150.63 32454150.89 0.0140 0.0018 Uranus 84145-05-10 20:53 G 32454520.14 32454520.37 32454520.63 0.0141 0.0043 Uranus 84146-05-15 15:36 G 3245489.99 32454890.15 32454890.34 0.0141 0.0103 Saturn 84154-11-15 07:27 G 32457995.57 32457995.81 32457996.06 0.0286 0.0006 Jupiter 84157-12-08 21:51 G 32459115.19 32459115.41 32459115.64 0.0503 0.0115 Saturn 84168-05-11 14:39 G 32462921.87 32462922.11 32462922.35 0.0275 0.0033 Jupiter 84169-12-13 11:17 G 32463502.80 32463502.97 32463503.14 0.0505 0.0343 Jupiter 84175-06-06 13:41 G 32465503.84 32465504.07 32465504.30 0.0524 0.0116 Neptune 84180-06-06 15:08 G 32467331.00 32467331.13 32467331.32 0.0088 0.0069 Neptune 84181-06-09 02:53 G 32467698.42 32467698.62 32467698.85 0.0088 0.0048 Neptune 84182-06-11 14:10 G 32468065.86 32468066.09 32468066.35 0.0088 0.0028 Uranus 84182-11-02 10:05 G 32468209.77 32468209.92 32468210.11 0.0138 0.0103 Neptune 84183-06-14 01:41 G 32468433.32 32468433.57 32468433.84 0.0088 0.0007 Uranus 84183-11-07 01:27 G 32468579.33 32468579.56 32468579.81 0.0138 0.0045 Saturn 84183-11-09 15:51 G 32468582.00 32468582.16 32468582.35 0.0285 0.0196

Neptune 84184-06-15 13:27 G 32468800.80 32468801.06 32468801.32 0.0088 0.0014 Uranus 84184-11-10 16:05 G 32468948.91 32468949.17 32468949.42 0.0138 0.0012 Saturn 84184-11-22 09:22 G 32468960.77 32468960.89 32468961.05 0.0289 0.0237 Neptune 84185-06-18 00:44 G 32469168.30 32469168.53 32469168.77 0.0088 0.0035 Uranus 84185-11-15 05:03 G 32469318.50 32469318.71 32469318.94 0.0137 0.0068 Neptune 84186-06-20 12:00 G 32469535.82 32469536.00 32469536.22 0.0088 0.0056 Uranus 84186-11-19 17:32 G 32469688.14 32469688.23 32469688.37 0.0137 0.0123 Jupiter 84187-06-11 14:24 G 32469891.96 32469892.10 32469892.25 0.0522 0.0410 Neptune 84187-06-22 23:32 G 32469903.38 32469903.48 32469903.63 0.0088 0.0077 Saturn 84197-05-06 06:15 G 32473508.61 32473508.76 32473508.92 0.0276 0.0210 Saturn 84198-05-18 21:08 G 32473886.20 32473886.38 32473886.58 0.0273 0.0168 84199-03-21 14:39 G 32474192.97 32474193.11 32474193.25 0.1706 0.1125 Mars Saturn 84213-11-17 05:46 G 32479546.50 32479546.74 32479546.99 0.0286 0.0027 Uranus 84226-04-29 08:39 G 32484092.77 32484092.86 32484092.97 0.0140 0.0127 Uranus 84227-05-04 00:44 G 32484462.33 32484462.53 32484462.77 0.0140 0.0069 Saturn 84227-05-14 12:58 G 32484472.80 32484473.04 32484473.29 0.0275 0.0002 Uranus 84228-05-07 18:15 G 32484832.00 32484832.26 32484832.51 0.0140 0.0010 Uranus 84229-05-12 12:00 G 32485201.77 32485202.00 32485202.24 0.0141 0.0051 Uranus 84230-05-17 06:29 G 32485571.63 32485571.77 32485571.94 0.0141 0.0111 Pluto 84240-02-10 05:46 G 32489127.50 32489127.74 32489128.00 0.0063 0.0016 Jupiter 84240-12-09 07:56 G 32489430.61 32489430.83 32489431.05 0.0503 0.0162 Saturn 84242-11-11 15:51 G 32490132.96 32490133.16 32490133.37 0.0285 0.0161 Saturn 84243-11-25 09:22 G 32490511.81 32490511.89 32490511.98 0.0289 0.0270 Jupiter 84252-12-13 19:12 G 32493818.11 32493818.30 32493818.49 0.0504 0.0285 Saturn 84256-05-08 06:29 G 32495059.59 32495059.77 32495059.97 0.0276 0.0177 Saturn 84257-05-20 21:51 G 32495437.25 32495437.41 32495437.58 0.0273 0.0201 Jupiter 84258-06-06 21:22 G 32495819.17 32495819.39 32495819.61 0.0524 0.0174 Neptune 84262-12-09 18:29 G 32497466.18 32497466.27 32497466.38 0.0089 0.0082 Neptune 84263-12-12 06:15 G 32497833.59 32497833.76 32497833.97 0.0089 0.0061 Neptune 84264-12-13 18:29 G 32498201.04 32498201.27 32498201.50 0.0089 0.0039

Neptune 84265-12-16 06:15 G 32498568.52 32498568.76 32498569.02 0.0089 0.0018 Uranus 84266-11-04 01:12 G 32498891.38 32498891.55 32498891.75 0.0138 0.0095 Neptune 84266-12-18 18:15 G 32498936.01 32498936.26 32498936.52 0.0090 0.0005 Uranus 84267-11-08 16:20 G 32499260.95 32499261.18 32499261.44 0.0138 0.0037 Neptune 84267-12-21 05:46 G 32499303.51 32499303.74 32499304.00 0.0090 0.0027 Uranus 84268-11-12 06:44 G 32499630.53 32499630.78 32499631.03 0.0138 0.0020 Neptune 84268-12-22 17:32 G 32499671.03 32499671.23 32499671.46 0.0090 0.0048 Uranus 84269-11-16 19:56 G 32500000.13 32500000.33 32500000.55 0.0137 0.0076 Neptune 84269-12-25 04:48 G 32500038.57 32500038.70 32500038.89 0.0090 0.0070 Jupiter 84270-06-11 23:46 G 32500207.32 32500207.49 32500207.66 0.0522 0.0357 Uranus 84270-11-21 08:53 G 32500369.80 32500369.87 32500369.94 0.0137 0.0130 Saturn 84272-11-18 07:41 G 32501097.58 32501097.82 32501098.06 0.0286 0.0064 Saturn 84286-05-15 13:41 G 32506023.83 32506024.07 32506024.32 0.0275 0.0032 Saturn 84301-11-13 19:56 G 32511684.11 32511684.33 32511684.55 0.0285 0.0123 Uranus 84310-04-30 21:08 G 32514774.28 32514774.38 32514774.53 0.0140 0.0121 Uranus 84311-05-05 13:41 G 32515143.85 32515144.07 32515144.31 0.0140 0.0062 Uranus 84312-05-09 06:44 G 32515513.53 32515513.78 32515514.04 0.0140 0.0004 Uranus 84313-05-14 00:15 G 32515883.30 32515883.51 32515883.76 0.0141 0.0058 Uranus 84314-05-18 18:58 G 32516253.17 32516253.29 32516253.45 0.0141 0.0119 Saturn 84315-05-11 09:22 G 32516610.68 32516610.89 32516611.10 0.0276 0.0140 Saturn 84316-05-23 00:29 G 32516988.41 32516988.52 32516988.65 0.0273 0.0237 Jupiter 84323-12-10 14:10 G 32519745.89 32519746.09 32519746.30 0.0502 0.0227 Pluto 84330-08-12 03:36 G 32522182.55 32522182.65 32522182.79 0.0081 0.0072 Saturn 84331-11-21 13:41 G 32522648.85 32522649.07 32522649.30 0.0287 0.0107 Jupiter 84335-12-15 02:53 G 32524133.42 32524133.62 32524133.83 0.0504 0.0227 Jupiter 84341-06-07 00:29 G 32526134.32 32526134.52 32526134.73 0.0524 0.0253 Neptune 84344-06-07 20:39 G 32527231.25 32527231.36 32527231.50 0.0088 0.0076 Saturn 84345-05-17 17:32 G 32527575.00 32527575.23 32527575.47 0.0275 0.0069 Neptune 84345-06-10 07:56 G 32527598.65 32527598.83 32527599.05 0.0088 0.0056 Neptune 84346-06-12 19:41 G 32527966.09 32527966.32 32527966.56 0.0088 0.0035

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Neptune 84430-12-18 23:03 G 32558836.21 32558836.46 32558836.72 0.0089 0.0005 Neptune 84431-12-21 10:48 G 32559203.71 32559203.95 32559204.21 0.0089 0.0018 Neptune 84432-12-22 22:34 G 32559571.22 32559571.44 32559571.68 0.0090 0.0039 Saturn 84433-05-14 00:15 G 32559713.27 32559713.51 32559713.75 0.0276 0.0056 Uranus 84433-11-01 12:44 G 32559885.03 32559885.03 32559885.03 0.0139 0.0139 Neptune 84433-12-25 10:05 G 32559938.75 32559938.92 32559939.13 0.0090 0.0061 Uranus 84434-11-06 04:20 G 32560254.49 32560254.68 32560254.90 0.0139 0.0081 Neptune 84434-12-27 21:36 G 32560306.32 32560306.40 32560306.52 0.0090 0.0082 Uranus 84435-11-10 19:41 G 32560624.08 32560624.32 32560624.58 0.0138 0.0023 Jupiter 84436-06-10 23:03 G 32560837.24 32560837.46 32560837.68 0.0523 0.0173 Uranus 84436-11-14 09:51 G 32560993.68 32560993.91 32560994.17 0.0138 0.0035 Uranus 84437-11-18 23:32 G 32561363.30 32561363.48 32561363.68 0.0137 0.0091 Saturn 84448-11-11 00:29 G 32565373.37 32565373.52 32565373.69 0.0283 0.0215 Saturn 84449-11-24 15:08 G 32565751.98 32565752.13 32565752.32 0.0287 0.0208 Saturn 84462-05-08 15:22 G 32570300.02 32570300.14 32570300.29 0.0278 0.0232 Saturn 84463-05-21 10:05 G 32570677.71 32570677.92 32570678.12 0.0275 0.0152 Uranus 84478-05-01 20:10 G 32576137.21 32576137.34 32576137.52 0.0139 0.0110 Saturn 84478-11-19 06:29 G 32576338.53 32576338.77 32576339.01 0.0285 0.0022 Uranus 84479-05-06 12:29 G 32576506.80 32576507.02 32576507.27 0.0140 0.0051 Uranus 84480-05-10 05:32 G 32576876.48 32576876.73 32576876.98 0.0140 0.0009 Uranus 84481-05-14 22:48 G 32577246.25 32577246.45 32577246.69 0.0141 0.0070 Uranus 84482-05-19 17:17 G 32577616.15 32577616.22 32577616.34 0.0141 0.0131 84483-03-24 11:17 G 32577924.94 32577924.97 32577924.99 0.1713 0.1690 Mars Pluto 84488-02-12 04:48 G 32579710.61 32579710.70 32579710.87 0.0062 0.0054 Pluto 84489-02-12 15:08 G 32580076.91 32580077.13 32580077.37 0.0063 0.0028 Jupiter 84489-12-08 22:20 G 32580376.28 32580376.43 32580376.59 0.0502 0.0369 Saturn 84492-05-15 11:46 G 32581264.75 32581264.99 32581265.24 0.0276 0.0010 Jupiter 84501-12-14 07:27 G 32584763.58 32584763.81 32584764.04 0.0503 0.0067 Jupiter 84507-06-06 23:03 G 32586764.33 32586764.46 32586764.58 0.0525 0.0444 Saturn 84507-11-14 17:32 G 32586925.03 32586925.23 32586925.44 0.0284 0.0161

Neptune 84508-06-08 01:41 G 32587131.52 32587131.57 32587131.68 0.0088 0.0084 Saturn 84508-11-27 08:53 G 32587303.78 32587303.87 32587303.97 0.0288 0.0263 Neptune 84509-06-10 13:41 G 32587498.90 32587499.07 32587499.25 0.0088 0.0063 Neptune 84510-06-13 00:44 G 32587866.33 32587866.53 32587866.78 0.0088 0.0043 Neptune 84511-06-15 12:44 G 32588233.78 32588234.03 32588234.28 0.0088 0.0022 Neptune 84512-06-17 00:15 G 32588601.25 32588601.51 32588601.77 0.0088 0.0002 Neptune 84513-06-19 11:32 G 32588968.73 32588968.98 32588969.24 0.0088 0.0019 Neptune 84514-06-21 22:34 G 32589336.23 32589336.44 32589336.69 0.0088 0.0040 Neptune 84515-06-24 10:20 G 32589703.75 32589703.93 32589704.13 0.0088 0.0060 Neptune 84516-06-25 21:22 G 32590071.32 32590071.39 32590071.52 0.0088 0.0081 Uranus 84517-11-02 22:34 G 32590566.39 32590566.44 32590566.52 0.0139 0.0135 Uranus 84518-11-07 14:53 G 32590935.92 32590936.12 32590936.34 0.0139 0.0076 Jupiter 84519-06-11 23:32 G 32591152.25 32591152.48 32591152.71 0.0523 0.0084 Uranus 84519-11-12 06:29 G 32591305.51 32591305.77 32591306.02 0.0138 0.0018 Uranus 84520-11-15 20:53 G 32591675.13 32591675.37 32591675.62 0.0138 0.0040 Saturn 84521-05-11 04:05 G 32591851.49 32591851.67 32591851.86 0.0278 0.0183 Uranus 84521-11-20 10:34 G 32592044.78 32592044.94 32592045.13 0.0138 0.0097 Saturn 84522-05-23 21:22 G 32592229.23 32592229.39 32592229.57 0.0274 0.0197 Saturn 84537-11-21 22:48 G 32597890.22 32597890.45 32597890.69 0.0286 0.0076 Saturn 84551-05-19 00:44 G 32602816.29 32602816.53 32602816.78 0.0275 0.0039 Uranus 84562-05-03 09:08 G 32606818.73 32606818.88 32606819.07 0.0139 0.0103 Uranus 84563-05-08 01:27 G 32607188.32 32607188.56 32607188.80 0.0140 0.0044 Uranus 84564-05-11 18:00 G 32607558.00 32607558.25 32607558.50 0.0140 0.0016 Uranus 84565-05-16 11:32 G 32607927.78 32607927.98 32607928.20 0.0140 0.0077 Uranus 84566-05-21 05:46 G 32608297.71 32608297.74 32608297.81 0.0141 0.0138 Saturn 84566-11-16 11:17 G 32608476.74 32608476.97 32608477.20 0.0284 0.0105 Jupiter 84572-12-08 22:34 G 32610691.35 32610691.44 32610691.54 0.0501 0.0458 Pluto 84579-08-15 22:05 G 32613132.18 32613132.42 32613132.69 0.0081 0.0021 Saturn 84580-05-12 17:46 G 32613403.04 32613403.24 32613403.46 0.0277 0.0133 Saturn 84581-05-25 10:20 G 32613780.83 32613780.93 32613781.05 0.0274 0.0243

Jupiter 84584-12-13 08:24 G 32615078.61 32615078.85 32615079.08 0.0503 0.0019 Neptune 84591-12-12 16:05 G 32617634.07 32617634.17 32617634.32 0.0089 0.0077 Neptune 84592-12-14 04:20 G 32618001.49 32618001.68 32618001.89 0.0089 0.0056 Neptune 84593-12-16 16:05 G 32618368.95 32618369.17 32618369.42 0.0089 0.0035 Neptune 84594-12-19 04:05 G 32618736.42 32618736.67 32618736.92 0.0089 0.0013 Neptune 84595-12-21 15:51 G 32619103.91 32619104.16 32619104.42 0.0089 0.0009 Saturn 84596-11-23 15:22 G 32619441.93 32619442.14 32619442.36 0.0286 0.0132 Jupiter 84596-12-17 19:41 G 32619466.21 32619466.32 32619466.44 0.0504 0.0435 Neptune 84596-12-23 03:36 G 32619471.42 32619471.65 32619471.90 0.0089 0.0030 Neptune 84597-12-25 15:22 G 32619838.94 32619839.14 32619839.36 0.0089 0.0052 Neptune 84598-12-28 03:22 G 32620206.50 32620206.64 32620206.79 0.0090 0.0073 Uranus 84601-11-04 09:36 G 32621247.82 32621247.90 32621248.00 0.0139 0.0129 Jupiter 84602-06-11 17:03 G 32621466.97 32621467.21 32621467.44 0.0524 0.0035 Uranus 84602-11-09 01:41 G 32621617.37 32621617.57 32621617.80 0.0139 0.0071 Uranus 84603-11-13 17:32 G 32621986.98 32621987.23 32621987.49 0.0138 0.0012 Uranus 84604-11-17 08:10 G 32622356.61 32622356.84 32622357.09 0.0138 0.0046 Uranus 84605-11-21 22:05 G 32622726.27 32622726.42 32622726.60 0.0138 0.0103 Saturn 84610-05-21 13:41 G 32624367.84 32624368.07 32624368.31 0.0275 0.0087 Jupiter 84614-06-16 16:20 G 32625855.10 32625855.18 32625855.27 0.0523 0.0483 Saturn 84625-11-19 03:22 G 32630028.40 32630028.64 32630028.89 0.0285 0.0051 Saturn 84639-05-16 07:12 G 32634954.58 32634954.80 32634955.04 0.0276 0.0084 Uranus 84646-05-04 23:17 G 32637500.30 32637500.47 32637500.67 0.0139 0.0096 Uranus 84647-05-09 15:36 G 32637869.90 32637870.15 32637870.39 0.0140 0.0037 Uranus 84648-05-13 08:10 G 32638239.59 32638239.84 32638240.09 0.0140 0.0023 Uranus 84649-05-18 01:27 G 32638609.37 32638609.56 32638609.78 0.0140 0.0084 Saturn 84654-11-13 14:53 G 32640614.99 32640615.12 32640615.27 0.0283 0.0234 Saturn 84655-11-27 05:32 G 32640993.55 32640993.73 32640993.92 0.0287 0.0184 Jupiter 84667-12-14 11:46 G 32645393.76 32645393.99 32645394.22 0.0502 0.0092 Saturn 84668-05-10 07:56 G 32645541.73 32645541.83 32645541.96 0.0278 0.0244 Saturn 84669-05-23 01:56 G 32645919.37 32645919.58 32645919.80 0.0275 0.0135

Neptune 84673-06-10 18:44 G 32647399.15 32647399.28 32647399.46 0.0088 0.0071 Neptune 84674-06-13 06:44 G 32647766.58 32647766.78 32647767.00 0.0088 0.0050 Neptune 84675-06-15 18:15 G 32648134.03 32648134.26 32648134.52 0.0088 0.0030 Neptune 84676-06-17 06:00 G 32648501.49 32648501.75 32648502.01 0.0088 0.0009 Neptune 84677-06-19 17:17 G 32648868.97 32648869.22 32648869.49 0.0088 0.0012 Neptune 84678-06-22 05:03 G 32649236.47 32649236.71 32649236.96 0.0088 0.0032 Neptune 84679-06-24 15:51 G 32649603.98 32649604.16 32649604.39 0.0088 0.0053 Jupiter 84679-12-18 20:53 G 32649781.21 32649781.37 32649781.54 0.0504 0.0349 Neptune 84680-06-26 03:36 G 32649971.53 32649971.65 32649971.81 0.0088 0.0073 Saturn 84684-11-20 17:03 G 32651579.97 32651580.21 32651580.46 0.0285 0.0002 Jupiter 84685-06-10 16:34 G 32651781.96 32651782.19 32651782.42 0.0525 0.0130 Uranus 84685-11-04 19:12 G 32651929.21 32651929.30 32651929.43 0.0139 0.0125 Uranus 84686-11-09 11:46 G 32652298.78 32652298.99 32652299.23 0.0139 0.0066 Uranus 84687-11-14 03:51 G 32652668.40 32652668.66 32652668.91 0.0138 0.0007 84688-03-23 21:36 G 32652799.22 32652799.40 32652799.59 0.1725 0.0310 Mars Uranus 84688-11-17 18:44 G 32653038.05 32653038.28 32653038.52 0.0138 0.0051 Uranus 84689-11-22 08:39 G 32653407.72 32653407.86 32653408.03 0.0138 0.0109 Jupiter 84697-06-15 18:44 G 32656170.13 32656170.28 32656170.43 0.0523 0.0404 Saturn 84698-05-17 19:12 G 32656506.06 32656506.30 32656506.55 0.0276 0.0036 84713-09-27 01:41 G 32662116.41 32662116.57 32662116.72 0.1810 0.1081 Mars Saturn 84713-11-16 01:27 G 32662166.37 32662166.56 32662166.74 0.0283 0.0187 Saturn 84714-11-29 16:34 G 32662545.05 32662545.19 32662545.33 0.0287 0.0233 Saturn 84727-05-13 18:44 G 32667093.12 32667093.28 32667093.46 0.0278 0.0196 Saturn 84728-05-25 12:00 G 32667470.81 32667471.00 32667471.18 0.0274 0.0179 Uranus 84730-05-06 13:41 G 32668181.89 32668182.07 32668182.28 0.0139 0.0089 Uranus 84731-05-11 06:00 G 32668551.51 32668551.75 32668552.00 0.0140 0.0029 Uranus 84732-05-14 22:34 G 32668921.20 32668921.44 32668921.69 0.0140 0.0031 Uranus 84733-05-19 16:05 G 32669290.99 32669291.17 32669291.37 0.0140 0.0092 Pluto 84737-02-16 16:34 G 32670659.94 32670660.19 32670660.45 0.0063 0.0005 Saturn 84743-11-24 02:10 G 32673131.35 32673131.59 32673131.84 0.0286 0.0048

Jupiter 84750-12-14 14:24 G 32675708.89 32675709.10 32675709.32 0.0502 0.0171 Neptune 84755-12-13 22:48 G 32677534.39 32677534.45 32677534.55 0.0089 0.0085 Neptune 84756-12-15 10:34 G 32677901.78 32677901.94 32677902.14 0.0089 0.0064 Saturn 84757-05-20 05:03 G 32678057.47 32678057.71 32678057.96 0.0275 0.0011 Neptune 84757-12-17 22:20 G 32678269.22 32678269.43 32678269.67 0.0089 0.0043 Neptune 84758-12-20 10:20 G 32678636.68 32678636.93 32678637.18 0.0089 0.0021 Neptune 84759-12-22 22:20 G 32679004.17 32679004.43 32679004.68 0.0089 0.0001 Neptune 84760-12-24 09:51 G 32679371.66 32679371.91 32679372.16 0.0089 0.0022 Neptune 84761-12-26 21:08 G 32679739.18 32679739.38 32679739.63 0.0089 0.0044 Jupiter 84762-12-19 00:44 G 32680096.34 32680096.53 32680096.73 0.0504 0.0275 Neptune 84762-12-29 08:53 G 32680106.71 32680106.87 32680107.07 0.0090 0.0065 Neptune 84763-12-31 20:39 G 32680474.31 32680474.36 32680474.45 0.0090 0.0086 Jupiter 84768-06-10 20:10 G 32682097.13 32682097.34 32682097.56 0.0525 0.0206 Uranus 84769-11-06 08:24 G 32682610.72 32682610.85 32682610.98 0.0139 0.0119 Uranus 84770-11-11 00:44 G 32682980.30 32682980.53 32682980.76 0.0139 0.0059 Uranus 84771-11-15 16:34 G 32683349.94 32683350.19 32683350.45 0.0138 0.0002 Saturn 84772-11-17 07:12 G 32683717.59 32683717.80 32683718.02 0.0284 0.0145 Uranus 84772-11-19 07:41 G 32683719.59 32683719.82 32683720.05 0.0138 0.0058 Uranus 84773-11-23 21:22 G 32684089.27 32684089.39 32684089.55 0.0138 0.0116 Saturn 84773-11-30 23:17 G 32684096.41 32684096.47 32684096.55 0.0288 0.0276 Jupiter 84780-06-15 15:22 G 32686484.95 32686485.14 32686485.34 0.0523 0.0297 Saturn 84786-05-15 02:53 G 32688644.42 32688644.62 32688644.83 0.0277 0.0152 Saturn 84787-05-27 19:12 G 32689022.16 32689022.30 32689022.45 0.0274 0.0221 Saturn 84802-11-25 07:12 G 32694682.57 32694682.80 32694683.04 0.0286 0.0089 Uranus 84814-05-07 03:36 G 32698863.46 32698863.65 32698863.87 0.0139 0.0082 Uranus 84815-05-11 19:56 G 32699233.08 32699233.33 32699233.58 0.0140 0.0022 Uranus 84816-05-15 12:29 G 32699602.78 32699603.02 32699603.27 0.0140 0.0039 Saturn 84816-05-21 11:32 G 32699608.74 32699608.98 32699609.23 0.0275 0.0051 Uranus 84817-05-20 06:00 G 32699972.58 32699972.75 32699972.94 0.0140 0.0100 Pluto 84827-08-18 13:56 G 32703714.90 32703715.08 32703715.30 0.0081 0.0054

Saturn 84831-11-19 08:39 G 32705268.64 32705268.86 32705269.09 0.0284 0.0108 Jupiter 84833-12-13 22:34 G 32706024.24 32706024.44 32706024.65 0.0502 0.0226 Neptune 84837-06-11 00:44 G 32707299.43 32707299.53 32707299.66 0.0088 0.0078 Neptune 84838-06-13 12:00 G 32707666.83 32707667.00 32707667.22 0.0088 0.0058 Neptune 84839-06-16 00:00 G 32708034.27 32708034.50 32708034.74 0.0088 0.0037 Neptune 84840-06-17 11:32 G 32708401.73 32708401.98 32708402.24 0.0088 0.0017 Neptune 84841-06-19 23:17 G 32708769.21 32708769.47 32708769.73 0.0088 0.0004 Neptune 84842-06-22 10:34 G 32709136.70 32709136.94 32709137.20 0.0088 0.0025 Neptune 84843-06-24 22:20 G 32709504.22 32709504.43 32709504.66 0.0088 0.0045 Neptune 84844-06-26 09:22 G 32709871.75 32709871.89 32709872.09 0.0088 0.0066 Saturn 84845-05-16 07:56 G 32710195.61 32710195.83 32710196.06 0.0277 0.0111 Neptune 84845-06-28 21:08 G 32710239.35 32710239.38 32710239.45 0.0088 0.0086 Jupiter 84845-12-18 11:32 G 32710411.77 32710411.98 32710412.19 0.0503 0.0229 Saturn 84846-05-28 23:46 G 32710573.42 32710573.49 32710573.57 0.0273 0.0259 Jupiter 84851-06-10 17:46 G 32712412.06 32712412.24 32712412.43 0.0526 0.0311 Uranus 84853-11-06 19:41 G 32713292.19 32713292.32 32713292.48 0.0139 0.0113 Uranus 84854-11-11 12:15 G 32713661.79 32713662.01 32713662.26 0.0139 0.0054 Uranus 84855-11-16 04:34 G 32714031.43 32714031.69 32714031.94 0.0138 0.0006 Uranus 84856-11-19 18:58 G 32714401.09 32714401.29 32714401.54 0.0138 0.0065 Uranus 84857-11-24 09:36 G 32714770.79 32714770.90 32714771.02 0.0138 0.0122 Saturn 84861-11-26 07:41 G 32716233.61 32716233.82 32716234.05 0.0287 0.0125 Jupiter 84863-06-15 19:56 G 32716800.12 32716800.33 32716800.54 0.0524 0.0223 Saturn 84875-05-23 15:22 G 32721159.91 32721160.14 32721160.38 0.0275 0.0089 Saturn 84890-11-20 07:12 G 32726819.56 32726819.80 32726820.04 0.0284 0.0075 Uranus 84897-05-03 00:58 G 32729175.48 32729175.54 32729175.60 0.0139 0.0134 Uranus 84898-05-07 15:36 G 32729544.95 32729545.15 32729545.38 0.0139 0.0076 Uranus 84899-05-12 07:56 G 32729914.58 32729914.83 32729915.08 0.0140 0.0016 Uranus 84900-05-17 00:15 G 32730284.28 32730284.51 32730284.76 0.0140 0.0045 Uranus 84901-05-21 17:46 G 32730654.09 32730654.24 32730654.41 0.0140 0.0107 Saturn 84904-05-18 09:36 G 32731746.67 32731746.90 32731747.14 0.0277 0.0075

Jupiter 84916-12-14 09:22 G 32736339.69 32736339.89 32736340.08 0.0501 0.0271 Saturn 84919-11-15 15:36 G 32737406.05 32737406.15 32737406.25 0.0282 0.0257 Saturn 84920-11-28 05:17 G 32737784.52 32737784.72 32737784.93 0.0287 0.0155 Neptune 84920-12-15 17:32 G 32737802.10 32737802.23 32737802.41 0.0089 0.0071 Neptune 84921-12-18 05:17 G 32738169.53 32738169.72 32738169.95 0.0089 0.0050 Neptune 84922-12-20 17:17 G 32738536.99 32738537.22 32738537.48 0.0089 0.0029 Neptune 84923-12-23 05:03 G 32738904.46 32738904.71 32738904.98 0.0089 0.0008 Neptune 84924-12-24 16:48 G 32739271.96 32739272.20 32739272.46 0.0089 0.0015 Neptune 84925-12-27 04:20 G 32739639.46 32739639.68 32739639.93 0.0089 0.0036 Neptune 84926-12-29 16:05 G 32740006.99 32740007.17 32740007.38 0.0089 0.0057 Neptune 84928-01-01 03:51 G 32740374.55 32740374.66 32740374.80 0.0089 0.0078 Jupiter 84928-12-18 20:10 G 32740727.12 32740727.34 32740727.56 0.0502 0.0173 Saturn 84933-05-12 22:20 G 32742333.34 32742333.43 32742333.54 0.0278 0.0252 Saturn 84934-05-25 16:34 G 32742710.98 32742711.19 32742711.42 0.0274 0.0124 Jupiter 84934-06-11 03:08 G 32742727.47 32742727.63 32742727.81 0.0526 0.0363 Uranus 84937-11-08 08:53 G 32743973.71 32743973.87 32743974.03 0.0139 0.0107 Uranus 84938-11-13 01:12 G 32744343.32 32744343.55 32744343.80 0.0139 0.0047 Uranus 84939-11-17 17:17 G 32744712.97 32744713.22 32744713.48 0.0138 0.0013 Uranus 84940-11-21 08:10 G 32745082.63 32745082.84 32745083.07 0.0138 0.0072 Uranus 84941-11-25 22:34 G 32745452.35 32745452.44 32745452.52 0.0138 0.0129 Jupiter 84946-06-16 06:15 G 32747115.54 32747115.76 32747115.98 0.0524 0.0175 Saturn 84949-11-22 02:53 G 32748370.38 32748370.62 32748370.86 0.0284 0.0046 Saturn 84963-05-20 09:22 G 32753297.65 32753297.89 32753298.13 0.0277 0.0042 84972-03-26 16:20 G 32756530.99 32756531.18 32756531.37 0.1732 0.0198 Mars Saturn 84978-11-16 11:32 G 32758956.84 32758956.98 32758957.12 0.0282 0.0228 Saturn 84979-11-30 01:27 G 32759335.37 32759335.56 32759335.75 0.0287 0.0184 Uranus 84981-05-04 11:46 G 32759856.91 32759856.99 32759857.09 0.0139 0.0129 Uranus 84982-05-09 02:39 G 32760226.40 32760226.61 32760226.83 0.0139 0.0070 Uranus 84983-05-13 18:29 G 32760596.02 32760596.27 32760596.52 0.0140 0.0010 Uranus 84984-05-17 10:34 G 32760965.72 32760965.94 32760966.19 0.0140 0.0051

Pluto 84985-02-18 16:05 G 32761243.01 32761243.17 32761243.38 0.0062 0.0043

Uranus 84985-05-22 03:51 G 32761335.53 32761335.66 32761335.83 0.0140 0.0112

Pluto 84986-02-20 01:41 G 32761609.39 32761609.57 32761609.80 0.0063 0.0039

Saturn 84992-05-13 21:51 G 32763884.26 32763884.41 32763884.56 0.0278 0.0220

Saturn 84993-05-26 15:51 G 32764261.97 32764262.16 32764262.37 0.0274 0.0157

Mars 84997-09-27 21:51 G 32765847.23 32765847.41 32765847.59 0.1800 0.0679

Jupiter 84999-12-14 19:27 G 32766655.14 32766655.31 32766655.50 0.0501 0.0320

# 86TH MILLENNIUM CE

#### This is a list of transits of Earth in the 86th millennium CE.

FROM	MAX-	С	START	MAX	END	SUNRAD	DEPTH	S
	TRANSIT							
	TIME							

 Neptune
 85001-06-12 07:27 G
 32767199.77
 32767199.81
 32767199.90
 0.0088
 0.0085

 Neptune
 85002-06-14 18:44 G
 32767567.14
 32767567.28
 32767567.48
 0.0088
 0.0065

 Neptune
 85003-06-17 06:29 G
 32767934.56
 32767934.77
 32767935.01
 0.0088
 0.0044

 Neptune
 85004-06-18 18:15 G
 32768302.02
 32768302.26
 32768302.52
 0.0088
 0.0024

 Neptune
 85005-06-21 06:00 G
 32768669.49
 32768669.75
 32768670.01
 0.0088
 0.0003

 Neptune
 85006-06-23 17:46 G
 32769036.98
 32769037.24
 32769037.49
 0.0088
 0.0017

 Neptune
 85007-06-26 04:48 G
 32769404.49
 32769404.70
 32769404.95
 0.0088
 0.0038

 Saturn
 85008-06-27 16:34 G
 327699772.01
 32769772.19
 32769772.40
 0.0088
 0.0058

 Saturn
 85008-11-23 21:36 G
 32770139.58
 32770139.66
 32770139.81
 0.0088
 0.0079

 Jupiter
 85011-12-20 09:08 G
 32771042.65

Uranus 85021-11-09 18:15 G 32774655.11 32774655.26 32774655.45 0.0139 0.0102 Saturn 85022-05-22 07:12 G 32774848.55 32774848.80 32774849.04 0.0277 0.0011 Uranus 85022-11-14 11:17 G 32775024.73 32775024.97 32775025.22 0.0139 0.0042 Uranus 85023-11-19 03:22 G 32775394.40 32775394.64 32775394.90 0.0138 0.0019 Uranus 85024-11-22 18:15 G 32775764.06 32775764.26 32775764.48 0.0138 0.0077 Uranus 85025-11-27 08:24 G 32776133.82 32776133.85 32776133.91 0.0138 0.0135 Jupiter 85029-06-16 08:24 G 32777430.62 32777430.85 32777431.08 0.0524 0.0089 Saturn 85037-11-18 06:29 G 32780507.60 32780507.77 32780507.94 0.0282 0.0201 Saturn 85038-12-01 20:24 G 32780886.18 32780886.35 32780886.51 0.0287 0.0211 Saturn 85051-05-16 20:10 G 32785435.17 32785435.34 32785435.52 0.0278 0.0188 Saturn 85052-05-28 14:39 G 32785812.93 32785813.11 32785813.29 0.0274 0.0187 Uranus 85065-05-05 22:20 G 32790538.32 32790538.43 32790538.54 0.0139 0.0124 Uranus 85066-05-10 12:44 G 32790907.81 32790908.03 32790908.26 0.0139 0.0065 Uranus 85067-05-15 04:20 G 32791277.43 32791277.68 32791277.94 0.0140 0.0005 Saturn 85067-11-25 17:17 G 32791471.97 32791472.22 32791472.47 0.0284 0.0010 Uranus 85068-05-18 20:10 G 32791647.12 32791647.34 32791647.59 0.0140 0.0056 Uranus 85069-05-23 13:27 G 32792016.93 32792017.06 32792017.20 0.0140 0.0118 Pluto 85076-08-22 09:36 G 32794664.69 32794664.90 32794665.14 0.0081 0.0042 Saturn 85081-05-23 04:48 G 32796399.45 32796399.70 32796399.94 0.0277 0.0019 Jupiter 85082-12-15 10:20 G 32796970.77 32796970.93 32796971.11 0.0501 0.0348 Neptune 85084-12-16 01:27 G 32797702.45 32797702.56 32797702.70 0.0089 0.0078 Neptune 85085-12-18 13:12 G 32798069.87 32798070.05 32798070.27 0.0089 0.0057 Neptune 85086-12-21 00:58 G 32798437.32 32798437.54 32798437.79 0.0089 0.0036 Neptune 85087-12-23 12:58 G 32798804.80 32798805.04 32798805.30 0.0089 0.0015 Neptune 85088-12-25 00:44 G 32799172.28 32799172.53 32799172.79 0.0089 0.0007 Neptune 85089-12-27 12:00 G 32799539.78 32799540.00 32799540.26 0.0089 0.0029 Neptune 85090-12-30 00:15 G 32799907.30 32799907.51 32799907.72 0.0089 0.0049 Neptune 85092-01-01 11:03 G 32800274.83 32800274.96 32800275.15 0.0089 0.0071 Jupiter 85094-12-19 21:08 G 32801358.16 32801358.38 32801358.61 0.0502 0.0098 Saturn 85096-11-19 02:53 G 32802058.44 32802058.62 32802058.83 0.0282 0.0172

Saturn 85097-12-02 16:20 G 32802437.06 32802437.18 32802437.33 0.0287 0.0240 Jupiter 85100-06-11 14:24 G 32803358.03 32803358.10 32803358.17 0.0527 0.0502 Uranus 85105-11-11 03:51 G 32805336.49 32805336.66 32805336.85 0.0139 0.0098 Uranus 85106-11-15 20:53 G 32805706.13 32805706.37 32805706.62 0.0139 0.0037 Uranus 85107-11-20 12:58 G 32806075.80 32806076.04 32806076.30 0.0139 0.0024 Uranus 85108-11-24 04:20 G 32806445.47 32806445.68 32806445.88 0.0138 0.0083 Saturn 85110-05-18 18:00 G 32806986.06 32806986.25 32806986.46 0.0278 0.0159 Saturn 85111-05-31 12:58 G 32807363.89 32807364.04 32807364.19 0.0274 0.0217 Jupiter 85112-06-16 18:00 G 32807746.01 32807746.25 32807746.48 0.0525 0.0040 Saturn 85126-11-27 14:39 G 32813022.87 32813023.11 32813023.35 0.0284 0.0040 Saturn 85140-05-25 02:39 G 32817950.37 32817950.61 32817950.85 0.0277 0.0048 Uranus 85149-05-07 09:36 G 32821219.79 32821219.90 32821220.05 0.0139 0.0119 Uranus 85150-05-12 00:29 G 32821589.30 32821589.52 32821589.75 0.0139 0.0059 Uranus 85151-05-16 15:51 G 32821958.91 32821959.16 32821959.41 0.0139 0.0001 Uranus 85152-05-20 07:41 G 32822328.60 32822328.82 32822329.06 0.0140 0.0062 Uranus 85153-05-25 00:29 G 32822698.42 32822698.52 32822698.66 0.0140 0.0124 Saturn 85155-11-22 02:10 G 32823609.38 32823609.59 32823609.81 0.0282 0.0141 Saturn 85156-12-04 15:36 G 32823988.08 32823988.15 32823988.23 0.0287 0.0271 Jupiter 85165-12-15 19:41 G 32827286.19 32827286.32 32827286.47 0.0500 0.0397 Neptune 85166-06-15 02:10 G 32827467.46 32827467.59 32827467.76 0.0088 0.0072 Neptune 85167-06-17 13:41 G 32827834.88 32827835.07 32827835.30 0.0088 0.0051 Neptune 85168-06-19 01:12 G 32828202.32 32828202.55 32828202.81 0.0088 0.0031 Saturn 85169-05-19 17:46 G 32828537.03 32828537.24 32828537.47 0.0279 0.0126 Neptune 85169-06-21 12:58 G 32828569.79 32828570.04 32828570.30 0.0088 0.0010 Saturn 85170-06-01 12:44 G 32828914.93 32828915.03 32828915.14 0.0274 0.0248 Neptune 85170-06-24 00:29 G 32828937.27 32828937.52 32828937.78 0.0088 0.0010 Neptune 85171-06-26 12:00 G 32829304.77 32829305.00 32829305.25 0.0088 0.0031 Neptune 85172-06-27 23:46 G 32829672.29 32829672.49 32829672.71 0.0088 0.0051 Neptune 85173-06-30 10:48 G 32830039.83 32830039.95 32830040.13 0.0088 0.0072 Jupiter 85177-12-20 06:00 G 32831673.51 32831673.75 32831673.98 0.0502 0.0044

Saturn 85185-11-28 15:36 G 32834573.92 32834574.15 32834574.39 0.0284 0.0075 Uranus 85189-11-11 11:17 G 32836017.79 32836017.97 32836018.17 0.0139 0.0094 Jupiter 85189-12-24 18:58 G 32836061.27 32836061.29 32836061.32 0.0503 0.0498 Uranus 85190-11-16 04:20 G 32836387.44 32836387.68 32836387.94 0.0139 0.0033 Uranus 85191-11-20 20:24 G 32836757.11 32836757.35 32836757.61 0.0139 0.0028 Uranus 85192-11-24 11:46 G 32837126.79 32837126.99 32837127.18 0.0138 0.0087 Jupiter 85195-06-16 23:17 G 32838061.24 32838061.47 32838061.71 0.0525 0.0031 Saturn 85199-05-27 02:10 G 32839501.35 32839501.59 32839501.82 0.0277 0.0079 Jupiter 85207-06-21 22:34 G 32842449.37 32842449.44 32842449.53 0.0523 0.0488 Saturn 85214-11-23 04:34 G 32845160.46 32845160.69 32845160.92 0.0282 0.0105 Saturn 85228-05-20 19:12 G 32850088.07 32850088.30 32850088.53 0.0279 0.0093 Uranus 85233-05-07 22:05 G 32851901.29 32851901.42 32851901.58 0.0139 0.0113 Pluto 85234-02-23 04:05 G 32852192.42 32852192.67 32852192.93 0.0063 0.0006 Uranus 85234-05-12 12:44 G 32852270.80 32852271.03 32852271.27 0.0139 0.0053 Uranus 85235-05-17 04:20 G 32852640.42 32852640.68 32852640.93 0.0139 0.0008 Uranus 85236-05-20 19:56 G 32853010.12 32853010.33 32853010.56 0.0140 0.0069 Uranus 85237-05-25 12:44 G 32853379.95 32853380.03 32853380.14 0.0140 0.0130 Saturn 85244-11-29 20:24 G 32856125.13 32856125.35 32856125.58 0.0285 0.0113 Jupiter 85248-12-15 04:20 G 32857601.58 32857601.68 32857601.78 0.0500 0.0451 Neptune 85248-12-16 09:22 G 32857602.84 32857602.89 32857603.01 0.0089 0.0085 Neptune 85249-12-18 21:36 G 32857970.24 32857970.40 32857970.60 0.0089 0.0063 Neptune 85250-12-21 09:36 G 32858337.70 32858337.90 32858338.15 0.0089 0.0043 Neptune 85251-12-23 21:36 G 32858705.16 32858705.40 32858705.66 0.0089 0.0021 Neptune 85252-12-25 09:36 G 32859072.65 32859072.90 32859073.16 0.0089 0.0001 Neptune 85253-12-27 21:08 G 32859440.15 32859440.38 32859440.64 0.0089 0.0022 Neptune 85254-12-30 08:39 G 32859807.65 32859807.86 32859808.10 0.0089 0.0043 Neptune 85256-01-01 20:10 G 32860175.19 32860175.34 32860175.55 0.0089 0.0064 85256-03-29 11:03 G 32860262.79 32860262.96 32860263.13 0.1740 0.0706 Neptune 85257-01-03 08:10 G 32860542.76 32860542.84 32860542.93 0.0089 0.0084 Saturn 85257-05-15 05:17 G 32860674.67 32860674.72 32860674.79 0.0281 0.0272

Saturn 85258-05-28 04:34 G 32861052.47 32861052.69 32861052.91 0.0277 0.0113 Jupiter 85260-12-19 15:08 G 32861988.90 32861989.13 32861989.36 0.0502 0.0008 Jupiter 85272-12-24 01:56 G 32866376.47 32866376.58 32866376.69 0.0503 0.0441 Uranus 85273-11-11 20:53 G 32866699.19 32866699.37 32866699.58 0.0139 0.0090 Saturn 85273-11-24 11:03 G 32866711.72 32866711.96 32866712.20 0.0283 0.0065 Uranus 85274-11-16 14:10 G 32867068.84 32867069.09 32867069.34 0.0139 0.0028 Uranus 85275-11-21 06:00 G 32867438.51 32867438.75 32867439.01 0.0139 0.0033 Uranus 85276-11-24 20:53 G 32867808.20 32867808.37 32867808.58 0.0138 0.0092 Jupiter 85278-06-16 00:29 G 32868376.29 32868376.52 32868376.75 0.0525 0.0117 85281-09-29 21:08 G 32869578.19 32869578.38 32869578.57 0.1791 0.0432 Mars Saturn 85287-05-22 23:32 G 32871639.24 32871639.48 32871639.72 0.0278 0.0056 Jupiter 85290-06-21 01:41 G 32872764.43 32872764.57 32872764.72 0.0524 0.0412 Saturn 85302-11-19 19:41 G 32877298.22 32877298.32 32877298.46 0.0281 0.0244 Saturn 85303-12-03 05:46 G 32877676.54 32877676.74 32877676.95 0.0285 0.0157 Saturn 85316-05-17 10:48 G 32882225.83 32882225.95 32882226.09 0.0281 0.0234 Uranus 85317-05-09 11:03 G 32882582.80 32882582.96 32882583.12 0.0139 0.0106 Saturn 85317-05-30 09:36 G 32882603.70 32882603.90 32882604.11 0.0277 0.0150 Uranus 85318-05-14 01:12 G 32882952.33 32882952.55 32882952.80 0.0139 0.0047 Uranus 85319-05-18 16:48 G 32883321.95 32883322.20 32883322.46 0.0139 0.0014 Uranus 85320-05-22 08:39 G 32883691.66 32883691.86 32883692.09 0.0140 0.0076 Uranus 85321-05-27 01:27 G 32884061.53 32884061.56 32884061.63 0.0140 0.0137 Pluto 85324-08-25 02:24 G 32885247.37 32885247.60 32885247.85 0.0081 0.0031 Neptune 85330-06-15 10:48 G 32887367.85 32887367.95 32887368.09 0.0088 0.0077 Neptune 85331-06-17 22:20 G 32887735.25 32887735.43 32887735.64 0.0088 0.0057 Neptune 85332-06-19 09:36 G 32888102.68 32888102.90 32888103.15 0.0088 0.0037 Saturn 85332-11-26 21:08 G 32888263.14 32888263.38 32888263.63 0.0283 0.0022 Neptune 85333-06-21 21:08 G 32888470.13 32888470.38 32888470.64 0.0088 0.0017 Neptune 85334-06-24 08:39 G 32888837.60 32888837.86 32888838.12 0.0088 0.0004 Neptune 85335-06-26 20:10 G 32889205.10 32889205.34 32889205.60 0.0088 0.0024 Neptune 85336-06-28 07:41 G 32889572.60 32889572.82 32889573.05 0.0088 0.0044

Neptune 85337-06-30 18:44 G 32889940.14 32889940.28 32889940.49 0.0088 0.0065 Neptune 85338-07-03 06:29 G 32890307.73 32890307.77 32890307.86 0.0088 0.0085 Jupiter 85343-12-20 19:27 G 32892304.08 32892304.31 32892304.54 0.0501 0.0077 Saturn 85346-05-25 07:27 G 32893190.57 32893190.81 32893191.06 0.0278 0.0015 Jupiter 85355-12-25 04:34 G 32896691.53 32896691.69 32896691.85 0.0503 0.0361 Uranus 85357-11-13 06:58 G 32897380.59 32897380.79 32897381.00 0.0139 0.0085 Uranus 85358-11-17 23:46 G 32897750.24 32897750.49 32897750.74 0.0139 0.0023 Uranus 85359-11-22 15:36 G 32898119.92 32898120.15 32898120.41 0.0139 0.0038 Uranus 85360-11-26 06:29 G 32898489.60 32898489.77 32898489.96 0.0138 0.0097 Jupiter 85361-06-16 03:22 G 32898691.43 32898691.64 32898691.86 0.0526 0.0197 Saturn 85361-11-21 08:39 G 32898849.69 32898849.86 32898850.04 0.0281 0.0196 Saturn 85362-12-04 18:58 G 32899228.13 32899228.29 32899228.47 0.0285 0.0206 Jupiter 85373-06-21 03:36 G 32903079.47 32903079.65 32903079.83 0.0524 0.0329 Saturn 85375-05-19 19:56 G 32903777.16 32903777.33 32903777.52 0.0280 0.0191 Saturn 85376-05-31 18:15 G 32904155.09 32904155.26 32904155.45 0.0276 0.0191 Saturn 85391-11-29 11:17 G 32909814.73 32909814.97 32909815.21 0.0283 0.0028 Uranus 85401-05-10 22:05 G 32913264.27 32913264.42 32913264.61 0.0139 0.0101 Uranus 85402-05-15 12:44 G 32913633.80 32913634.03 32913634.28 0.0139 0.0041 Uranus 85403-05-20 04:05 G 32914003.43 32914003.67 32914003.93 0.0139 0.0021 Uranus 85404-05-23 20:24 G 32914373.15 32914373.35 32914373.56 0.0140 0.0081 Saturn 85405-05-27 18:00 G 32914742.00 32914742.25 32914742.49 0.0278 0.0030 Neptune 85413-12-20 06:29 G 32917870.62 32917870.77 32917870.94 0.0089 0.0070 Neptune 85414-12-22 18:29 G 32918238.06 32918238.27 32918238.49 0.0089 0.0049 Neptune 85415-12-25 06:29 G 32918605.53 32918605.77 32918606.02 0.0089 0.0028 Neptune 85416-12-26 18:44 G 32918973.02 32918973.28 32918973.53 0.0089 0.0007 Neptune 85417-12-29 06:15 G 32919340.52 32919340.76 32919341.02 0.0089 0.0015 Neptune 85418-12-31 18:00 G 32919708.03 32919708.25 32919708.50 0.0089 0.0036 Neptune 85420-01-03 05:32 G 32920075.55 32920075.73 32920075.94 0.0089 0.0057 Saturn 85420-11-24 00:00 G 32920401.30 32920401.50 32920401.72 0.0282 0.0146 Neptune 85421-01-04 17:03 G 32920443.11 32920443.21 32920443.36 0.0089 0.0078

Saturn 85421-12-07 11:17 G 32920779.88 32920779.97 32920780.08 0.0286 0.0258 Jupiter 85426-12-20 20:53 G 32922619.15 32922619.37 32922619.59 0.0501 0.0160 Saturn 85434-05-22 08:39 G 32925328.65 32925328.86 32925329.07 0.0280 0.0143 Saturn 85435-06-04 06:00 G 32925706.63 32925706.75 32925706.89 0.0276 0.0234 Jupiter 85438-12-25 06:29 G 32927006.58 32927006.77 32927006.96 0.0503 0.0281 Uranus 85441-11-14 18:15 G 32928062.05 32928062.26 32928062.48 0.0139 0.0078 Uranus 85442-11-19 11:03 G 32928431.71 32928431.96 32928432.21 0.0139 0.0017 Uranus 85443-11-24 02:39 G 32928801.38 32928801.61 32928801.86 0.0139 0.0044 Jupiter 85444-06-16 02:10 G 32929006.39 32929006.59 32929006.78 0.0526 0.0294 Uranus 85444-11-27 17:32 G 32929171.08 32929171.23 32929171.41 0.0138 0.0103 Saturn 85450-12-02 02:53 G 32931366.39 32931366.62 32931366.86 0.0284 0.0080 Jupiter 85456-06-20 22:05 G 32933394.21 32933394.42 32933394.63 0.0524 0.0215 Mars 85461-03-29 16:05 G 32935137.11 32935137.17 32935137.23 0.1753 0.1655 Saturn 85464-05-29 06:58 G 32936293.56 32936293.79 32936294.03 0.0278 0.0077 Saturn 85479-11-26 17:32 G 32941953.00 32941953.23 32941953.46 0.0282 0.0092 Pluto 85482-02-26 03:51 G 32942775.46 32942775.66 32942775.90 0.0062 0.0031 Pluto 85483-02-27 13:41 G 32943141.93 32943142.07 32943142.23 0.0063 0.0050 Uranus 85485-05-11 08:10 G 32943945.67 32943945.84 32943946.03 0.0139 0.0096 Uranus 85486-05-15 22:48 G 32944315.22 32944315.45 32944315.70 0.0139 0.0036 Uranus 85487-05-20 14:24 G 32944684.85 32944685.10 32944685.35 0.0140 0.0025 Uranus 85488-05-24 06:15 G 32945054.58 32945054.76 32945054.97 0.0140 0.0087 Saturn 85493-05-23 22:48 G 32946880.22 32946880.45 32946880.68 0.0279 0.0094 Neptune 85494-06-15 19:41 G 32947268.26 32947268.32 32947268.42 0.0088 0.0083 Neptune 85495-06-18 06:58 G 32947635.64 32947635.79 32947636.00 0.0088 0.0064 Neptune 85496-06-19 18:29 G 32948003.06 32948003.27 32948003.51 0.0088 0.0043 Neptune 85497-06-22 06:00 G 32948370.51 32948370.75 32948371.01 0.0088 0.0023 Neptune 85498-06-24 17:46 G 32948737.98 32948738.24 32948738.50 0.0088 0.0002 Neptune 85499-06-27 04:48 G 32949105.46 32949105.70 32949105.97 0.0088 0.0018 Neptune 85500-06-29 16:20 G 32949472.96 32949473.18 32949473.43 0.0088 0.0038 Neptune 85501-07-02 03:51 G 32949840.48 32949840.66 32949840.86 0.0088 0.0058

Neptune 85502-07-04 15:36 G 32950208.04 32950208.15 32950208.27 0.0088 0.0078 Saturn 85508-11-21 09:22 G 32952539.82 32952539.89 32952539.99 0.0280 0.0263 Saturn 85509-12-04 18:44 G 32952918.08 32952918.28 32952918.51 0.0284 0.0133 Jupiter 85509-12-20 21:22 G 32952934.19 32952934.39 32952934.59 0.0501 0.0244 Jupiter 85521-12-25 08:24 G 32957321.64 32957321.85 32957322.07 0.0502 0.0201 Saturn 85522-05-19 22:05 G 32957467.32 32957467.42 32957467.53 0.0281 0.0254 Saturn 85523-06-01 21:22 G 32957845.17 32957845.39 32957845.61 0.0277 0.0126 Uranus 85524-11-11 10:05 G 32958373.89 32958373.92 32958374.00 0.0140 0.0136 Uranus 85525-11-16 04:20 G 32958743.46 32958743.68 32958743.89 0.0139 0.0074 Uranus 85526-11-20 20:53 G 32959113.11 32959113.37 32959113.62 0.0139 0.0012 Jupiter 85527-06-16 18:58 G 32959321.15 32959321.29 32959321.43 0.0527 0.0418 Uranus 85527-11-25 12:29 G 32959482.79 32959483.02 32959483.27 0.0139 0.0049 Uranus 85528-11-29 03:22 G 32959852.50 32959852.64 32959852.81 0.0138 0.0108 Saturn 85538-11-29 09:36 G 32963504.66 32963504.90 32963505.15 0.0283 0.0040 Jupiter 85539-06-21 20:39 G 32963709.13 32963709.36 32963709.59 0.0525 0.0115 Mars 85540-04-02 04:34 G 32963994.56 32963994.69 32963994.83 0.1747 0.1178 Saturn 85552-05-26 13:56 G 32968431.84 32968432.08 32968432.32 0.0279 0.0043 85565-10-02 22:34 G 32973309.24 32973309.44 32973309.63 0.1782 0.0289 Mars Saturn 85567-11-24 00:00 G 32974091.34 32974091.50 32974091.66 0.0281 0.0213 Saturn 85568-12-06 10:20 G 32974469.75 32974469.93 32974470.12 0.0285 0.0185 Uranus 85569-05-12 17:03 G 32974627.03 32974627.21 32974627.40 0.0139 0.0092 Uranus 85570-05-17 07:27 G 32974996.57 32974996.81 32974997.06 0.0139 0.0032 Uranus 85571-05-21 22:48 G 32975366.21 32975366.45 32975366.70 0.0139 0.0030 Uranus 85572-05-25 14:39 G 32975735.94 32975736.11 32975736.32 0.0140 0.0092 Pluto 85573-08-29 22:20 G 32976197.31 32976197.43 32976197.61 0.0081 0.0067 Neptune 85577-12-20 16:05 G 32977771.05 32977771.17 32977771.32 0.0089 0.0076 Neptune 85578-12-23 04:20 G 32978138.48 32978138.68 32978138.88 0.0089 0.0055 Neptune 85579-12-25 15:51 G 32978505.94 32978506.16 32978506.42 0.0089 0.0034 Neptune 85580-12-27 04:05 G 32978873.42 32978873.67 32978873.93 0.0089 0.0013 Saturn 85581-05-21 12:44 G 32979018.87 32979019.03 32979019.21 0.0281 0.0203

Neptune 85581-12-29 16:05 G 32979240.92 32979241.17 32979241.43 0.0089 0.0009 Saturn 85582-06-03 10:48 G 32979396.77 32979396.95 32979397.15 0.0277 0.0175 Neptune 85583-01-01 03:36 G 32979608.42 32979608.65 32979608.91 0.0089 0.0029 Neptune 85584-01-03 15:51 G 32979975.95 32979976.16 32979976.37 0.0089 0.0050 Neptune 85585-01-05 03:22 G 32980343.49 32980343.64 32980343.80 0.0089 0.0071 Jupiter 85592-12-19 23:03 G 32983249.29 32983249.46 32983249.64 0.0500 0.0326 Saturn 85597-12-01 00:00 G 32985056.25 32985056.50 32985056.74 0.0283 0.0011 Jupiter 85604-12-24 09:08 G 32987636.65 32987636.88 32987637.11 0.0501 0.0113 Uranus 85608-11-11 19:12 G 32989055.24 32989055.30 32989055.41 0.0140 0.0132 Uranus 85609-11-16 12:58 G 32989424.84 32989425.04 32989425.28 0.0139 0.0070 Jupiter 85610-06-15 20:39 G 32989636.29 32989636.36 32989636.43 0.0527 0.0502 Uranus 85610-11-21 06:00 G 32989794.50 32989794.75 32989795.01 0.0139 0.0008 Saturn 85611-05-29 03:51 G 32989983.41 32989983.66 32989983.90 0.0278 0.0007 Uranus 85611-11-25 21:51 G 32990164.18 32990164.41 32990164.65 0.0139 0.0054 Uranus 85612-11-29 12:58 G 32990533.91 32990534.04 32990534.20 0.0138 0.0114 Jupiter 85622-06-20 21:36 G 32994024.17 32994024.40 32994024.63 0.0525 0.0027 Saturn 85626-11-25 11:03 G 32995642.76 32995642.96 32995643.16 0.0281 0.0166 Saturn 85627-12-08 22:05 G 32996021.29 32996021.42 32996021.57 0.0285 0.0234 Saturn 85640-05-23 02:10 G 33000570.39 33000570.59 33000570.80 0.0280 0.0152 Saturn 85641-06-04 23:03 G 33000948.33 33000948.46 33000948.62 0.0276 0.0221 Uranus 85653-05-13 01:56 G 33005308.39 33005308.58 33005308.78 0.0139 0.0088 Uranus 85654-05-17 16:34 G 33005677.94 33005678.19 33005678.44 0.0139 0.0028 Uranus 85655-05-22 07:41 G 33006047.58 33006047.82 33006048.07 0.0139 0.0034 Uranus 85656-05-25 23:46 G 33006417.31 33006417.49 33006417.68 0.0140 0.0096 Saturn 85656-12-02 10:48 G 33006607.71 33006607.95 33006608.19 0.0284 0.0058 Neptune 85659-06-18 16:20 G 33007536.05 33007536.18 33007536.37 0.0088 0.0069 Neptune 85660-06-20 03:51 G 33007903.46 33007903.66 33007903.89 0.0088 0.0049 Neptune 85661-06-22 15:36 G 33008270.91 33008271.15 33008271.40 0.0088 0.0029 Neptune 85662-06-25 03:08 G 33008638.37 33008638.63 33008638.89 0.0088 0.0008 Neptune 85663-06-27 14:24 G 33009005.85 33009006.10 33009006.37 0.0088 0.0012

Neptune 85664-06-29 01:27 G 33009373.34 33009373.56 33009373.82 0.0088 0.0032 Neptune 85665-07-01 12:58 G 33009740.85 33009741.04 33009741.27 0.0088 0.0052 Neptune 85666-07-04 00:29 G 33010108.39 33010108.52 33010108.69 0.0088 0.0072 Saturn 85670-05-30 15:36 G 33011534.91 33011535.15 33011535.39 0.0277 0.0054 Jupiter 85675-12-20 01:27 G 33013564.43 33013564.56 33013564.70 0.0500 0.0404 Saturn 85685-11-26 18:29 G 33017194.05 33017194.27 33017194.49 0.0282 0.0124 Saturn 85686-12-10 06:15 G 33017572.71 33017572.76 33017572.83 0.0286 0.0277 Jupiter 85687-12-24 13:41 G 33017951.84 33017952.07 33017952.30 0.0501 0.0043 Uranus 85692-11-12 01:56 G 33019736.50 33019736.58 33019736.70 0.0140 0.0129 Uranus 85693-11-16 19:56 G 33020106.11 33020106.33 33020106.56 0.0139 0.0066 Uranus 85694-11-21 12:44 G 33020475.78 33020476.03 33020476.29 0.0139 0.0005 Uranus 85695-11-26 05:03 G 33020845.48 33020845.71 33020845.94 0.0139 0.0057 Uranus 85696-11-29 20:10 G 33021215.22 33021215.34 33021215.49 0.0138 0.0117 Saturn 85699-05-25 11:46 G 33022121.78 33022121.99 33022122.23 0.0280 0.0107 Jupiter 85699-12-29 02:10 G 33022339.56 33022339.59 33022339.63 0.0502 0.0495 Saturn 85700-06-07 07:56 G 33022499.78 33022499.83 33022499.92 0.0276 0.0264 Jupiter 85705-06-20 16:34 G 33024338.96 33024339.19 33024339.42 0.0526 0.0090 Saturn 85715-12-05 16:34 G 33028158.97 33028159.19 33028159.43 0.0284 0.0099 Jupiter 85717-06-25 18:15 G 33028727.13 33028727.26 33028727.38 0.0525 0.0444 Saturn 85729-06-01 23:46 G 33033086.27 33033086.49 33033086.73 0.0277 0.0097 Pluto 85730-03-01 06:00 G 33033358.72 33033358.75 33033358.86 0.0062 0.0061 Pluto 85731-03-02 16:20 G 33033724.95 33033725.18 33033725.43 0.0063 0.0020 Uranus 85737-05-14 11:46 G 33035989.81 33035989.99 33035990.21 0.0139 0.0084 Uranus 85738-05-19 02:39 G 33036359.37 33036359.61 33036359.87 0.0139 0.0023 Uranus 85739-05-23 17:46 G 33036729.01 33036729.24 33036729.49 0.0139 0.0040 Uranus 85740-05-27 09:51 G 33037098.75 33037098.91 33037099.10 0.0140 0.0102 Neptune 85741-12-21 01:41 G 33037671.49 33037671.57 33037671.69 0.0089 0.0082 Neptune 85742-12-23 13:27 G 33038038.90 33038039.06 33038039.27 0.0089 0.0061 Neptune 85743-12-26 01:27 G 33038406.35 33038406.56 33038406.81 0.0089 0.0040 Saturn 85744-11-28 21:22 G 33038745.17 33038745.39 33038745.63 0.0282 0.0087

Neptune 85744-12-27 13:41 G 33038773.83 33038774.07 33038774.33 0.0089 0.0020 85745-04-01 07:27 G 33038868.69 33038868.81 33038868.94 0.1761 0.1296 Mars Neptune 85745-12-30 01:41 G 33039141.31 33039141.57 33039141.83 0.0089 0.0002 Neptune 85747-01-01 13:41 G 33039508.82 33039509.07 33039509.32 0.0089 0.0023 Neptune 85748-01-04 01:27 G 33039876.35 33039876.56 33039876.79 0.0089 0.0044 Neptune 85749-01-05 13:12 G 33040243.89 33040244.05 33040244.24 0.0089 0.0065 Neptune 85750-01-08 00:44 G 33040611.49 33040611.53 33040611.64 0.0089 0.0086 Saturn 85758-05-27 18:29 G 33043673.04 33043673.27 33043673.51 0.0279 0.0065 Jupiter 85758-12-20 12:00 G 33043879.91 33043880.00 33043880.10 0.0499 0.0450 Jupiter 85770-12-24 21:51 G 33048267.18 33048267.41 33048267.65 0.0500 0.0015 Saturn 85773-11-23 09:51 G 33049331.82 33049331.91 33049332.01 0.0280 0.0257 Saturn 85774-12-06 18:44 G 33049710.07 33049710.28 33049710.50 0.0284 0.0135 Uranus 85776-11-13 09:08 G 33050417.79 33050417.88 33050418.01 0.0140 0.0126 Uranus 85777-11-18 02:53 G 33050787.41 33050787.62 33050787.86 0.0139 0.0064 Uranus 85778-11-22 20:24 G 33051157.09 33051157.35 33051157.60 0.0139 0.0002 Uranus 85779-11-27 12:44 G 33051526.80 33051527.03 33051527.26 0.0139 0.0061 Uranus 85780-12-01 04:05 G 33051896.56 33051896.67 33051896.80 0.0138 0.0121 Jupiter 85782-12-29 08:39 G 33052654.74 33052654.86 33052654.97 0.0502 0.0430 Saturn 85787-05-22 05:46 G 33054259.62 33054259.74 33054259.87 0.0281 0.0242 Saturn 85788-06-03 04:34 G 33054637.48 33054637.69 33054637.91 0.0277 0.0135 Jupiter 85788-06-19 23:32 G 33054654.26 33054654.48 33054654.71 0.0527 0.0152 Jupiter 85800-06-26 02:10 G 33059042.44 33059042.59 33059042.75 0.0525 0.0386 Saturn 85803-12-01 20:39 G 33060296.12 33060296.36 33060296.60 0.0282 0.0054 Saturn 85817-05-29 20:53 G 33065224.13 33065224.37 33065224.62 0.0279 0.0029 Uranus 85820-05-11 09:36 G 33066301.89 33066301.90 33066301.93 0.0138 0.0138 Uranus 85821-05-15 23:17 G 33066671.27 33066671.47 33066671.69 0.0139 0.0078 Pluto 85821-09-01 16:20 G 33066779.91 33066780.18 33066780.44 0.0081 0.0003 Uranus 85822-05-20 13:56 G 33067040.84 33067041.08 33067041.34 0.0139 0.0017 Uranus 85823-05-25 05:17 G 33067410.49 33067410.72 33067410.97 0.0139 0.0046 Neptune 85823-06-20 02:24 G 33067436.48 33067436.60 33067436.76 0.0088 0.0074

85824-04-04 20:39 G 33067726.28 33067726.36 33067726.44 0.1755 0.1585 Mars Uranus 85824-05-28 21:36 G 33067780.24 33067780.40 33067780.56 0.0140 0.0108 Neptune 85824-06-21 13:56 G 33067803.90 33067804.08 33067804.30 0.0088 0.0055 Neptune 85825-06-24 01:41 G 33068171.34 33068171.57 33068171.82 0.0088 0.0034 Neptune 85826-06-26 13:12 G 33068538.80 33068539.05 33068539.31 0.0088 0.0014 Neptune 85827-06-29 00:44 G 33068906.27 33068906.53 33068906.79 0.0088 0.0006 Neptune 85828-06-30 12:00 G 33069273.76 33069274.00 33069274.25 0.0088 0.0026 Neptune 85829-07-02 23:32 G 33069641.26 33069641.48 33069641.71 0.0088 0.0046 Neptune 85830-07-05 10:48 G 33070008.79 33070008.95 33070009.13 0.0088 0.0066 Neptune 85831-07-07 22:05 G 33070376.39 33070376.42 33070376.49 0.0088 0.0086 Saturn 85832-11-25 07:41 G 33070882.68 33070882.82 33070882.96 0.0280 0.0227 Saturn 85833-12-08 16:48 G 33071261.00 33071261.20 33071261.40 0.0285 0.0166 Saturn 85846-05-24 07:56 G 33075810.67 33075810.83 33075811.00 0.0281 0.0206 Saturn 85847-06-06 06:15 G 33076188.58 33076188.76 33076188.97 0.0276 0.0170 Mars 85849-10-05 00:44 G 33077040.33 33077040.53 33077040.72 0.1773 0.0203 Jupiter 85853-12-25 06:44 G 33078582.55 33078582.78 33078583.01 0.0500 0.0067 Uranus 85860-11-14 17:32 G 33081099.12 33081099.23 33081099.37 0.0140 0.0122 Uranus 85861-11-19 11:17 G 33081468.75 33081468.97 33081469.21 0.0139 0.0059 Uranus 85862-11-24 04:34 G 33081838.44 33081838.69 33081838.95 0.0139 0.0004 Saturn 85862-12-02 16:48 G 33081846.95 33081847.20 33081847.44 0.0282 0.0025 Uranus 85863-11-28 20:39 G 33082208.15 33082208.36 33082208.60 0.0139 0.0066 Uranus 85864-12-02 12:00 G 33082577.92 33082578.00 33082578.13 0.0138 0.0127 Jupiter 85865-12-29 19:56 G 33082970.18 33082970.33 33082970.48 0.0502 0.0387 Jupiter 85871-06-21 02:39 G 33084969.41 33084969.61 33084969.82 0.0526 0.0233 Saturn 85876-05-30 20:24 G 33086775.10 33086775.35 33086775.59 0.0279 0.0004 Jupiter 85883-06-26 03:08 G 33089357.44 33089357.63 33089357.83 0.0525 0.0295 Saturn 85891-11-27 02:53 G 33092433.46 33092433.62 33092433.80 0.0280 0.0200 Saturn 85892-12-09 12:29 G 33092811.84 33092812.02 33092812.20 0.0285 0.0193 Uranus 85904-05-12 20:24 G 33096983.29 33096983.35 33096983.44 0.0138 0.0132 Uranus 85905-05-17 10:20 G 33097352.73 33097352.93 33097353.16 0.0139 0.0073

Saturn 85905-05-26 06:44 G 33097361.59 33097361.78 33097361.98 0.0281 0.0175 Neptune 85905-12-22 11:46 G 33097571.97 33097571.99 33097572.08 0.0089 0.0087 Uranus 85906-05-22 01:27 G 33097722.31 33097722.56 33097722.81 0.0139 0.0011 Saturn 85906-06-08 05:17 G 33097739.56 33097739.72 33097739.89 0.0276 0.0199 Neptune 85906-12-25 00:00 G 33097939.35 33097939.50 33097939.69 0.0089 0.0067 Uranus 85907-05-26 16:34 G 33098091.96 33098092.19 33098092.43 0.0139 0.0052 Neptune 85907-12-27 12:29 G 33098306.80 33098307.02 33098307.24 0.0089 0.0046 Uranus 85908-05-30 08:24 G 33098461.73 33098461.85 33098462.02 0.0140 0.0115 Neptune 85908-12-28 23:46 G 33098674.26 33098674.49 33098674.75 0.0089 0.0026 Neptune 85909-12-31 12:00 G 33099041.75 33099042.00 33099042.26 0.0089 0.0004 Neptune 85911-01-02 23:46 G 33099409.24 33099409.49 33099409.75 0.0089 0.0017 Neptune 85912-01-05 11:32 G 33099776.76 33099776.98 33099777.22 0.0089 0.0038 Neptune 85913-01-06 23:03 G 33100144.29 33100144.46 33100144.68 0.0089 0.0059 Neptune 85914-01-09 11:03 G 33100511.86 33100511.96 33100512.10 0.0089 0.0079 Saturn 85921-12-04 10:48 G 33103397.71 33103397.95 33103398.20 0.0282 0.0003 Saturn 85935-06-02 18:00 G 33108326.00 33108326.25 33108326.49 0.0279 0.0033 Jupiter 85936-12-25 22:05 G 33108898.19 33108898.42 33108898.64 0.0500 0.0094 Uranus 85944-11-16 03:22 G 33111780.53 33111780.64 33111780.80 0.0140 0.0118 Uranus 85945-11-20 21:08 G 33112150.16 33112150.38 33112150.63 0.0139 0.0055 Uranus 85946-11-25 14:39 G 33112519.86 33112520.11 33112520.36 0.0139 0.0009 Uranus 85947-11-30 06:44 G 33112889.57 33112889.78 33112890.01 0.0138 0.0071 Uranus 85948-12-03 22:05 G 33113259.36 33113259.42 33113259.51 0.0138 0.0132 Jupiter 85948-12-30 08:39 G 33113285.70 33113285.86 33113286.03 0.0501 0.0352 Saturn 85950-11-28 21:22 G 33113984.20 33113984.39 33113984.59 0.0280 0.0174 Saturn 85951-12-12 06:29 G 33114362.63 33114362.77 33114362.94 0.0285 0.0219 Jupiter 85954-06-21 09:36 G 33115284.71 33115284.90 33115285.10 0.0527 0.0296 Saturn 85964-05-27 04:05 G 33118912.47 33118912.67 33118912.88 0.0281 0.0146 Saturn 85965-06-09 02:53 G 33119290.48 33119290.62 33119290.76 0.0276 0.0228 Jupiter 85966-06-26 13:41 G 33119672.86 33119673.07 33119673.27 0.0526 0.0249 Pluto 85979-03-05 17:17 G 33124307.99 33124308.22 33124308.48 0.0063 0.0014

Saturn 85980-12-05 05:32 G 33124948.48 33124948.73 33124948.97 0.0282 0.0026 Neptune 85987-06-20 12:15 G 33127336.93 33127337.01 33127337.14 0.0088 0.0080 Uranus 85988-05-13 06:15 G 33127664.69 33127664.76 33127664.88 0.0138 0.0129 Neptune 85988-06-21 23:32 G 33127704.32 33127704.48 33127704.70 0.0088 0.0060 Uranus 85989-05-17 20:53 G 33128034.15 33128034.37 33128034.59 0.0139 0.0067 Neptune 85989-06-24 11:17 G 33128071.76 33128071.97 33128072.22 0.0088 0.0040 Uranus 85990-05-22 11:32 G 33128403.73 33128403.98 33128404.24 0.0139 0.0006 Neptune 85990-06-26 22:48 G 33128439.21 33128439.45 33128439.72 0.0088 0.0020 Uranus 85991-05-27 02:39 G 33128773.39 33128773.61 33128773.86 0.0139 0.0058 Neptune 85991-06-29 10:34 G 33128806.69 33128806.94 33128807.20 0.0088 0.0002 Uranus 85992-05-30 19:12 G 33129143.17 33129143.30 33129143.43 0.0140 0.0120 Neptune 85992-06-30 21:51 G 33129174.17 33129174.41 33129174.68 0.0088 0.0021 Neptune 85993-07-03 09:08 G 33129541.67 33129541.88 33129542.13 0.0088 0.0041 Saturn 85994-06-03 14:10 G 33129876.85 33129877.09 33129877.33 0.0279 0.0059 Neptune 85994-07-05 20:39 G 33129909.20 33129909.36 33129909.57 0.0088 0.0061 Neptune 85995-07-08 08:24 G 33130276.75 33130276.85 33130276.96 0.0088 0.0080

# 87TH MILLENNIUM CE

#### This is a list of transits of Earth in the 87th millennium CE.

FROM MAX- C START MAX END SUNRAD DEPTH S

TRANSIT

TIME

Saturn 86009-11-29 16:05 G 33135534.96 33135535.17 33135535.38 0.0280 0.0149

Saturn 86010-12-13 01:12 G 33135913.43 33135913.55 33135913.68 0.0285 0.0243

Jupiter 86019-12-26 09:08 G 33139213.66 33139213.88 33139214.11 0.0500 0.0136

Saturn 86023-05-29 01:27 G 33140463.34 33140463.56 33140463.78 0.0281 0.0117 Saturn 86024-06-10 00:15 G 33140841.43 33140841.51 33140841.61 0.0276 0.0256 Uranus 86028-11-16 13:56 G 33142461.94 33142462.08 33142462.24 0.0139 0.0112 86029-04-03 20:53 G 33142600.22 33142600.37 33142600.53 0.1770 0.1010 Mars Uranus 86029-11-21 07:56 G 33142831.59 33142831.83 33142832.07 0.0139 0.0049 Uranus 86030-11-26 00:58 G 33143201.29 33143201.54 33143201.80 0.0139 0.0014 Uranus 86031-11-30 16:48 G 33143571.01 33143571.20 33143571.43 0.0138 0.0077 Jupiter 86031-12-30 19:27 G 33143601.12 33143601.31 33143601.49 0.0501 0.0305 Uranus 86032-12-04 08:10 G 33143940.83 33143940.84 33143940.89 0.0138 0.0138 Jupiter 86037-06-20 21:36 G 33145600.23 33145600.40 33145600.58 0.0527 0.0338 Saturn 86039-12-07 01:12 G 33146499.31 33146499.55 33146499.79 0.0282 0.0053 Jupiter 86049-06-25 20:24 G 33149988.13 33149988.35 33149988.57 0.0525 0.0185 Saturn 86053-06-04 11:03 G 33151427.73 33151427.96 33151428.20 0.0279 0.0086 Saturn 86068-11-30 13:27 G 33157085.84 33157086.06 33157086.29 0.0280 0.0121 Pluto 86069-09-03 06:58 G 33157362.78 33157362.79 33157362.86 0.0081 0.0081 Saturn 86069-12-13 22:20 G 33157464.37 33157464.43 33157464.52 0.0285 0.0271 Neptune 86070-12-24 11:03 G 33157839.81 33157839.96 33157840.11 0.0089 0.0072 Neptune 86071-12-26 22:20 G 33158207.24 33158207.43 33158207.66 0.0089 0.0052 Uranus 86072-05-13 15:22 G 33158346.04 33158346.14 33158346.26 0.0138 0.0124 Neptune 86072-12-28 10:34 G 33158574.71 33158574.94 33158575.19 0.0089 0.0031 Uranus 86073-05-18 05:17 G 33158715.50 33158715.72 33158715.95 0.0139 0.0063 Neptune 86073-12-30 22:34 G 33158942.19 33158942.44 33158942.70 0.0089 0.0010 Uranus 86074-05-22 20:10 G 33159085.09 33159085.34 33159085.59 0.0139 0.0001 Neptune 86075-01-02 10:34 G 33159309.68 33159309.94 33159310.19 0.0089 0.0011 Uranus 86075-05-27 11:17 G 33159454.75 33159454.97 33159455.20 0.0140 0.0062 Neptune 86076-01-04 22:05 G 33159677.20 33159677.42 33159677.68 0.0089 0.0032 Uranus 86076-05-31 03:08 G 33159824.54 33159824.63 33159824.76 0.0140 0.0125 Neptune 86077-01-06 09:36 G 33160044.71 33160044.90 33160045.13 0.0089 0.0053 Neptune 86078-01-08 21:36 G 33160412.27 33160412.40 33160412.57 0.0089 0.0073 Saturn 86082-05-29 23:17 G 33162014.24 33162014.47 33162014.71 0.0281 0.0089

Saturn 86098-12-07 23:46 G 33168050.26 33168050.49 33168050.73 0.0282 0.0083 Jupiter 86102-12-26 20:10 G 33169529.13 33169529.34 33169529.56 0.0500 0.0180 Saturn 86111-05-25 05:32 G 33172600.67 33172600.73 33172600.81 0.0284 0.0270 Saturn 86112-06-06 09:22 G 33172978.68 33172978.89 33172979.12 0.0279 0.0115 Uranus 86112-11-18 00:15 G 33173143.35 33173143.51 33173143.68 0.0140 0.0107 Uranus 86113-11-22 18:00 G 33173513.01 33173513.25 33173513.49 0.0139 0.0043 Uranus 86114-11-27 11:03 G 33173882.71 33173882.96 33173883.22 0.0139 0.0020 Jupiter 86114-12-31 07:41 G 33173916.63 33173916.82 33173917.02 0.0502 0.0269 Uranus 86115-12-02 02:53 G 33174252.43 33174252.62 33174252.84 0.0138 0.0083 Jupiter 86120-06-21 01:12 G 33175915.42 33175915.55 33175915.70 0.0527 0.0414 Saturn 86127-12-03 13:56 G 33178636.85 33178637.08 33178637.31 0.0280 0.0090 Jupiter 86132-06-26 00:58 G 33180303.31 33180303.54 33180303.77 0.0526 0.0114 86133-10-07 03:51 G 33180771.47 33180771.66 33180771.86 0.1763 0.0171 Mars Saturn 86141-06-01 00:00 G 33183565.26 33183565.50 33183565.74 0.0281 0.0057 Neptune 86151-06-20 23:03 G 33187237.42 33187237.46 33187237.56 0.0088 0.0085 Neptune 86152-06-22 10:34 G 33187604.79 33187604.94 33187605.13 0.0088 0.0065 Neptune 86153-06-24 21:51 G 33187972.21 33187972.41 33187972.65 0.0088 0.0045 Neptune 86154-06-27 09:22 G 33188339.65 33188339.89 33188340.15 0.0088 0.0025 Neptune 86155-06-29 21:08 G 33188707.12 33188707.38 33188707.64 0.0088 0.0005 Uranus 86156-05-14 23:03 G 33189027.35 33189027.46 33189027.59 0.0138 0.0121 Neptune 86156-07-01 08:24 G 33189074.60 33189074.85 33189075.11 0.0088 0.0015 Saturn 86156-11-26 21:51 G 33189223.34 33189223.41 33189223.50 0.0278 0.0262 Uranus 86157-05-19 12:44 G 33189396.81 33189397.03 33189397.27 0.0139 0.0060 Neptune 86157-07-03 19:56 G 33189442.11 33189442.33 33189442.58 0.0088 0.0035 Saturn 86157-12-10 02:53 G 33189601.40 33189601.62 33189601.85 0.0282 0.0117 Uranus 86158-05-24 03:22 G 33189766.39 33189766.64 33189766.89 0.0139 0.0003 Neptune 86158-07-06 07:12 G 33189809.61 33189809.80 33189810.02 0.0088 0.0055 Uranus 86159-05-28 18:15 G 33190136.05 33190136.26 33190136.50 0.0139 0.0066 Neptune 86159-07-08 18:29 G 33190177.16 33190177.27 33190177.43 0.0088 0.0075 Uranus 86160-06-01 10:05 G 33190505.85 33190505.92 33190506.04 0.0140 0.0129

Saturn 86170-05-26 06:58 G 33194151.66 33194151.79 33194151.92 0.0283 0.0238 Saturn 86171-06-08 10:34 G 33194529.74 33194529.94 33194530.16 0.0279 0.0146 Jupiter 86185-12-26 04:05 G 33199844.46 33199844.67 33199844.87 0.0500 0.0231 Saturn 86186-12-04 18:29 G 33200188.03 33200188.27 33200188.51 0.0280 0.0054 Uranus 86196-11-18 07:56 G 33203824.68 33203824.83 33203825.02 0.0140 0.0104 Uranus 86197-11-23 02:10 G 33204194.35 33204194.59 33204194.84 0.0139 0.0039 Jupiter 86197-12-30 14:53 G 33204231.91 33204232.12 33204232.33 0.0501 0.0211 Uranus 86198-11-27 19:27 G 33204564.06 33204564.31 33204564.56 0.0139 0.0024 Uranus 86199-12-02 11:03 G 33204933.78 33204933.96 33204934.18 0.0139 0.0087 Saturn 86200-06-03 03:08 G 33205116.39 33205116.63 33205116.88 0.0281 0.0023 Jupiter 86203-06-22 04:05 G 33206230.60 33206230.67 33206230.76 0.0528 0.0493 Jupiter 86215-06-27 07:27 G 33210618.58 33210618.81 33210619.04 0.0526 0.0048 Saturn 86215-11-30 05:17 G 33210774.58 33210774.72 33210774.87 0.0278 0.0224 Saturn 86216-12-12 10:20 G 33211152.73 33211152.93 33211153.13 0.0283 0.0157 Pluto 86227-03-08 21:22 G 33214891.21 33214891.39 33214891.61 0.0062 0.0040 Pluto 86228-03-09 06:44 G 33215257.62 33215257.78 33215258.01 0.0063 0.0041 Saturn 86229-05-28 11:46 G 33215702.83 33215702.99 33215703.17 0.0283 0.0201 Saturn 86230-06-10 15:08 G 33216080.96 33216081.13 33216081.33 0.0279 0.0181 Neptune 86234-12-25 20:39 G 33217740.25 33217740.36 33217740.51 0.0089 0.0078 Neptune 86235-12-28 08:39 G 33218107.69 33218107.86 33218108.08 0.0089 0.0057 Neptune 86236-12-29 20:39 G 33218475.14 33218475.36 33218475.61 0.0089 0.0037 Neptune 86238-01-01 09:08 G 33218842.62 33218842.88 33218843.13 0.0089 0.0016 Neptune 86239-01-03 20:53 G 33219210.12 33219210.37 33219210.63 0.0089 0.0005 Neptune 86240-01-06 08:24 G 33219577.62 33219577.85 33219578.11 0.0089 0.0026 Uranus 86240-05-16 06:44 G 33219708.67 33219708.78 33219708.94 0.0138 0.0118 Neptune 86241-01-07 20:10 G 33219945.14 33219945.34 33219945.58 0.0089 0.0046 Uranus 86241-05-20 20:39 G 33220078.13 33220078.36 33220078.60 0.0139 0.0056 Neptune 86242-01-10 07:56 G 33220312.68 33220312.83 33220313.02 0.0089 0.0067 Uranus 86242-05-25 11:03 G 33220447.71 33220447.96 33220448.22 0.0139 0.0007 Neptune 86243-01-12 19:27 G 33220680.29 33220680.31 33220680.40 0.0089 0.0088 Uranus 86243-05-30 01:56 G 33220817.37 33220817.58 33220817.81 0.0139 0.0070 Uranus 86244-06-02 17:32 G 33221187.18 33221187.23 33221187.33 0.0140 0.0133 Saturn 86245-12-07 03:22 G 33221739.40 33221739.64 33221739.89 0.0280 0.0014 Saturn 86259-06-05 10:05 G 33226667.68 33226667.92 33226668.16 0.0281 0.0017 Jupiter 86268-12-26 07:56 G 33230159.65 33230159.83 33230160.02 0.0499 0.0303 Saturn 86274-12-01 17:03 G 33232326.03 33232326.21 33232326.40 0.0279 0.0179 Saturn 86275-12-14 22:34 G 33232704.27 33232704.44 33232704.61 0.0283 0.0202 Uranus 86280-11-19 14:53 G 33234505.96 33234506.12 33234506.31 0.0140 0.0101 Jupiter 86280-12-30 18:58 G 33234547.07 33234547.29 33234547.51 0.0501 0.0138 Uranus 86281-11-24 08:53 G 33234875.63 33234875.87 33234876.13 0.0139 0.0036 Uranus 86282-11-29 02:10 G 33235245.35 33235245.59 33235245.85 0.0139 0.0028 Uranus 86283-12-03 18:00 G 33235615.08 33235615.25 33235615.46 0.0139 0.0091 Saturn 86288-05-29 19:56 G 33237254.14 33237254.33 33237254.55 0.0283 0.0161 Saturn 86289-06-11 23:03 G 33237632.32 33237632.46 33237632.62 0.0279 0.0219 Jupiter 86298-06-26 07:41 G 33240933.58 33240933.82 33240934.05 0.0526 0.0042 Saturn 86304-12-09 16:05 G 33243290.92 33243291.17 33243291.41 0.0281 0.0033 Jupiter 86310-07-02 04:05 G 33245321.58 33245321.67 33245321.78 0.0525 0.0471 86313-04-07 08:39 G 33246331.69 33246331.86 33246332.03 0.1778 0.0790 Mars Neptune 86316-06-23 21:08 G 33247505.25 33247505.38 33247505.56 0.0088 0.0070 Neptune 86317-06-26 08:24 G 33247872.66 33247872.85 33247873.08 0.0088 0.0051 Saturn 86318-06-07 20:10 G 33248219.10 33248219.34 33248219.58 0.0280 0.0060 Neptune 86318-06-28 20:10 G 33248240.10 33248240.34 33248240.58 0.0088 0.0030 Pluto 86318-09-09 10:05 G 33248312.72 33248312.92 33248313.17 0.0081 0.0041 Neptune 86319-07-01 07:27 G 33248607.55 33248607.81 33248608.07 0.0088 0.0010 Neptune 86320-07-02 18:58 G 33248975.03 33248975.29 33248975.55 0.0088 0.0009 Neptune 86321-07-05 06:15 G 33249342.52 33249342.76 33249343.01 0.0088 0.0029 Neptune 86322-07-07 17:46 G 33249710.03 33249710.24 33249710.46 0.0088 0.0049 Neptune 86323-07-10 05:17 G 33250077.57 33250077.72 33250077.89 0.0088 0.0069 Uranus 86324-05-17 16:34 G 33250390.05 33250390.19 33250390.34 0.0138 0.0113 Uranus 86325-05-22 05:46 G 33250759.52 33250759.74 33250759.99 0.0139 0.0052

Uranus 86326-05-26 20:24 G 33251129.10 33251129.35 33251129.60 0.0139 0.0011 Uranus 86327-05-31 11:03 G 33251498.76 33251498.96 33251499.19 0.0139 0.0074 Uranus 86328-06-04 02:39 G 33251868.59 33251868.61 33251868.68 0.0140 0.0138 Saturn 86333-12-04 07:56 G 33253877.62 33253877.83 33253878.05 0.0279 0.0131 Saturn 86334-12-17 14:10 G 33254255.98 33254256.09 33254256.20 0.0283 0.0252 Saturn 86347-06-02 08:24 G 33258805.63 33258805.85 33258806.08 0.0282 0.0114 Saturn 86348-06-14 10:20 G 33259183.86 33259183.93 33259184.02 0.0278 0.0262 Jupiter 86351-12-27 09:08 G 33260474.74 33260474.88 33260475.03 0.0500 0.0384 Saturn 86363-12-12 07:41 G 33264842.58 33264842.82 33264843.05 0.0281 0.0083 Jupiter 86363-12-31 20:10 G 33264862.11 33264862.34 33264862.57 0.0501 0.0059 Uranus 86364-11-20 22:20 G 33265187.25 33265187.43 33265187.62 0.0140 0.0097 Uranus 86365-11-25 16:20 G 33265556.93 33265557.18 33265557.43 0.0139 0.0033 Uranus 86366-11-30 09:22 G 33265926.64 33265926.89 33265927.14 0.0139 0.0031 Uranus 86367-12-05 01:12 G 33266296.37 33266296.55 33266296.74 0.0139 0.0094 Saturn 86376-05-27 03:36 G 33269392.62 33269392.65 33269392.71 0.0284 0.0278 Saturn 86377-06-09 08:53 G 33269770.65 33269770.87 33269771.10 0.0280 0.0106 Jupiter 86381-06-26 02:10 G 33271248.36 33271248.59 33271248.81 0.0527 0.0158 Saturn 86392-12-06 00:29 G 33275429.29 33275429.52 33275429.76 0.0280 0.0081 Jupiter 86393-07-01 03:36 G 33275636.49 33275636.65 33275636.81 0.0525 0.0375 Neptune 86398-12-26 06:44 G 33277640.72 33277640.78 33277640.90 0.0089 0.0083 Neptune 86399-12-28 19:12 G 33278008.13 33278008.30 33278008.50 0.0089 0.0062 Neptune 86400-12-30 07:12 G 33278375.59 33278375.80 33278376.05 0.0089 0.0042 Neptune 86402-01-01 19:41 G 33278743.08 33278743.32 33278743.58 0.0089 0.0021 Neptune 86403-01-04 07:41 G 33279110.56 33279110.82 33279111.08 0.0089 0.0001 Neptune 86404-01-06 19:27 G 33279478.07 33279478.31 33279478.57 0.0089 0.0020 Neptune 86405-01-08 07:12 G 33279845.58 33279845.80 33279846.04 0.0089 0.0040 Neptune 86406-01-10 19:12 G 33280213.12 33280213.30 33280213.49 0.0089 0.0061 Saturn 86406-06-03 22:48 G 33280357.21 33280357.45 33280357.69 0.0282 0.0065 Neptune 86407-01-13 06:29 G 33280580.69 33280580.77 33280580.90 0.0089 0.0082 Uranus 86408-05-18 02:10 G 33281071.45 33281071.59 33281071.76 0.0138 0.0108

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Neptune 86488-07-11 02:39 G 33310345.55 33310345.61 33310345.71 0.0088 0.0083 Uranus 86492-05-18 12:15 G 33311752.85 33311753.01 33311753.18 0.0138 0.0104 Uranus 86493-05-23 01:56 G 33312122.34 33312122.58 33312122.82 0.0139 0.0042 Uranus 86494-05-27 16:20 G 33312491.93 33312492.18 33312492.43 0.0139 0.0021 Saturn 86494-05-31 11:17 G 33312495.79 33312495.97 33312496.17 0.0283 0.0173 Uranus 86495-06-01 07:12 G 33312861.61 33312861.80 33312862.01 0.0139 0.0085 Saturn 86495-06-13 14:10 G 33312873.93 33312874.09 33312874.26 0.0279 0.0203 Saturn 86510-12-11 07:56 G 33318532.58 33318532.83 33318533.07 0.0281 0.0021 Saturn 86524-06-08 05:46 G 33323460.50 33323460.74 33323460.99 0.0280 0.0037 Jupiter 86529-12-30 20:39 G 33325492.13 33325492.36 33325492.59 0.0500 0.0117 Uranus 86532-11-22 17:03 G 33326550.02 33326550.21 33326550.42 0.0140 0.0088 Uranus 86533-11-27 10:48 G 33326919.70 33326919.95 33326920.21 0.0139 0.0023 Uranus 86534-12-02 03:36 G 33327289.42 33327289.65 33327289.90 0.0139 0.0041 Uranus 86535-12-06 19:27 G 33327659.15 33327659.31 33327659.49 0.0138 0.0104 Saturn 86539-12-05 22:05 G 33329119.21 33329119.42 33329119.63 0.0279 0.0147 Saturn 86540-12-18 04:20 G 33329497.56 33329497.68 33329497.83 0.0283 0.0233 Jupiter 86542-01-04 07:56 G 33329879.66 33329879.83 33329880.01 0.0501 0.0329 Jupiter 86547-06-25 19:56 G 33331878.17 33331878.33 33331878.50 0.0527 0.0371 Saturn 86553-06-03 01:56 G 33334047.37 33334047.58 33334047.81 0.0283 0.0122 Saturn 86554-06-16 03:51 G 33334425.55 33334425.66 33334425.76 0.0278 0.0250 Jupiter 86559-06-30 19:27 G 33336266.09 33336266.31 33336266.54 0.0526 0.0154 Neptune 86562-12-26 16:48 G 33337541.18 33337541.20 33337541.25 0.0089 0.0088 Neptune 86563-12-29 04:34 G 33337908.56 33337908.69 33337908.89 0.0089 0.0069 Neptune 86564-12-30 17:32 G 33338276.02 33338276.23 33338276.45 0.0089 0.0048 Neptune 86566-01-02 05:17 G 33338643.49 33338643.72 33338643.98 0.0089 0.0027 Pluto 86566-09-11 06:44 G 33338895.54 33338895.78 33338896.05 0.0081 0.0019 Neptune 86567-01-04 17:46 G 33339010.99 33339011.24 33339011.50 0.0089 0.0007 Neptune 86568-01-07 05:32 G 33339378.49 33339378.73 33339379.00 0.0089 0.0015 Neptune 86569-01-08 17:46 G 33339746.01 33339746.24 33339746.48 0.0089 0.0035 Saturn 86569-12-12 19:41 G 33340084.08 33340084.32 33340084.56 0.0281 0.0067

Neptune 86570-01-11 05:17 G 33340113.54 33340113.72 33340113.94 0.0089 0.0056 Neptune 86571-01-13 17:03 G 33340481.09 33340481.21 33340481.37 0.0089 0.0076 Uranus 86576-05-19 20:53 G 33342434.21 33342434.37 33342434.56 0.0139 0.0100 Uranus 86577-05-24 10:34 G 33342803.70 33342803.94 33342804.19 0.0139 0.0038 Uranus 86578-05-29 01:12 G 33343173.31 33343173.55 33343173.80 0.0139 0.0026 Uranus 86579-06-02 16:05 G 33343543.00 33343543.17 33343543.38 0.0140 0.0090 Saturn 86583-06-10 18:58 G 33345012.06 33345012.29 33345012.53 0.0280 0.0085 86597-04-08 19:41 G 33350063.14 33350063.32 33350063.50 0.1787 0.0610 Mars Saturn 86598-12-07 06:00 G 33350670.53 33350670.75 33350670.98 0.0279 0.0105 Saturn 86599-12-20 13:12 G 33351049.01 33351049.05 33351049.11 0.0283 0.0276 Saturn 86612-06-05 14:10 G 33355598.85 33355599.09 33355599.33 0.0282 0.0074 Jupiter 86612-12-31 03:36 G 33355807.43 33355807.65 33355807.87 0.0499 0.0177 Uranus 86616-11-24 04:05 G 33357231.47 33357231.67 33357231.88 0.0140 0.0082 Uranus 86617-11-28 21:36 G 33357601.15 33357601.40 33357601.66 0.0139 0.0017 Uranus 86618-12-03 14:10 G 33357970.86 33357971.09 33357971.34 0.0139 0.0047 Uranus 86619-12-08 06:00 G 33358340.61 33358340.75 33358340.92 0.0138 0.0110 Jupiter 86625-01-04 13:12 G 33360194.85 33360195.05 33360195.25 0.0500 0.0260 Saturn 86627-12-02 22:34 G 33361257.38 33361257.44 33361257.53 0.0277 0.0264 Saturn 86628-12-15 02:39 G 33361635.39 33361635.61 33361635.84 0.0282 0.0108 Jupiter 86630-06-25 19:27 G 33362193.21 33362193.31 33362193.42 0.0528 0.0468 Saturn 86641-05-31 01:27 G 33366185.46 33366185.56 33366185.69 0.0283 0.0249 Saturn 86642-06-13 05:32 G 33366563.52 33366563.73 33366563.96 0.0279 0.0130 Jupiter 86642-06-30 23:17 G 33366581.24 33366581.47 33366581.71 0.0527 0.0079 Neptune 86644-06-24 18:15 G 33367306.19 33367306.26 33367306.40 0.0088 0.0081 Neptune 86645-06-27 06:00 G 33367673.58 33367673.75 33367673.95 0.0088 0.0060 Neptune 86646-06-29 17:32 G 33368041.01 33368041.23 33368041.47 0.0088 0.0041 Neptune 86647-07-02 04:34 G 33368408.45 33368408.69 33368408.95 0.0088 0.0021 Neptune 86648-07-03 16:05 G 33368775.91 33368776.17 33368776.43 0.0088 0.0001 Neptune 86649-07-06 03:08 G 33369143.39 33369143.63 33369143.89 0.0088 0.0019 Neptune 86650-07-08 14:24 G 33369510.88 33369511.10 33369511.34 0.0088 0.0038

Neptune 86651-07-11 01:41 G 33369878.39 33369878.57 33369878.78 0.0088 0.0058 Neptune 86652-07-12 12:44 G 33370245.94 33370246.03 33370246.18 0.0088 0.0078 Saturn 86657-12-09 10:20 G 33372221.70 33372221.93 33372222.18 0.0280 0.0068 Uranus 86660-05-21 04:34 G 33373115.53 33373115.69 33373115.88 0.0139 0.0097 Uranus 86661-05-25 18:29 G 33373485.03 33373485.27 33373485.52 0.0139 0.0034 Uranus 86662-05-30 08:53 G 33373854.63 33373854.87 33373855.13 0.0139 0.0029 Uranus 86663-06-04 00:00 G 33374224.33 33374224.50 33374224.70 0.0140 0.0094 Saturn 86671-06-07 22:20 G 33377150.19 33377150.43 33377150.68 0.0282 0.0032 Saturn 86686-12-04 00:58 G 33382808.42 33382808.54 33382808.69 0.0278 0.0230 Saturn 86687-12-17 05:17 G 33383186.52 33383186.72 33383186.94 0.0282 0.0143 Jupiter 86695-12-31 09:36 G 33386122.70 33386122.90 33386123.10 0.0499 0.0241 Saturn 86700-06-02 09:08 G 33387736.72 33387736.88 33387737.05 0.0283 0.0207 Uranus 86700-11-25 13:56 G 33387912.88 33387913.08 33387913.30 0.0140 0.0077 Saturn 86701-06-15 12:29 G 33388114.83 33388115.02 33388115.22 0.0279 0.0169 Mars 86701-10-12 15:08 G 33388233.94 33388234.13 33388234.33 0.1746 0.0309 Uranus 86701-11-30 07:41 G 33388282.56 33388282.82 33388283.07 0.0139 0.0012 Uranus 86702-12-05 00:15 G 33388652.28 33388652.51 33388652.76 0.0139 0.0052 Uranus 86703-12-09 16:20 G 33389022.04 33389022.18 33389022.33 0.0138 0.0115 Jupiter 86708-01-05 18:58 G 33390510.08 33390510.29 33390510.50 0.0500 0.0194 Saturn 86716-12-11 10:34 G 33393772.70 33393772.94 33393773.19 0.0280 0.0035 Pluto 86724-03-15 18:15 G 33396424.01 33396424.26 33396424.52 0.0063 0.0004 Jupiter 86725-06-30 23:46 G 33396896.25 33396896.49 33396896.72 0.0527 0.0019 Neptune 86727-12-30 15:22 G 33397809.01 33397809.14 33397809.30 0.0089 0.0073 Neptune 86729-01-01 03:08 G 33398176.45 33398176.63 33398176.86 0.0089 0.0053 Neptune 86730-01-03 15:36 G 33398543.92 33398544.15 33398544.40 0.0089 0.0033 Saturn 86730-06-10 03:22 G 33398701.39 33398701.64 33398701.88 0.0282 0.0007 Neptune 86731-01-06 03:36 G 33398911.40 33398911.65 33398911.91 0.0089 0.0012 Neptune 86732-01-08 15:51 G 33399278.91 33399279.16 33399279.42 0.0089 0.0009 Neptune 86733-01-10 04:05 G 33399646.43 33399646.67 33399646.91 0.0089 0.0029 Neptune 86734-01-12 15:36 G 33400013.95 33400014.15 33400014.38 0.0089 0.0049

Neptune 86735-01-15 03:36 G 33400381.51 33400381.65 33400381.82 0.0089 0.0070 Jupiter 86737-07-05 23:46 G 33401284.44 33401284.49 33401284.55 0.0525 0.0508 Uranus 86744-05-22 11:46 G 33403796.81 33403796.99 33403797.18 0.0138 0.0094 Uranus 86745-05-27 01:12 G 33404166.31 33404166.55 33404166.80 0.0139 0.0031 Saturn 86745-12-06 00:15 G 33404359.35 33404359.51 33404359.69 0.0278 0.0199 Uranus 86746-05-31 15:51 G 33404535.91 33404536.16 33404536.41 0.0139 0.0033 Saturn 86746-12-19 04:34 G 33404737.51 33404737.69 33404737.89 0.0282 0.0174 Uranus 86747-06-05 06:58 G 33404905.62 33404905.79 33404905.98 0.0140 0.0097 Saturn 86759-06-04 12:29 G 33409287.84 33409288.02 33409288.23 0.0283 0.0170 Saturn 86760-06-16 15:36 G 33409666.00 33409666.15 33409666.33 0.0279 0.0205 Saturn 86775-12-13 07:41 G 33415323.57 33415323.82 33415324.06 0.0280 0.0007 Jupiter 86778-12-31 19:56 G 33416438.14 33416438.33 33416438.52 0.0499 0.0288 Uranus 86783-11-22 03:36 G 33418224.64 33418224.65 33418224.69 0.0140 0.0139 Uranus 86784-11-25 22:05 G 33418594.22 33418594.42 33418594.66 0.0140 0.0074 Uranus 86785-11-30 16:05 G 33418963.92 33418964.17 33418964.43 0.0139 0.0008 Uranus 86786-12-05 09:08 G 33419333.65 33419333.88 33419334.11 0.0139 0.0056 Uranus 86787-12-10 01:12 G 33419703.43 33419703.55 33419703.68 0.0138 0.0120 Saturn 86789-06-11 04:05 G 33420252.43 33420252.67 33420252.92 0.0281 0.0039 Jupiter 86791-01-05 08:39 G 33420825.64 33420825.86 33420826.08 0.0500 0.0161 Saturn 86804-12-06 20:10 G 33425910.16 33425910.34 33425910.54 0.0278 0.0173 Saturn 86805-12-20 00:29 G 33426288.36 33426288.52 33426288.70 0.0282 0.0201 Neptune 86808-06-25 04:34 G 33427206.65 33427206.69 33427206.78 0.0088 0.0085 Jupiter 86808-06-30 05:03 G 33427211.48 33427211.71 33427211.95 0.0527 0.0087 Neptune 86809-06-27 16:20 G 33427574.02 33427574.18 33427574.36 0.0088 0.0066 Neptune 86810-06-30 03:08 G 33427941.43 33427941.63 33427941.88 0.0088 0.0046 Neptune 86811-07-02 14:53 G 33428308.88 33428309.12 33428309.37 0.0088 0.0026 Neptune 86812-07-04 02:10 G 33428676.33 33428676.59 33428676.85 0.0088 0.0006 Neptune 86813-07-06 13:27 G 33429043.81 33429044.06 33429044.32 0.0088 0.0013 Neptune 86814-07-09 00:29 G 33429411.29 33429411.52 33429411.77 0.0088 0.0033 Pluto 86814-09-14 07:12 G 33429478.65 33429478.80 33429479.00 0.0081 0.0060

Neptune 86815-07-11 11:46 G 33429778.79 33429778.99 33429779.21 0.0088 0.0052 Neptune 86816-07-12 22:48 G 33430146.33 33430146.45 33430146.62 0.0088 0.0072 Saturn 86818-06-05 12:44 G 33430838.83 33430839.03 33430839.25 0.0283 0.0138 Saturn 86819-06-18 15:51 G 33431217.05 33431217.16 33431217.31 0.0278 0.0236 Jupiter 86820-07-05 08:53 G 33431599.77 33431599.87 33431599.99 0.0526 0.0458 Uranus 86828-05-22 19:41 G 33434478.15 33434478.32 33434478.53 0.0138 0.0091 Uranus 86829-05-27 09:36 G 33434847.66 33434847.90 33434848.16 0.0139 0.0028 Uranus 86830-06-01 00:15 G 33435217.27 33435217.51 33435217.76 0.0139 0.0036 Uranus 86831-06-05 14:53 G 33435586.97 33435587.12 33435587.32 0.0139 0.0102 Saturn 86834-12-14 02:39 G 33436874.36 33436874.61 33436874.86 0.0280 0.0019 Saturn 86848-06-12 02:24 G 33441803.37 33441803.60 33441803.84 0.0281 0.0068 Jupiter 86861-12-31 08:53 G 33446753.69 33446753.87 33446754.05 0.0499 0.0320 Saturn 86863-12-08 15:08 G 33447460.93 33447461.13 33447461.34 0.0278 0.0148 Saturn 86864-12-20 19:27 G 33447839.17 33447839.31 33447839.46 0.0282 0.0224 Uranus 86867-11-22 10:48 G 33448905.90 33448905.95 33448906.02 0.0140 0.0136 Uranus 86868-11-26 05:32 G 33449275.52 33449275.73 33449275.96 0.0140 0.0071 Uranus 86869-11-30 23:32 G 33449645.22 33449645.48 33449645.74 0.0139 0.0005 Uranus 86870-12-05 16:34 G 33450014.97 33450015.19 33450015.43 0.0139 0.0060 Uranus 86871-12-10 08:53 G 33450384.77 33450384.87 33450385.00 0.0138 0.0124 Jupiter 86874-01-04 19:56 G 33451141.10 33451141.33 33451141.56 0.0500 0.0119 Saturn 86877-06-06 10:05 G 33452389.71 33452389.92 33452390.16 0.0283 0.0110 Saturn 86878-06-19 13:41 G 33452768.00 33452768.07 33452768.16 0.0279 0.0263 86881-04-11 05:17 G 33453794.54 33453794.72 33453794.91 0.1796 0.0478 Mars Jupiter 86891-06-30 17:17 G 33457527.00 33457527.22 33457527.45 0.0528 0.0128 Neptune 86891-12-30 00:29 G 33457709.43 33457709.52 33457709.67 0.0089 0.0079 Neptune 86892-12-31 12:58 G 33458076.86 33458077.04 33458077.25 0.0089 0.0059 Saturn 86893-12-14 20:53 G 33458425.13 33458425.37 33458425.61 0.0280 0.0043 Neptune 86894-01-03 00:58 G 33458444.32 33458444.54 33458444.78 0.0089 0.0039 Neptune 86895-01-05 13:12 G 33458811.81 33458812.05 33458812.31 0.0089 0.0018 Neptune 86896-01-08 01:27 G 33459179.31 33459179.56 33459179.82 0.0089 0.0003

Neptune 86897-01-09 13:12 G 33459546.82 33459547.05 33459547.31 0.0089 0.0023 Neptune 86898-01-12 01:12 G 33459914.35 33459914.55 33459914.80 0.0089 0.0044 Neptune 86899-01-14 13:27 G 33460281.90 33460282.06 33460282.25 0.0089 0.0064 Neptune 86900-01-17 01:41 G 33460649.49 33460649.57 33460649.67 0.0089 0.0084 Jupiter 86903-07-06 15:51 G 33461915.01 33461915.16 33461915.31 0.0526 0.0393 Saturn 86907-06-14 22:34 G 33463354.21 33463354.44 33463354.67 0.0282 0.0094 Uranus 86912-05-24 05:17 G 33465159.54 33465159.72 33465159.93 0.0138 0.0086 Uranus 86913-05-28 19:12 G 33465529.06 33465529.30 33465529.56 0.0139 0.0023 Uranus 86914-06-02 09:51 G 33465898.67 33465898.91 33465899.15 0.0139 0.0041 Uranus 86915-06-07 00:29 G 33466268.38 33466268.52 33466268.71 0.0139 0.0107 Saturn 86922-12-10 09:51 G 33469011.69 33469011.91 33469012.13 0.0278 0.0125 Saturn 86923-12-23 14:10 G 33469389.98 33469390.09 33469390.21 0.0282 0.0248 Saturn 86936-06-08 06:58 G 33473940.56 33473940.79 33473941.03 0.0283 0.0084 Jupiter 86944-12-31 19:56 G 33477069.17 33477069.33 33477069.49 0.0498 0.0364 Uranus 86951-11-23 18:58 G 33479587.24 33479587.29 33479587.39 0.0140 0.0133 Uranus 86952-11-27 13:56 G 33479956.87 33479957.08 33479957.32 0.0140 0.0067 Saturn 86952-12-16 16:20 G 33479975.94 33479976.18 33479976.42 0.0280 0.0067 Uranus 86953-12-02 08:10 G 33480326.58 33480326.84 33480327.10 0.0139 0.0001 Uranus 86954-12-07 00:58 G 33480696.33 33480696.54 33480696.79 0.0139 0.0065 Uranus 86955-12-11 17:32 G 33481066.15 33481066.23 33481066.34 0.0138 0.0129 Jupiter 86957-01-05 08:24 G 33481456.62 33481456.85 33481457.08 0.0500 0.0082 Saturn 86965-06-02 09:22 G 33484526.81 33484526.89 33484526.98 0.0286 0.0267 Saturn 86966-06-15 18:15 G 33484905.04 33484905.26 33484905.48 0.0282 0.0119 Pluto 86972-03-18 01:41 G 33487007.33 33487007.57 33487007.82 0.0062 0.0019 Pluto 86973-03-19 10:48 G 33487373.92 33487373.95 33487374.05 0.0063 0.0061 Neptune 86973-06-28 02:10 G 33487474.45 33487474.59 33487474.76 0.0088 0.0071 Neptune 86974-06-30 13:27 G 33487841.87 33487842.06 33487842.29 0.0088 0.0051 Jupiter 86974-06-30 22:34 G 33487842.22 33487842.44 33487842.66 0.0527 0.0197 \* Neptune 86975-07-03 00:58 G 33488209.30 33488209.54 33488209.79 0.0088 0.0031 Neptune 86976-07-04 12:15 G 33488576.76 33488577.01 33488577.28 0.0088 0.0012

Neptune 86977-07-06 23:46 G 33488944.23 33488944.49 33488944.75 0.0088 0.0008 Neptune 86978-07-09 10:34 G 33489311.71 33489311.94 33489312.20 0.0088 0.0028 Neptune 86979-07-11 21:51 G 33489679.21 33489679.41 33489679.65 0.0088 0.0047 86980-07-13 08:39 G 33490046.72 33490046.86 33490047.06 0.0088 0.0067 Neptune 86981-07-15 20:10 G 33490414.31 33490414.34 33490414.42 0.0088 0.0086 86981-12-11 06:00 G 33490562.52 33490562.75 33490562.98 0.0277 0.0100 Saturn 86982-12-24 09:51 G 33490940.86 33490940.91 33490940.99 0.0282 0.0272 86985-10-14 00:15 G 33491965.32 33491965.51 33491965.70 0.1738 0.0513 Mars Jupiter 86986-07-05 22:34 G 33492230.26 33492230.44 33492230.62 0.0526 0.0331 86995-06-10 03:36 G 33495491.41 33495491.65 33495491.89 0.0283 0.0057 Saturn 86996-05-24 16:34 G 33495840.99 33495841.19 33495841.40 0.0138 0.0081 **Uranus** 86997-05-29 06:29 G 33496210.52 33496210.77 33496211.02 0.0139 0.0017 **Uranus Uranus** 86998-06-02 20:53 G 33496580.14 33496580.37 33496580.62 0.0139 0.0047 86999-06-07 11:46 G 33496949.86 33496949.99 33496950.16 0.0139 0.0113

## 88TH MILLENNIUM CE

#### This is a list of transits of Earth in the 88th millennium CE.

FROM MAX- C START MAX END SUNRAD DEPTH S

TRANSIT

TIME

 Saturn
 87010-12-06 13:41 G
 33501149.02
 33501149.07
 33501149.14
 0.0275
 0.0266

 Saturn
 87011-12-19 13:41 G
 33501526.84
 33501527.07
 33501527.30
 0.0280
 0.0094

 Saturn
 87024-06-04 06:15 G
 33506077.65
 33506077.76
 33506077.90
 0.0286
 0.0241

 Saturn
 87025-06-17 15:22 G
 33506455.94
 33506456.14
 33506456.36
 0.0282
 0.0145

 Jupiter
 87028-01-02 08:10 G
 33507384.70
 33507384.84
 33507384.98
 0.0499
 0.0400

Uranus 87035-11-25 05:17 G 33510268.64 33510268.72 33510268.85 0.0140 0.0128 Uranus 87036-11-29 00:15 G 33510638.30 33510638.51 33510638.76 0.0140 0.0062 Uranus 87037-12-03 18:29 G 33511008.02 33511008.27 33511008.53 0.0139 0.0005 Uranus 87038-12-08 11:46 G 33511377.77 33511377.99 33511378.21 0.0139 0.0070 Uranus 87039-12-13 04:20 G 33511747.62 33511747.68 33511747.74 0.0138 0.0134 Jupiter 87040-01-06 19:27 G 33511772.08 33511772.31 33511772.55 0.0500 0.0044 Saturn 87040-12-13 04:48 G 33512113.47 33512113.70 33512113.94 0.0278 0.0072 Jupiter 87052-01-11 06:44 G 33516159.72 33516159.78 33516159.83 0.0501 0.0484 Saturn 87054-06-12 01:56 G 33517042.34 33517042.58 33517042.83 0.0283 0.0029 Neptune 87055-12-31 09:51 G 33517609.85 33517609.91 33517610.02 0.0089 0.0085 Neptune 87057-01-01 21:51 G 33517977.26 33517977.41 33517977.61 0.0089 0.0065 Jupiter 87057-07-01 05:03 G 33518157.51 33518157.71 33518157.91 0.0528 0.0261 Neptune 87058-01-04 10:05 G 33518344.72 33518344.92 33518345.16 0.0089 0.0044 Neptune 87059-01-06 22:20 G 33518712.20 33518712.43 33518712.69 0.0089 0.0024 Neptune 87060-01-09 10:34 G 33519079.69 33519079.94 33519080.20 0.0089 0.0004 Neptune 87061-01-10 22:20 G 33519447.19 33519447.43 33519447.70 0.0089 0.0018 Neptune 87062-01-13 10:20 G 33519814.71 33519814.93 33519815.18 0.0089 0.0038 Neptune 87063-01-15 22:34 G 33520182.26 33520182.44 33520182.65 0.0089 0.0058 Neptune 87064-01-18 10:34 G 33520549.83 33520549.94 33520550.08 0.0089 0.0078 Jupiter 87069-07-06 08:24 G 33522545.66 33522545.85 33522546.05 0.0526 0.0281 Saturn 87069-12-07 14:53 G 33522700.00 33522700.12 33522700.25 0.0276 0.0236 Saturn 87070-12-20 14:53 G 33523077.90 33523078.12 33523078.34 0.0280 0.0124 Uranus 87080-05-26 02:53 G 33526522.41 33526522.62 33526522.83 0.0138 0.0076 Uranus 87081-05-30 16:48 G 33526891.95 33526892.20 33526892.46 0.0139 0.0013 Uranus 87082-06-04 06:58 G 33527261.57 33527261.79 33527262.04 0.0139 0.0053 Saturn 87083-06-06 05:32 G 33527628.57 33527628.73 33527628.90 0.0286 0.0212 Uranus 87083-06-08 22:20 G 33527631.31 33527631.43 33527631.58 0.0140 0.0118 Saturn 87084-06-18 14:24 G 33528006.91 33528007.10 33528007.30 0.0282 0.0172 Saturn 87099-12-15 06:58 G 33533664.55 33533664.79 33533665.04 0.0278 0.0041 Jupiter 87111-01-02 16:48 G 33537700.11 33537700.20 33537700.31 0.0498 0.0450

Saturn 87113-06-14 03:36 G 33538593.41 33538593.65 33538593.90 0.0283 0.0003 Uranus 87119-11-26 17:46 G 33540950.14 33540950.24 33540950.38 0.0140 0.0122 Uranus 87120-11-30 12:44 G 33541319.80 33541320.03 33541320.27 0.0139 0.0055 Uranus 87121-12-05 06:44 G 33541689.53 33541689.78 33541690.04 0.0139 0.0012 Uranus 87122-12-09 23:46 G 33542059.29 33542059.49 33542059.72 0.0139 0.0077 Jupiter 87123-01-07 02:39 G 33542087.38 33542087.61 33542087.84 0.0499 0.0017 Saturn 87128-12-09 19:56 G 33544251.17 33544251.33 33544251.50 0.0276 0.0201 Saturn 87129-12-22 19:41 G 33544629.13 33544629.32 33544629.53 0.0280 0.0160 Jupiter 87135-01-11 14:10 G 33546474.97 33546475.09 33546475.21 0.0501 0.0427 Neptune 87137-06-29 11:17 G 33547374.87 33547374.97 33547375.13 0.0088 0.0076 Neptune 87138-07-01 22:48 G 33547742.26 33547742.45 33547742.66 0.0088 0.0057 Neptune 87139-07-04 09:51 G 33548109.69 33548109.91 33548110.16 0.0088 0.0037 Jupiter 87140-07-01 11:17 G 33548472.79 33548472.97 33548473.16 0.0527 0.0323 Neptune 87140-07-05 21:36 G 33548477.15 33548477.40 33548477.66 0.0088 0.0017 Neptune 87141-07-08 08:53 G 33548844.61 33548844.87 33548845.13 0.0088 0.0002 Saturn 87142-06-08 08:24 G 33549179.67 33549179.85 33549180.05 0.0286 0.0179 Neptune 87142-07-10 20:10 G 33549212.10 33549212.34 33549212.60 0.0088 0.0022 Saturn 87143-06-21 17:03 G 33549558.05 33549558.21 33549558.38 0.0281 0.0204 Neptune 87143-07-13 06:58 G 33549579.59 33549579.79 33549580.04 0.0088 0.0042 Neptune 87144-07-14 18:29 G 33549947.10 33549947.27 33549947.47 0.0088 0.0061 Neptune 87145-07-17 06:00 G 33550314.66 33550314.75 33550314.86 0.0088 0.0080 Jupiter 87152-07-06 11:17 G 33552860.76 33552860.97 33552861.19 0.0526 0.0204 Saturn 87158-12-17 13:56 G 33555215.84 33555216.08 33555216.33 0.0278 0.0004 Uranus 87163-05-23 23:46 G 33556834.45 33556834.49 33556834.57 0.0138 0.0134 Uranus 87164-05-27 12:58 G 33557203.84 33557204.04 33557204.27 0.0138 0.0071 87165-04-14 14:10 G 33557525.91 33557526.09 33557526.28 0.1805 0.0393 Mars Uranus 87165-06-01 03:08 G 33557573.38 33557573.63 33557573.88 0.0139 0.0007 Uranus 87166-06-05 17:17 G 33557943.00 33557943.22 33557943.46 0.0139 0.0058 Uranus 87167-06-10 08:24 G 33558312.75 33558312.85 33558312.98 0.0140 0.0124 Saturn 87172-06-15 08:39 G 33560144.62 33560144.86 33560145.10 0.0283 0.0039

Saturn 87187-12-12 04:48 G 33565802.51 33565802.70 33565802.91 0.0276 0.0162 Saturn 87188-12-24 05:03 G 33566180.55 33566180.71 33566180.89 0.0280 0.0199 Saturn 87201-06-09 15:51 G 33570730.96 33570731.16 33570731.38 0.0285 0.0139 Saturn 87202-06-23 00:00 G 33571109.38 33571109.50 33571109.62 0.0281 0.0240 Uranus 87203-11-27 06:29 G 33571631.64 33571631.77 33571631.93 0.0140 0.0115 Uranus 87204-12-01 01:12 G 33572001.32 33572001.55 33572001.80 0.0139 0.0049 Uranus 87205-12-05 19:27 G 33572371.06 33572371.31 33572371.57 0.0139 0.0018 Jupiter 87206-01-06 06:44 G 33572402.55 33572402.78 33572403.01 0.0500 0.0085 Uranus 87206-12-10 12:15 G 33572740.82 33572741.01 33572741.23 0.0139 0.0084 Saturn 87217-12-19 00:29 G 33576767.28 33576767.52 33576767.77 0.0278 0.0038 Jupiter 87218-01-10 17:46 G 33576790.08 33576790.24 33576790.41 0.0501 0.0358 Pluto 87220-03-21 12:44 G 33577590.82 33577591.03 33577591.29 0.0062 0.0024 Neptune 87221-01-02 06:29 G 33577877.64 33577877.77 33577877.96 0.0089 0.0070 Pluto 87221-03-22 22:34 G 33577957.35 33577957.44 33577957.58 0.0063 0.0056 Neptune 87222-01-04 19:12 G 33578245.10 33578245.30 33578245.52 0.0089 0.0050 Neptune 87223-01-07 07:12 G 33578612.57 33578612.80 33578613.05 0.0089 0.0030 Jupiter 87223-07-01 09:08 G 33578787.75 33578787.88 33578788.02 0.0528 0.0425 Neptune 87224-01-09 19:27 G 33578980.06 33578980.31 33578980.57 0.0089 0.0010 Neptune 87225-01-11 07:12 G 33579347.56 33579347.80 33579348.07 0.0089 0.0012 Neptune 87226-01-13 19:27 G 33579715.08 33579715.31 33579715.56 0.0089 0.0031 Neptune 87227-01-16 07:12 G 33580082.61 33580082.80 33580083.03 0.0089 0.0052 Neptune 87228-01-18 19:12 G 33580450.17 33580450.30 33580450.47 0.0089 0.0072 Saturn 87231-06-17 18:00 G 33581696.01 33581696.25 33581696.48 0.0283 0.0080 Jupiter 87235-07-06 09:22 G 33583175.66 33583175.89 33583176.12 0.0527 0.0102 Saturn 87246-12-13 18:15 G 33587354.04 33587354.26 33587354.49 0.0277 0.0117 Uranus 87247-05-24 08:10 G 33587515.77 33587515.84 33587515.93 0.0138 0.0130 Saturn 87247-12-26 19:12 G 33587732.19 33587732.30 33587732.43 0.0281 0.0245 Uranus 87248-05-27 21:08 G 33587885.17 33587885.38 33587885.61 0.0138 0.0067 Uranus 87249-06-01 11:03 G 33588254.71 33588254.96 33588255.22 0.0139 0.0004 Uranus 87250-06-06 01:12 G 33588624.33 33588624.55 33588624.78 0.0139 0.0062

Uranus 87251-06-10 16:05 G 33588994.09 33588994.17 33588994.29 0.0140 0.0128 Saturn 87260-06-11 03:22 G 33592282.41 33592282.64 33592282.87 0.0285 0.0095 87269-10-16 11:32 G 33595696.81 33595696.98 33595697.15 0.1729 0.0808 Mars Saturn 87275-12-08 16:05 G 33597941.13 33597941.17 33597941.23 0.0274 0.0269 Saturn 87276-12-20 14:10 G 33598318.86 33598319.09 33598319.33 0.0279 0.0084 Uranus 87287-11-27 18:29 G 33602313.13 33602313.27 33602313.45 0.0140 0.0109 Uranus 87288-12-01 13:12 G 33602682.82 33602683.05 33602683.31 0.0140 0.0042 Jupiter 87289-01-05 10:05 G 33602717.70 33602717.92 33602718.15 0.0499 0.0158 Saturn 87289-06-05 19:56 G 33602869.24 33602869.33 33602869.45 0.0287 0.0260 Uranus 87289-12-06 07:27 G 33603052.56 33603052.81 33603053.07 0.0139 0.0025 Saturn 87290-06-19 06:29 G 33603247.56 33603247.77 33603248.00 0.0282 0.0126 Uranus 87290-12-11 00:15 G 33603422.33 33603422.51 33603422.72 0.0139 0.0091 Jupiter 87301-01-10 19:12 G 33607105.11 33607105.30 33607105.49 0.0500 0.0275 Neptune 87301-06-29 20:53 G 33607275.30 33607275.37 33607275.50 0.0088 0.0082 Neptune 87302-07-02 08:39 G 33607642.68 33607642.86 33607643.04 0.0088 0.0062 Neptune 87303-07-04 19:27 G 33608010.10 33608010.31 33608010.55 0.0088 0.0043 Neptune 87304-07-06 06:29 G 33608377.53 33608377.77 33608378.03 0.0088 0.0023 Neptune 87305-07-08 18:00 G 33608745.00 33608745.25 33608745.51 0.0088 0.0004 Saturn 87305-12-16 09:36 G 33608905.66 33608905.90 33608906.14 0.0277 0.0070 Jupiter 87306-07-01 08:10 G 33609102.82 33609102.84 33609102.87 0.0528 0.0523 Neptune 87306-07-11 05:17 G 33609112.47 33609112.72 33609112.97 0.0088 0.0016 Neptune 87307-07-13 16:20 G 33609479.96 33609480.18 33609480.43 0.0088 0.0036 Neptune 87308-07-15 03:36 G 33609847.47 33609847.65 33609847.87 0.0088 0.0055 Neptune 87309-07-17 14:24 G 33610215.00 33610215.10 33610215.27 0.0088 0.0075 Pluto 87311-09-23 03:36 G 33611012.59 33611012.65 33611012.77 0.0081 0.0076 Jupiter 87318-07-06 10:48 G 33613490.71 33613490.95 33613491.18 0.0527 0.0020 Saturn 87319-06-14 18:29 G 33613834.03 33613834.27 33613834.51 0.0284 0.0046 Uranus 87331-05-25 17:32 G 33618197.14 33618197.23 33618197.34 0.0138 0.0126 Uranus 87332-05-29 06:29 G 33618566.54 33618566.77 33618566.99 0.0138 0.0063 Uranus 87333-06-02 19:56 G 33618936.08 33618936.33 33618936.58 0.0139 0.0002

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Uranus 87416-05-30 15:08 G 33649247.91 33649248.13 33649248.37 0.0138 0.0059 Uranus 87417-06-04 04:48 G 33649617.44 33649617.70 33649617.95 0.0139 0.0006 Uranus 87418-06-08 18:15 G 33649987.06 33649987.26 33649987.49 0.0139 0.0071 Uranus 87419-06-13 09:08 G 33650356.85 33650356.88 33650356.95 0.0139 0.0137 Saturn 87423-12-21 17:46 G 33652008.99 33652009.24 33652009.48 0.0278 0.0028 Saturn 87437-06-19 04:05 G 33656937.43 33656937.67 33656937.91 0.0283 0.0058 87449-04-16 21:51 G 33661257.23 33661257.41 33661257.60 0.1814 0.0380 Mars Saturn 87452-12-15 11:03 G 33662595.75 33662595.96 33662596.18 0.0276 0.0129 Saturn 87453-12-28 12:15 G 33662973.88 33662974.01 33662974.16 0.0280 0.0231 Jupiter 87455-01-06 10:20 G 33663347.76 33663347.93 33663348.11 0.0498 0.0332 Uranus 87455-11-30 13:27 G 33663675.90 33663676.06 33663676.26 0.0140 0.0100 Uranus 87456-12-04 08:39 G 33664045.62 33664045.86 33664046.12 0.0140 0.0032 Uranus 87457-12-09 02:53 G 33664415.38 33664415.62 33664415.87 0.0139 0.0036 Uranus 87458-12-13 19:41 G 33664785.17 33664785.32 33664785.51 0.0139 0.0102 Neptune 87465-06-30 06:00 G 33667175.72 33667175.75 33667175.82 0.0088 0.0086 Saturn 87466-06-13 21:51 G 33667524.19 33667524.41 33667524.64 0.0285 0.0101 Neptune 87466-07-02 17:03 G 33667543.06 33667543.21 33667543.40 0.0088 0.0067 Jupiter 87467-01-10 22:20 G 33667735.20 33667735.43 33667735.65 0.0499 0.0111 Saturn 87467-06-27 05:03 G 33667902.65 33667902.71 33667902.77 0.0281 0.0271 Neptune 87467-07-05 03:51 G 33667910.47 33667910.66 33667910.90 0.0088 0.0049 Pluto 87468-03-25 01:56 G 33668174.36 33668174.58 33668174.83 0.0062 0.0024 Neptune 87468-07-06 15:36 G 33668277.91 33668278.15 33668278.40 0.0088 0.0028 Pluto 87469-03-26 11:46 G 33668540.88 33668540.99 33668541.12 0.0063 0.0055 Neptune 87469-07-09 02:24 G 33668645.35 33668645.60 33668645.86 0.0088 0.0009 Neptune 87470-07-11 13:56 G 33669012.82 33669013.08 33669013.33 0.0088 0.0010 Neptune 87471-07-14 00:44 G 33669380.30 33669380.53 33669380.79 0.0088 0.0030 Neptune 87472-07-15 12:15 G 33669747.80 33669748.01 33669748.23 0.0088 0.0049 Neptune 87473-07-17 23:03 G 33670115.33 33670115.46 33670115.65 0.0088 0.0069 Neptune 87474-07-20 10:48 G 33670482.95 33670482.95 33670482.97 0.0088 0.0088 87474-10-16 10:05 G 33670570.86 33670570.92 33670570.98 0.1716 0.1613 Mars

Saturn 87482-12-23 06:15 G 33673560.53 33673560.76 33673561.00 0.0279 0.0074 Jupiter 87484-07-05 00:44 G 33674120.32 33674120.53 33674120.74 0.0528 0.0215 Saturn 87495-06-08 08:53 G 33678110.81 33678110.87 33678110.94 0.0287 0.0274 Saturn 87496-06-20 19:12 G 33678489.07 33678489.30 33678489.52 0.0282 0.0107 Jupiter 87496-07-10 03:51 G 33678508.48 33678508.66 33678508.84 0.0527 0.0328 Uranus 87499-05-27 14:39 G 33679559.98 33679560.11 33679560.25 0.0138 0.0116 Uranus 87500-06-01 03:08 G 33679929.40 33679929.63 33679929.87 0.0138 0.0053 Uranus 87501-06-05 16:34 G 33680298.93 33680299.19 33680299.44 0.0139 0.0012 Uranus 87502-06-10 06:00 G 33680668.56 33680668.75 33680668.98 0.0139 0.0077 Saturn 87511-12-18 20:39 G 33684147.12 33684147.36 33684147.59 0.0277 0.0087 Saturn 87512-12-30 22:48 G 33684525.41 33684525.45 33684525.51 0.0281 0.0274 Saturn 87525-06-16 12:00 G 33689075.76 33689076.00 33689076.24 0.0285 0.0052 Jupiter 87538-01-06 15:08 G 33693663.00 33693663.13 33693663.28 0.0498 0.0399 Uranus 87539-12-02 00:00 G 33694357.32 33694357.50 33694357.70 0.0140 0.0095 Uranus 87540-12-05 18:58 G 33694727.05 33694727.29 33694727.55 0.0140 0.0027 Saturn 87540-12-12 16:20 G 33694734.07 33694734.18 33694734.32 0.0275 0.0237 Uranus 87541-12-10 12:58 G 33695096.81 33695097.04 33695097.30 0.0139 0.0042 Saturn 87541-12-25 15:08 G 33695111.91 33695112.13 33695112.36 0.0279 0.0115 Uranus 87542-12-15 06:00 G 33695466.60 33695466.75 33695466.92 0.0139 0.0107 Neptune 87549-01-03 20:53 G 33697678.30 33697678.37 33697678.50 0.0089 0.0082 Neptune 87550-01-06 09:36 G 33698045.74 33698045.90 33698046.10 0.0089 0.0062 Jupiter 87550-01-11 01:12 G 33698050.32 33698050.55 33698050.79 0.0499 0.0035 Neptune 87551-01-08 21:36 G 33698413.20 33698413.40 33698413.65 0.0089 0.0043 Neptune 87552-01-11 10:20 G 33698780.69 33698780.93 33698781.19 0.0089 0.0022 Neptune 87553-01-12 22:48 G 33699148.19 33699148.45 33699148.70 0.0089 0.0002 87553-10-20 00:00 G 33699428.36 33699428.50 33699428.65 0.1722 0.1151 Mars Neptune 87554-01-15 10:34 G 33699515.70 33699515.94 33699516.20 0.0089 0.0019 Saturn 87554-06-10 21:51 G 33699662.26 33699662.41 33699662.56 0.0286 0.0226 Neptune 87555-01-17 22:34 G 33699883.22 33699883.44 33699883.68 0.0089 0.0039 Saturn 87555-06-24 06:58 G 33700040.59 33700040.79 33700041.00 0.0282 0.0153

Neptune 87556-01-20 10:20 G 33700250.76 33700250.93 33700251.14 0.0089 0.0059 Neptune 87557-01-21 22:20 G 33700618.33 33700618.43 33700618.58 0.0089 0.0079 Pluto 87559-09-26 17:03 G 33701596.20 33701596.21 33701596.28 0.0081 0.0080 Jupiter 87562-01-15 09:36 G 33702437.83 33702437.90 33702437.99 0.0500 0.0467 Jupiter 87567-07-06 04:34 G 33704435.50 33704435.69 33704435.89 0.0528 0.0293 Saturn 87570-12-20 02:10 G 33705698.35 33705698.59 33705698.84 0.0277 0.0050 Jupiter 87579-07-11 00:44 G 33708823.32 33708823.53 33708823.75 0.0527 0.0219 Uranus 87583-05-29 01:41 G 33710241.44 33710241.57 33710241.73 0.0138 0.0111 Uranus 87584-06-01 14:10 G 33710610.86 33710611.09 33710611.34 0.0138 0.0047 Saturn 87584-06-17 22:05 G 33710627.17 33710627.42 33710627.66 0.0284 0.0009 Uranus 87585-06-06 03:36 G 33710980.41 33710980.65 33710980.91 0.0139 0.0018 Uranus 87586-06-10 17:17 G 33711350.04 33711350.22 33711350.44 0.0139 0.0083 Saturn 87599-12-14 19:56 G 33716285.17 33716285.33 33716285.50 0.0275 0.0203 Saturn 87600-12-26 18:58 G 33716663.09 33716663.29 33716663.51 0.0280 0.0151 Saturn 87613-06-12 06:58 G 33721213.60 33721213.79 33721213.98 0.0286 0.0182 Saturn 87614-06-25 15:36 G 33721591.98 33721592.15 33721592.33 0.0281 0.0194 Jupiter 87621-01-05 20:10 G 33723978.27 33723978.34 33723978.42 0.0498 0.0468 Uranus 87623-12-02 12:29 G 33725038.84 33725039.02 33725039.24 0.0140 0.0088 Uranus 87624-12-06 07:41 G 33725408.57 33725408.82 33725409.08 0.0140 0.0020 Uranus 87625-12-11 01:41 G 33725778.34 33725778.57 33725778.82 0.0139 0.0048 Uranus 87626-12-15 18:44 G 33726148.15 33726148.28 33726148.44 0.0139 0.0114 Saturn 87629-12-21 03:36 G 33727249.41 33727249.65 33727249.90 0.0277 0.0018 Neptune 87630-07-03 01:41 G 33727443.44 33727443.57 33727443.73 0.0088 0.0073 Neptune 87631-07-05 12:44 G 33727810.84 33727811.03 33727811.25 0.0088 0.0053 Neptune 87632-07-06 23:32 G 33728178.26 33728178.48 33728178.73 0.0088 0.0034 Jupiter 87633-01-10 08:10 G 33728365.61 33728365.84 33728366.08 0.0499 0.0027 Neptune 87633-07-09 10:48 G 33728545.70 33728545.95 33728546.21 0.0088 0.0015 Neptune 87634-07-11 21:51 G 33728913.16 33728913.41 33728913.67 0.0088 0.0005 Neptune 87635-07-14 08:39 G 33729280.62 33729280.86 33729281.12 0.0088 0.0024 Neptune 87636-07-15 19:56 G 33729648.11 33729648.33 33729648.56 0.0088 0.0043

Neptune 87637-07-18 07:12 G 33730015.62 33730015.80 33730015.98 0.0088 0.0062 Neptune 87638-07-20 18:00 G 33730383.18 33730383.25 33730383.37 0.0088 0.0082 Saturn 87643-06-20 03:51 G 33732178.42 33732178.66 33732178.90 0.0284 0.0031 Jupiter 87645-01-14 20:53 G 33732753.25 33732753.37 33732753.50 0.0500 0.0423 Jupiter 87650-07-05 02:39 G 33734750.46 33734750.61 33734750.77 0.0528 0.0397 Saturn 87658-12-15 19:27 G 33737836.13 33737836.31 33737836.51 0.0275 0.0173 Saturn 87659-12-28 18:58 G 33738214.11 33738214.29 33738214.49 0.0280 0.0181 Jupiter 87662-07-10 03:36 G 33739138.42 33739138.65 33739138.87 0.0527 0.0138 Uranus 87667-05-29 14:10 G 33740922.95 33740923.09 33740923.27 0.0138 0.0105 Uranus 87668-06-02 02:53 G 33741292.39 33741292.62 33741292.87 0.0138 0.0041 Uranus 87669-06-06 16:20 G 33741661.94 33741662.18 33741662.43 0.0139 0.0024 Uranus 87670-06-11 06:00 G 33742031.58 33742031.75 33742031.96 0.0139 0.0091 Saturn 87672-06-13 11:17 G 33742764.77 33742764.97 33742765.18 0.0286 0.0146 Saturn 87673-06-26 19:41 G 33743143.19 33743143.32 33743143.47 0.0281 0.0229 Saturn 87688-12-22 00:58 G 33748800.30 33748800.54 33748800.79 0.0277 0.0011 Saturn 87702-06-22 06:00 G 33753729.51 33753729.75 33753729.99 0.0284 0.0064 Uranus 87707-12-04 02:39 G 33755720.41 33755720.61 33755720.83 0.0140 0.0080 Uranus 87708-12-07 21:36 G 33756090.15 33756090.40 33756090.66 0.0140 0.0012 Uranus 87709-12-12 15:36 G 33756459.92 33756460.15 33756460.39 0.0139 0.0056 Uranus 87710-12-17 08:10 G 33756829.74 33756829.84 33756829.98 0.0139 0.0122 Neptune 87713-01-04 03:22 G 33757578.62 33757578.64 33757578.67 0.0089 0.0088 Neptune 87714-01-06 14:53 G 33757945.98 33757946.12 33757946.31 0.0089 0.0069 Neptune 87715-01-09 03:22 G 33758313.45 33758313.64 33758313.88 0.0089 0.0049 Neptune 87716-01-11 15:51 G 33758680.93 33758681.16 33758681.42 0.0089 0.0029 Jupiter 87716-01-11 19:41 G 33758681.09 33758681.32 33758681.55 0.0499 0.0065 \* Pluto 87716-03-28 18:29 G 33758758.03 33758758.27 33758758.53 0.0063 0.0014 Neptune 87717-01-13 04:34 G 33759048.43 33759048.69 33759048.95 0.0089 0.0009 Saturn 87717-12-17 15:51 G 33759386.97 33759387.16 33759387.38 0.0275 0.0149 Neptune 87718-01-15 16:48 G 33759415.95 33759416.20 33759416.46 0.0089 0.0011 Saturn 87718-12-30 15:36 G 33759764.99 33759765.15 33759765.32 0.0280 0.0206

Neptune 87719-01-18 04:48 G 33759783.47 33759783.70 33759783.95 0.0089 0.0032 Neptune 87720-01-20 17:03 G 33760151.01 33760151.21 33760151.43 0.0089 0.0052 Neptune 87721-01-22 04:48 G 33760518.57 33760518.70 33760518.87 0.0089 0.0072 Jupiter 87728-01-16 06:29 G 33763068.62 33763068.77 33763068.93 0.0500 0.0375 Saturn 87731-06-16 12:15 G 33764315.79 33764316.01 33764316.24 0.0286 0.0114 Saturn 87732-06-28 20:39 G 33764694.28 33764694.36 33764694.46 0.0281 0.0260 87733-04-19 02:53 G 33764988.44 33764988.62 33764988.80 0.1823 0.0488 Mars Jupiter 87733-07-05 10:20 G 33765065.82 33765065.93 33765066.05 0.0529 0.0456 Jupiter 87745-07-10 14:24 G 33769453.87 33769454.10 33769454.33 0.0528 0.0090 Saturn 87747-12-24 20:10 G 33770351.10 33770351.34 33770351.59 0.0277 0.0035 Uranus 87751-05-31 00:29 G 33771604.37 33771604.52 33771604.71 0.0138 0.0100 Uranus 87752-06-03 13:12 G 33771973.81 33771974.05 33771974.30 0.0138 0.0036 Uranus 87753-06-08 02:24 G 33772343.37 33772343.60 33772343.86 0.0139 0.0030 Uranus 87754-06-12 16:48 G 33772713.02 33772713.20 33772713.38 0.0139 0.0095 87758-10-18 23:17 G 33774302.34 33774302.47 33774302.61 0.1708 0.1207 Mars Saturn 87761-06-23 04:20 G 33775280.45 33775280.68 33775280.92 0.0284 0.0092 Saturn 87776-12-18 10:34 G 33780937.72 33780937.94 33780938.16 0.0275 0.0125 Saturn 87777-12-31 09:51 G 33781315.77 33781315.91 33781316.05 0.0280 0.0228 Saturn 87790-06-17 10:20 G 33785866.70 33785866.93 33785867.17 0.0286 0.0086 Uranus 87791-12-04 17:03 G 33786402.00 33786402.21 33786402.44 0.0140 0.0072 Uranus 87792-12-08 12:00 G 33786771.74 33786772.00 33786772.26 0.0140 0.0004 Uranus 87793-12-13 05:46 G 33787141.52 33787141.74 33787141.97 0.0139 0.0064 Neptune 87794-07-03 09:22 G 33787343.80 33787343.89 33787344.03 0.0088 0.0079 Uranus 87794-12-17 22:48 G 33787511.38 33787511.45 33787511.55 0.0139 0.0130 Neptune 87795-07-05 20:24 G 33787711.18 33787711.35 33787711.56 0.0088 0.0059 Neptune 87796-07-07 07:27 G 33788078.60 33788078.81 33788079.06 0.0088 0.0040 Neptune 87797-07-09 18:58 G 33788446.04 33788446.29 33788446.54 0.0088 0.0021 Neptune 87798-07-12 05:46 G 33788813.49 33788813.74 33788814.00 0.0088 0.0002 Jupiter 87799-01-11 06:15 G 33788996.53 33788996.76 33788996.99 0.0498 0.0110 Neptune 87799-07-14 16:48 G 33789180.96 33789181.20 33789181.46 0.0088 0.0018

Neptune 87800-07-17 03:36 G 33789548.43 33789548.65 33789548.90 0.0088 0.0037 Neptune 87801-07-19 14:53 G 33789915.93 33789916.12 33789916.33 0.0088 0.0056 Neptune 87802-07-22 01:56 G 33790283.46 33790283.58 33790283.73 0.0088 0.0075 Pluto 87806-09-28 04:05 G 33791812.62 33791812.67 33791812.77 0.0081 0.0078 Saturn 87806-12-26 14:10 G 33791901.85 33791902.09 33791902.33 0.0277 0.0057 Jupiter 87811-01-16 18:44 G 33793384.12 33793384.28 33793384.46 0.0500 0.0337 Jupiter 87816-07-05 18:15 G 33795381.21 33795381.26 33795381.32 0.0528 0.0513 Saturn 87819-06-12 11:17 G 33796452.89 33796452.97 33796453.06 0.0289 0.0269 Saturn 87820-06-25 01:12 G 33796831.33 33796831.55 33796831.77 0.0284 0.0117 Jupiter 87828-07-10 19:12 G 33799769.07 33799769.30 33799769.54 0.0527 0.0019 Uranus 87835-06-01 11:17 G 33802285.81 33802285.97 33802286.17 0.0138 0.0095 Saturn 87835-12-21 05:03 G 33802488.48 33802488.71 33802488.94 0.0275 0.0103 Uranus 87836-06-05 00:00 G 33802655.26 33802655.50 33802655.75 0.0138 0.0031 Saturn 87837-01-02 03:51 G 33802866.56 33802866.66 33802866.78 0.0280 0.0250 Uranus 87837-06-09 13:27 G 33803024.82 33803025.06 33803025.31 0.0139 0.0035 Mars 87837-10-22 12:58 G 33803159.95 33803160.04 33803160.13 0.1714 0.1501 Uranus 87838-06-14 03:22 G 33803394.48 33803394.64 33803394.82 0.0139 0.0101 Saturn 87849-06-19 06:44 G 33807417.55 33807417.78 33807418.02 0.0286 0.0060 Saturn 87864-12-14 13:56 G 33813075.01 33813075.08 33813075.14 0.0273 0.0262 Saturn 87865-12-27 08:39 G 33813452.62 33813452.86 33813453.09 0.0277 0.0079 Uranus 87874-12-01 09:22 G 33816713.84 33816713.89 33816713.98 0.0141 0.0136 Uranus 87875-12-06 05:17 G 33817083.51 33817083.72 33817083.97 0.0140 0.0067 Uranus 87876-12-10 00:44 G 33817453.27 33817453.53 33817453.78 0.0140 0.0004 Uranus 87877-12-14 18:29 G 33817823.07 33817823.27 33817823.51 0.0139 0.0072 Neptune 87878-01-06 20:39 G 33817846.24 33817846.36 33817846.51 0.0089 0.0076 Saturn 87878-06-13 06:44 G 33818003.65 33818003.78 33818003.91 0.0289 0.0245 Uranus 87878-12-19 11:32 G 33818192.98 33818192.98 33818193.04 0.0139 0.0138 Neptune 87879-01-09 08:39 G 33818213.68 33818213.86 33818214.08 0.0089 0.0056 Saturn 87879-06-26 20:39 G 33818382.16 33818382.36 33818382.58 0.0284 0.0142 Neptune 87880-01-11 20:53 G 33818581.16 33818581.37 33818581.63 0.0089 0.0037

Neptune 87881-01-13 09:36 G 33818948.65 33818948.90 33818949.16 0.0089 0.0016 Jupiter 87882-01-11 19:56 G 33819312.11 33819312.33 33819312.56 0.0499 0.0139 Neptune 87882-01-15 21:51 G 33819316.16 33819316.41 33819316.67 0.0089 0.0004 Neptune 87883-01-18 10:05 G 33819683.68 33819683.92 33819684.18 0.0089 0.0024 Neptune 87884-01-20 22:05 G 33820051.22 33820051.42 33820051.66 0.0089 0.0045 Neptune 87885-01-22 10:05 G 33820418.77 33820418.92 33820419.12 0.0089 0.0065 Neptune 87886-01-24 21:51 G 33820786.36 33820786.41 33820786.53 0.0089 0.0085 Jupiter 87894-01-16 07:41 G 33823699.64 33823699.82 33823700.01 0.0500 0.0306 Saturn 87894-12-22 00:00 G 33824039.27 33824039.50 33824039.74 0.0275 0.0081 Saturn 87896-01-03 22:48 G 33824417.41 33824417.45 33824417.52 0.0280 0.0272 Saturn 87908-06-21 03:22 G 33828968.39 33828968.64 33828968.88 0.0286 0.0035 Jupiter 87911-07-12 03:51 G 33830084.43 33830084.66 33830084.90 0.0528 0.0037 Uranus 87919-06-02 21:22 G 33832967.20 33832967.39 33832967.58 0.0138 0.0090 Uranus 87920-06-06 09:22 G 33833336.65 33833336.89 33833337.15 0.0138 0.0026 Uranus 87921-06-10 22:48 G 33833706.21 33833706.45 33833706.70 0.0139 0.0040 Uranus 87922-06-15 12:44 G 33834075.88 33834076.03 33834076.20 0.0139 0.0106 Jupiter 87923-07-17 07:12 G 33834472.75 33834472.80 33834472.88 0.0527 0.0506 Saturn 87923-12-17 10:34 G 33834625.84 33834625.94 33834626.07 0.0273 0.0238 Saturn 87924-12-29 05:03 G 33835003.49 33835003.71 33835003.95 0.0277 0.0103 Saturn 87937-06-15 02:53 G 33839554.47 33839554.62 33839554.78 0.0289 0.0221 Saturn 87938-06-28 17:17 G 33839933.03 33839933.22 33839933.42 0.0284 0.0165 Saturn 87953-12-23 21:51 G 33845590.17 33845590.41 33845590.65 0.0275 0.0055 Neptune 87958-07-04 16:05 G 33847244.12 33847244.17 33847244.27 0.0088 0.0085 Uranus 87958-12-02 19:27 G 33847395.24 33847395.31 33847395.43 0.0141 0.0131 Neptune 87959-07-07 03:22 G 33847611.48 33847611.64 33847611.83 0.0088 0.0065 Uranus 87959-12-07 16:05 G 33847764.95 33847765.17 33847765.41 0.0140 0.0061 Neptune 87960-07-08 14:24 G 33847978.90 33847979.10 33847979.34 0.0088 0.0046 Uranus 87960-12-11 11:32 G 33848134.72 33848134.98 33848135.23 0.0140 0.0009 Neptune 87961-07-11 01:27 G 33848346.33 33848346.56 33848346.82 0.0088 0.0027 Uranus 87961-12-16 05:32 G 33848504.54 33848504.73 33848504.96 0.0139 0.0078

 Neptune
 87962-07-13 12:58 G
 33848713.78
 33848714.04
 33848714.30
 0.0088
 0.0008

 Neptune
 87963-07-15 23:32 G
 33849081.24
 33849081.48
 33849081.75
 0.0088
 0.0012

 Pluto
 87964-04-01 13:12 G
 33849341.79
 33849342.05
 33849342.30
 0.0063
 0.0001

 Neptune
 87964-07-17 10:34 G
 33849448.72
 33849448.94
 33849449.20
 0.0088
 0.0031

 Jupiter
 87965-01-12 07:12 G
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 33849627.80
 33849628.02
 0.0498
 0.0178

 Neptune
 87965-07-19 21:36 G
 33849816.21
 33849816.40
 33849816.63
 0.0088
 0.0050

 Neptune
 87966-07-22 08:39 G
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 33850183.86
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 0.0088
 0.0069

 Saturn
 87967-06-23 00:44 G
 33850551.33
 33850551.33
 33850551.35
 0.0088
 0.0088

 Jupiter
 87977-01-16 17:32 G
 3385015.03
 3385015.23
 3385015.43
 0.0277
 0.0273
 0.0211

 Saturn
 87983-12-31 04:48 G

### 89TH MILLENNIUM CE

### This is a list of transits of Earth in the 89th millennium CE.

FROM MAX- C START MAX END SUNRAD DEPTH S

TRANSIT

TIME

 Uranus
 88003-06-03 09:51 G
 33863648.72
 33863648.91
 33863649.12
 0.0138
 0.0084

 Uranus
 88004-06-06 22:20 G
 33864018.18
 33864018.43
 33864018.68
 0.0138
 0.0019

 Uranus
 88005-06-11 11:17 G
 33864387.74
 33864387.97
 33864388.22
 0.0138
 0.0047

 Uranus
 88006-06-16 00:58 G
 33864757.41
 33864757.54
 33864757.70
 0.0139
 0.0113

Jupiter 88006-07-16 12:58 G 33864787.92 33864788.04 33864788.17 0.0526 0.0439 Saturn 88012-12-24 23:03 G 33867141.22 33867141.46 33867141.71 0.0275 0.0027 88017-04-21 05:32 G 33868719.55 33868719.73 33868719.90 0.1832 0.0719 Mars Saturn 88026-06-24 01:12 G 33872070.31 33872070.55 33872070.79 0.0286 0.0021 Saturn 88041-12-19 14:10 G 33877727.91 33877728.09 33877728.28 0.0273 0.0179 Neptune 88042-01-07 01:12 G 33877746.47 33877746.55 33877746.66 0.0089 0.0082 88042-10-21 13:56 G 33878033.91 33878034.08 33878034.25 0.1701 0.0772 Mars Uranus 88042-12-03 05:46 G 33878076.65 33878076.74 33878076.87 0.0141 0.0126 Saturn 88043-01-01 08:39 G 33878105.67 33878105.86 33878106.07 0.0277 0.0163 Neptune 88043-01-09 13:12 G 33878113.89 33878114.05 33878114.26 0.0089 0.0063 Uranus 88043-12-08 02:24 G 33878446.37 33878446.60 33878446.84 0.0140 0.0055 Neptune 88044-01-12 01:41 G 33878481.36 33878481.57 33878481.82 0.0089 0.0043 Uranus 88044-12-11 21:51 G 33878816.15 33878816.41 33878816.66 0.0140 0.0014 Neptune 88045-01-13 13:56 G 33878848.84 33878849.08 33878849.34 0.0089 0.0023 Uranus 88045-12-16 16:05 G 33879185.98 33879186.17 33879186.39 0.0140 0.0084 Neptune 88046-01-16 02:24 G 33879216.35 33879216.60 33879216.86 0.0089 0.0004 Neptune 88047-01-18 14:39 G 33879583.86 33879584.11 33879584.37 0.0089 0.0017 Jupiter 88048-01-12 15:36 G 33879942.94 33879943.15 33879943.36 0.0498 0.0230 Neptune 88048-01-21 02:39 G 33879951.39 33879951.61 33879951.86 0.0089 0.0037 Neptune 88049-01-22 15:08 G 33880318.94 33880319.13 33880319.33 0.0089 0.0057 Neptune 88050-01-25 03:22 G 33880686.52 33880686.64 33880686.78 0.0089 0.0077 Pluto 88054-10-01 03:36 G 33882396.44 33882396.65 33882396.91 0.0081 0.0037 Saturn 88055-06-18 02:24 G 33882656.40 33882656.60 33882656.80 0.0289 0.0163 Saturn 88056-06-30 16:34 G 33883035.04 33883035.19 33883035.35 0.0284 0.0220 Jupiter 88060-01-17 01:12 G 33884330.34 33884330.55 33884330.76 0.0500 0.0205 Saturn 88071-12-27 04:20 G 33888692.44 33888692.68 33888692.93 0.0275 0.0009 Jupiter 88077-07-10 14:39 G 33890714.89 33890715.11 33890715.33 0.0528 0.0171 Saturn 88085-06-25 04:34 G 33893621.45 33893621.69 33893621.93 0.0286 0.0055 Uranus 88087-06-03 22:34 G 33894330.25 33894330.44 33894330.66 0.0138 0.0078 Uranus 88088-06-07 11:03 G 33894699.72 33894699.96 33894700.22 0.0138 0.0013

Uranus 88089-06-12 00:15 G 33895069.28 33895069.51 33895069.74 0.0138 0.0054 Jupiter 88089-07-15 14:53 G 33895102.96 33895103.12 33895103.30 0.0527 0.0357 Uranus 88090-06-16 13:56 G 33895438.96 33895439.08 33895439.21 0.0139 0.0120 Saturn 88100-12-21 21:51 G 33899279.20 33899279.41 33899279.62 0.0273 0.0143 Saturn 88102-01-03 16:48 G 33899657.03 33899657.20 33899657.37 0.0278 0.0199 Saturn 88114-06-20 08:24 G 33904207.64 33904207.85 33904208.08 0.0288 0.0126 Saturn 88115-07-03 22:05 G 33904586.32 33904586.42 33904586.53 0.0284 0.0255 Neptune 88123-07-07 09:51 G 33907511.78 33907511.91 33907512.08 0.0088 0.0072 Neptune 88124-07-08 20:53 G 33907879.18 33907879.37 33907879.60 0.0088 0.0053 Neptune 88125-07-11 08:24 G 33908246.62 33908246.85 33908247.10 0.0088 0.0033 Neptune 88126-07-13 19:27 G 33908614.06 33908614.31 33908614.57 0.0088 0.0014 Uranus 88126-12-04 17:32 G 33908758.11 33908758.23 33908758.37 0.0141 0.0120 Neptune 88127-07-16 06:44 G 33908981.52 33908981.78 33908982.04 0.0088 0.0005 Uranus 88127-12-09 13:56 G 33909127.85 33909128.08 33909128.33 0.0140 0.0050 Neptune 88128-07-17 17:46 G 33909348.99 33909349.24 33909349.49 0.0088 0.0025 Uranus 88128-12-13 09:36 G 33909497.65 33909497.90 33909498.16 0.0140 0.0021 Neptune 88129-07-20 04:48 G 33909716.48 33909716.70 33909716.92 0.0088 0.0044 Uranus 88129-12-18 04:20 G 33909867.50 33909867.68 33909867.89 0.0140 0.0090 Neptune 88130-07-22 15:08 G 33910083.98 33910084.13 33910084.34 0.0088 0.0063 Saturn 88130-12-29 13:41 G 33910243.83 33910244.07 33910244.31 0.0276 0.0046 Jupiter 88131-01-12 19:27 G 33910258.13 33910258.31 33910258.50 0.0498 0.0298 Neptune 88131-07-25 02:39 G 33910451.52 33910451.61 33910451.71 0.0088 0.0081 Jupiter 88143-01-17 06:58 G 33914645.57 33914645.79 33914646.01 0.0499 0.0142 Saturn 88144-06-27 12:15 G 33915172.78 33915173.01 33915173.24 0.0286 0.0093 Saturn 88159-12-24 09:08 G 33920830.66 33920830.88 33920831.12 0.0274 0.0102 Jupiter 88160-07-10 17:03 G 33921030.00 33921030.21 33921030.41 0.0528 0.0254 Saturn 88161-01-05 04:48 G 33921208.59 33921208.70 33921208.83 0.0278 0.0241 Uranus 88170-06-01 01:56 G 33924642.54 33924642.58 33924642.64 0.0137 0.0134 Uranus 88171-06-05 13:27 G 33925011.86 33925012.06 33925012.29 0.0138 0.0070 Uranus 88172-06-09 02:10 G 33925381.33 33925381.59 33925381.84 0.0138 0.0005

Jupiter 88172-07-15 18:44 G 33925418.09 33925418.28 33925418.48 0.0527 0.0284 Uranus 88173-06-13 15:08 G 33925750.91 33925751.13 33925751.36 0.0138 0.0062 Saturn 88173-06-21 18:44 G 33925759.04 33925759.28 33925759.51 0.0288 0.0083 Uranus 88174-06-18 04:20 G 33926120.61 33926120.68 33926120.79 0.0139 0.0129 Saturn 88188-12-18 09:08 G 33931417.78 33931417.88 33931417.99 0.0272 0.0245 Saturn 88189-12-31 01:56 G 33931795.35 33931795.58 33931795.81 0.0276 0.0089 Saturn 88202-06-17 07:56 G 33936345.71 33936345.83 33936345.96 0.0290 0.0248 Saturn 88203-07-01 00:00 G 33936724.29 33936724.50 33936724.72 0.0285 0.0137 Neptune 88207-01-10 18:00 G 33938014.09 33938014.25 33938014.41 0.0089 0.0070 Neptune 88208-01-13 05:32 G 33938381.54 33938381.73 33938381.96 0.0089 0.0051 Neptune 88209-01-14 18:00 G 33938749.02 33938749.25 33938749.51 0.0089 0.0031 Neptune 88210-01-17 06:29 G 33939116.51 33939116.77 33939117.03 0.0089 0.0011 Uranus 88210-12-06 08:10 G 33939439.68 33939439.84 33939439.99 0.0141 0.0112 Neptune 88211-01-19 18:44 G 33939484.02 33939484.28 33939484.54 0.0089 0.0009 Pluto 88211-04-05 00:29 G 33939559.42 33939559.52 33939559.68 0.0062 0.0054 Uranus 88211-12-11 04:20 G 33939809.45 33939809.68 33939809.94 0.0140 0.0042 Neptune 88212-01-22 06:29 G 33939851.54 33939851.77 33939852.03 0.0089 0.0030 Pluto 88212-04-05 10:34 G 33939925.72 33939925.94 33939926.19 0.0063 0.0025 Uranus 88212-12-15 00:00 G 33940179.25 33940179.50 33940179.75 0.0140 0.0029 Neptune 88213-01-23 18:44 G 33940219.08 33940219.28 33940219.51 0.0089 0.0049 Uranus 88213-12-19 18:29 G 33940549.11 33940549.27 33940549.47 0.0140 0.0099 Jupiter 88214-01-12 22:05 G 33940573.27 33940573.42 33940573.58 0.0498 0.0373 Neptune 88214-01-26 06:44 G 33940586.65 33940586.78 33940586.97 0.0089 0.0069 Neptune 88215-01-28 19:12 G 33940954.29 33940954.30 33940954.35 0.0089 0.0089 Saturn 88218-12-26 23:32 G 33942382.24 33942382.48 33942382.73 0.0274 0.0058 Jupiter 88226-01-17 08:10 G 33944960.61 33944960.84 33944961.07 0.0499 0.0060 Saturn 88232-06-24 08:53 G 33947310.63 33947310.87 33947311.11 0.0287 0.0035 Jupiter 88238-01-21 16:05 G 33949348.13 33949348.17 33949348.22 0.0500 0.0488 Jupiter 88243-07-11 17:32 G 33951345.06 33951345.23 33951345.41 0.0528 0.0343 Saturn 88247-12-21 22:48 G 33952969.30 33952969.45 33952969.63 0.0272 0.0202

Saturn 88249-01-02 16:48 G 33953346.99 33953347.20 33953347.42 0.0277 0.0135 Uranus 88254-06-02 15:08 G 33955324.06 33955324.13 33955324.25 0.0137 0.0128 Uranus 88255-06-07 03:08 G 33955693.41 33955693.63 33955693.86 0.0138 0.0063 Jupiter 88255-07-16 13:12 G 33955732.83 33955733.05 33955733.28 0.0527 0.0165 Uranus 88256-06-10 15:36 G 33956062.90 33956063.15 33956063.40 0.0138 0.0003 Uranus 88257-06-15 04:05 G 33956432.47 33956432.67 33956432.90 0.0138 0.0070 Uranus 88258-06-19 17:46 G 33956802.21 33956802.24 33956802.30 0.0139 0.0136 Saturn 88261-06-18 23:46 G 33957897.32 33957897.49 33957897.67 0.0289 0.0197 Saturn 88262-07-02 14:39 G 33958275.93 33958276.11 33958276.30 0.0285 0.0184 Saturn 88277-12-28 14:53 G 33963933.88 33963934.12 33963934.37 0.0275 0.0011 Neptune 88287-07-07 15:22 G 33967412.05 33967412.14 33967412.29 0.0088 0.0078 Neptune 88288-07-09 02:39 G 33967779.44 33967779.61 33967779.82 0.0088 0.0059 Neptune 88289-07-11 13:27 G 33968146.85 33968147.06 33968147.31 0.0088 0.0041 Neptune 88290-07-14 01:12 G 33968514.30 33968514.55 33968514.80 0.0088 0.0021 Saturn 88291-06-27 01:56 G 33968862.33 33968862.58 33968862.82 0.0286 0.0016 Neptune 88291-07-16 12:29 G 33968881.76 33968882.02 33968882.28 0.0088 0.0002 Neptune 88292-07-17 23:17 G 33969249.23 33969249.47 33969249.74 0.0088 0.0018 Neptune 88293-07-20 10:20 G 33969616.71 33969616.93 33969617.18 0.0088 0.0037 Neptune 88294-07-22 21:22 G 33969984.21 33969984.39 33969984.61 0.0088 0.0056 Uranus 88294-12-06 22:48 G 33970121.28 33970121.45 33970121.62 0.0141 0.0104 Neptune 88295-07-25 08:24 G 33970351.74 33970351.85 33970352.01 0.0088 0.0075 Uranus 88295-12-11 18:58 G 33970491.05 33970491.29 33970491.55 0.0140 0.0034 Uranus 88296-12-15 14:39 G 33970860.87 33970861.11 33970861.37 0.0140 0.0038 Jupiter 88297-01-11 19:56 G 33970888.26 33970888.33 33970888.42 0.0498 0.0468 Uranus 88297-12-20 09:36 G 33971230.74 33971230.90 33971231.07 0.0140 0.0107 88301-04-24 06:15 G 33972450.60 33972450.76 33972450.92 0.1842 0.1051 Mars 88302-10-06 07:41 G 33972980.58 33972980.82 33972981.09 0.0081 0.0018 Pluto Saturn 88306-12-24 13:12 G 33974520.85 33974521.05 33974521.26 0.0273 0.0156 Saturn 88308-01-06 08:10 G 33974898.66 33974898.84 33974899.03 0.0277 0.0182 Jupiter 88309-01-17 07:12 G 33975275.57 33975275.80 33975276.03 0.0499 0.0031

Saturn 88320-06-21 18:00 G 33979449.04 33979449.25 33979449.47 0.0289 0.0144 Jupiter 88321-01-21 18:44 G 33979663.16 33979663.28 33979663.42 0.0500 0.0411 Saturn 88321-07-05 07:41 G 33979827.69 33979827.82 33979827.96 0.0284 0.0233 Jupiter 88326-07-11 09:08 G 33981659.79 33981659.88 33981659.98 0.0528 0.0475 Mars 88326-10-25 05:17 G 33981765.53 33981765.72 33981765.91 0.1693 0.0324 Saturn 88336-12-31 06:15 G 33985485.51 33985485.76 33985486.00 0.0276 0.0036 Uranus 88338-06-04 04:48 G 33986005.61 33986005.70 33986005.85 0.0137 0.0121 Jupiter 88338-07-16 09:36 G 33986047.66 33986047.90 33986048.13 0.0528 0.0055 Uranus 88339-06-08 16:34 G 33986374.97 33986375.19 33986375.43 0.0138 0.0056 Uranus 88340-06-12 04:48 G 33986744.45 33986744.70 33986744.96 0.0138 0.0011 Uranus 88341-06-16 17:46 G 33987114.03 33987114.24 33987114.45 0.0138 0.0077 Saturn 88350-06-29 19:41 G 33990414.09 33990414.32 33990414.56 0.0286 0.0069 Saturn 88365-12-26 02:10 G 33996072.37 33996072.59 33996072.82 0.0274 0.0112 Saturn 88367-01-07 22:20 G 33996450.29 33996450.43 33996450.57 0.0278 0.0228 Neptune 88371-01-10 22:05 G 33997914.29 33997914.42 33997914.55 0.0089 0.0076 Neptune 88372-01-13 10:05 G 33998281.74 33998281.92 33998282.13 0.0089 0.0057 Neptune 88373-01-14 22:20 G 33998649.21 33998649.43 33998649.68 0.0089 0.0037 Neptune 88374-01-17 10:34 G 33999016.70 33999016.94 33999017.21 0.0089 0.0018 Neptune 88375-01-19 23:03 G 33999384.20 33999384.46 33999384.72 0.0089 0.0002 Neptune 88376-01-22 10:48 G 33999751.71 33999751.95 33999752.21 0.0089 0.0022 Neptune 88377-01-23 23:17 G 34000119.24 34000119.47 34000119.70 0.0089 0.0042 Neptune 88378-01-26 11:03 G 34000486.79 34000486.96 34000487.16 0.0089 0.0061 Uranus 88378-12-08 13:41 G 34000802.90 34000803.07 34000803.28 0.0141 0.0096 Neptune 88379-01-28 22:48 G 34000854.37 34000854.45 34000854.59 0.0089 0.0082 Saturn 88379-06-24 12:00 G 34001000.77 34001001.00 34001001.24 0.0288 0.0090 Uranus 88379-12-13 10:34 G 34001172.69 34001172.94 34001173.20 0.0140 0.0024 Saturn 88380-07-07 00:29 G 34001379.51 34001379.52 34001379.54 0.0283 0.0283 Uranus 88380-12-17 06:15 G 34001542.52 34001542.76 34001543.00 0.0140 0.0046 Uranus 88381-12-22 00:29 G 34001912.41 34001912.52 34001912.69 0.0140 0.0117 Jupiter 88392-01-17 09:36 G 34005590.67 34005590.90 34005591.12 0.0498 0.0108

Saturn 88394-12-21 02:24 G 34006659.51 34006659.60 34006659.70 0.0272 0.0251 Saturn 88396-01-02 18:58 G 34007037.06 34007037.29 34007037.53 0.0276 0.0081 Jupiter 88404-01-21 19:12 G 34009978.13 34009978.30 34009978.48 0.0499 0.0324 Saturn 88408-06-17 21:22 G 34011587.30 34011587.39 34011587.50 0.0289 0.0262 Saturn 88409-07-01 13:12 G 34011965.83 34011966.05 34011966.28 0.0285 0.0120 Jupiter 88421-07-15 10:48 G 34016362.72 34016362.95 34016363.18 0.0528 0.0035 Uranus 88422-06-04 17:03 G 34016687.09 34016687.21 34016687.37 0.0137 0.0114 Uranus 88423-06-09 04:20 G 34017056.46 34017056.68 34017056.93 0.0138 0.0050 Uranus 88424-06-12 16:34 G 34017425.94 34017426.19 34017426.44 0.0138 0.0016 Saturn 88424-12-27 12:58 G 34017623.80 34017624.04 34017624.28 0.0274 0.0070 Uranus 88425-06-17 04:34 G 34017795.51 34017795.69 34017795.91 0.0138 0.0084 Saturn 88426-01-09 09:51 G 34018001.87 34018001.91 34018001.97 0.0278 0.0272 Jupiter 88433-07-20 06:00 G 34020750.66 34020750.75 34020750.86 0.0527 0.0472 Saturn 88438-06-26 04:05 G 34022552.44 34022552.67 34022552.92 0.0288 0.0040 Neptune 88451-07-07 21:22 G 34027312.35 34027312.39 34027312.50 0.0088 0.0085 Neptune 88452-07-09 08:24 G 34027679.70 34027679.85 34027680.04 0.0088 0.0066 Neptune 88453-07-11 19:27 G 34028047.11 34028047.31 34028047.55 0.0088 0.0047 Saturn 88453-12-22 11:17 G 34028210.83 34028210.97 34028211.14 0.0272 0.0213 Neptune 88454-07-14 06:29 G 34028414.54 34028414.77 34028415.03 0.0088 0.0028 Saturn 88455-01-04 05:03 G 34028588.49 34028588.71 34028588.93 0.0277 0.0121 Neptune 88455-07-16 17:46 G 34028781.99 34028782.24 34028782.50 0.0088 0.0008 Neptune 88456-07-18 04:48 G 34029149.46 34029149.70 34029149.97 0.0088 0.0012 Neptune 88457-07-20 15:51 G 34029516.93 34029517.16 34029517.42 0.0088 0.0031 Neptune 88458-07-23 03:08 G 34029884.43 34029884.63 34029884.86 0.0088 0.0049 Pluto 88459-04-08 00:29 G 34030143.29 34030143.52 34030143.76 0.0063 0.0024 Neptune 88459-07-25 14:10 G 34030251.95 34030252.09 34030252.27 0.0088 0.0068 Pluto 88460-04-08 09:36 G 34030509.81 34030509.90 34030510.06 0.0063 0.0055 Neptune 88460-07-27 01:12 G 34030619.54 34030619.55 34030619.61 0.0088 0.0087 Uranus 88462-12-09 02:10 G 34031484.39 34031484.59 34031484.79 0.0141 0.0089 Uranus 88463-12-13 22:48 G 34031854.19 34031854.45 34031854.70 0.0141 0.0017

Uranus 88464-12-17 18:15 G 34032224.04 34032224.26 34032224.51 0.0140 0.0054 Uranus 88465-12-22 12:58 G 34032593.95 34032594.04 34032594.18 0.0140 0.0124 Saturn 88467-06-20 12:58 G 34033138.88 34033139.04 34033139.21 0.0289 0.0212 Saturn 88468-07-03 03:51 G 34033517.47 34033517.66 34033517.87 0.0284 0.0168 Jupiter 88475-01-16 10:34 G 34035905.73 34035905.94 34035906.16 0.0498 0.0192 Saturn 88483-12-29 19:41 G 34039175.08 34039175.32 34039175.57 0.0275 0.0033 Jupiter 88487-01-20 22:20 G 34040293.23 34040293.43 34040293.63 0.0499 0.0247 Saturn 88497-06-27 17:03 G 34044103.97 34044104.21 34044104.45 0.0287 0.0007 Jupiter 88504-07-15 05:32 G 34046677.50 34046677.73 34046677.95 0.0528 0.0154 Uranus 88506-06-06 06:00 G 34047368.60 34047368.75 34047368.91 0.0137 0.0107 Uranus 88507-06-10 17:03 G 34047737.98 34047738.21 34047738.46 0.0137 0.0043 Uranus 88508-06-14 04:48 G 34048107.45 34048107.70 34048107.95 0.0138 0.0023 Uranus 88509-06-18 17:03 G 34048477.03 34048477.21 34048477.41 0.0138 0.0089 Saturn 88512-12-24 16:48 G 34049762.02 34049762.20 34049762.39 0.0273 0.0178 Saturn 88514-01-06 10:48 G 34050139.76 34050139.95 34050140.16 0.0277 0.0157 Jupiter 88516-07-20 05:17 G 34051065.57 34051065.72 34051065.89 0.0527 0.0377 Saturn 88526-06-23 00:29 G 34054690.33 34054690.52 34054690.73 0.0289 0.0167 Saturn 88527-07-06 15:08 G 34055068.97 34055069.13 34055069.29 0.0284 0.0210 Neptune 88535-01-11 01:12 G 34057814.50 34057814.55 34057814.67 0.0089 0.0084 Neptune 88536-01-13 13:41 G 34058181.92 34058182.07 34058182.27 0.0089 0.0064 Neptune 88537-01-15 02:24 G 34058549.39 34058549.60 34058549.83 0.0089 0.0044 Neptune 88538-01-17 14:39 G 34058916.87 34058917.11 34058917.37 0.0089 0.0025 Neptune 88539-01-20 02:53 G 34059284.36 34059284.62 34059284.88 0.0089 0.0005 Neptune 88540-01-22 15:08 G 34059651.88 34059652.13 34059652.39 0.0089 0.0015 Neptune 88541-01-24 03:08 G 34060019.40 34060019.63 34060019.88 0.0089 0.0034 Neptune 88542-01-26 14:53 G 34060386.94 34060387.12 34060387.35 0.0089 0.0054 Saturn 88542-12-31 22:48 G 34060726.20 34060726.45 34060726.70 0.0275 0.0000 Neptune 88543-01-29 03:08 G 34060754.50 34060754.63 34060754.79 0.0089 0.0073 Uranus 88546-12-10 12:44 G 34062165.84 34062166.03 34062166.25 0.0141 0.0084 Uranus 88547-12-15 09:51 G 34062535.65 34062535.91 34062536.17 0.0141 0.0012

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Uranus 88631-12-16 18:58 G 34093217.03 34093217.29 34093217.55 0.0141 0.0007 Saturn 88632-01-10 10:05 G 34093241.77 34093241.92 34093242.08 0.0277 0.0213 Uranus 88632-12-20 14:39 G 34093586.90 34093587.11 34093587.35 0.0140 0.0065 Uranus 88633-12-25 09:51 G 34093956.86 34093956.91 34093956.99 0.0140 0.0135 Jupiter 88641-01-17 05:46 G 34096536.55 34096536.74 34096536.93 0.0498 0.0288 Saturn 88644-06-26 08:53 G 34097792.64 34097792.87 34097793.10 0.0289 0.0096 Saturn 88645-07-09 22:48 G 34098171.42 34098171.45 34098171.51 0.0284 0.0278 Jupiter 88653-01-21 15:51 G 34100923.93 34100924.16 34100924.38 0.0498 0.0144 Saturn 88661-01-03 18:15 G 34103828.02 34103828.26 34103828.50 0.0275 0.0052 Jupiter 88670-07-15 16:05 G 34107307.98 34107308.17 34107308.37 0.0528 0.0293 Saturn 88673-06-20 08:53 G 34108378.81 34108378.87 34108378.95 0.0291 0.0278 Uranus 88674-06-08 10:05 G 34108731.75 34108731.92 34108732.12 0.0137 0.0093 Saturn 88674-07-04 04:20 G 34108757.46 34108757.68 34108757.91 0.0287 0.0109 Uranus 88675-06-12 21:08 G 34109101.14 34109101.38 34109101.63 0.0137 0.0028 Uranus 88676-06-16 08:39 G 34109470.62 34109470.86 34109471.11 0.0138 0.0038 Uranus 88677-06-20 20:39 G 34109840.21 34109840.36 34109840.54 0.0138 0.0105 Jupiter 88682-07-20 16:34 G 34111695.98 34111696.19 34111696.40 0.0527 0.0237 Saturn 88689-12-29 10:48 G 34114414.73 34114414.95 34114415.19 0.0273 0.0101 Saturn 88691-01-11 04:48 G 34114792.58 34114792.70 34114792.84 0.0277 0.0235 Neptune 88700-01-13 18:15 G 34118082.14 34118082.26 34118082.45 0.0089 0.0071 Neptune 88701-01-16 07:12 G 34118449.60 34118449.80 34118450.02 0.0089 0.0051 Neptune 88702-01-18 19:12 G 34118817.07 34118817.30 34118817.56 0.0089 0.0032 Neptune 88703-01-21 07:41 G 34119184.57 34119184.82 34119185.08 0.0089 0.0012 Saturn 88703-06-29 07:27 G 34119343.58 34119343.81 34119344.05 0.0289 0.0069 Neptune 88704-01-23 19:55 G 34119552.08 34119552.33 34119552.59 0.0089 0.0008 Neptune 88705-01-25 07:55 G 34119919.60 34119919.83 34119920.09 0.0089 0.0028 Neptune 88706-01-27 19:41 G 34120287.12 34120287.32 34120287.56 0.0089 0.0047 Pluto 88706-04-11 18:15 G 34120361.24 34120361.26 34120361.31 0.0062 0.0062 Neptune 88707-01-30 07:55 G 34120654.67 34120654.83 34120655.02 0.0089 0.0066 Pluto 88707-04-13 03:51 G 34120727.43 34120727.66 34120727.92 0.0063 0.0016

Neptune 88708-02-01 20:10 G 34121022.28 34121022.34 34121022.42 0.0089 0.0086 Uranus 88714-12-13 10:19 G 34123528.73 34123528.93 34123529.17 0.0141 0.0073 Uranus 88715-12-18 07:27 G 34123898.56 34123898.81 34123899.07 0.0141 0.0003 Uranus 88716-12-22 03:36 G 34124268.43 34124268.65 34124268.87 0.0140 0.0072 Saturn 88718-12-24 22:34 G 34125001.35 34125001.44 34125001.53 0.0271 0.0251 Saturn 88720-01-06 12:29 G 34125378.79 34125379.02 34125379.26 0.0275 0.0073 Jupiter 88724-01-18 17:31 G 34126852.06 34126852.23 34126852.42 0.0498 0.0327 Saturn 88732-06-22 04:48 G 34129929.60 34129929.70 34129929.83 0.0291 0.0255 Saturn 88733-07-06 00:29 G 34130308.31 34130308.52 34130308.74 0.0287 0.0133 Jupiter 88736-01-23 05:31 G 34131239.51 34131239.73 34131239.96 0.0499 0.0116 Saturn 88748-12-31 05:03 G 34135965.48 34135965.71 34135965.95 0.0273 0.0080 Saturn 88750-01-12 22:34 G 34136343.36 34136343.44 34136343.55 0.0277 0.0255 Jupiter 88753-07-15 23:03 G 34137623.29 34137623.46 34137623.64 0.0528 0.0354 Uranus 88758-06-10 00:58 G 34139413.36 34139413.54 34139413.75 0.0137 0.0086 Uranus 88759-06-14 12:00 G 34139782.75 34139783.00 34139783.25 0.0137 0.0020 Uranus 88760-06-17 23:31 G 34140152.25 34140152.48 34140152.72 0.0138 0.0046 Uranus 88761-06-22 12:00 G 34140521.85 34140522.00 34140522.14 0.0138 0.0113 Saturn 88762-06-30 03:07 G 34140894.39 34140894.63 34140894.87 0.0289 0.0045 Jupiter 88765-07-21 01:55 G 34142011.36 34142011.58 34142011.80 0.0528 0.0185 Saturn 88777-12-25 16:19 G 34146552.06 34146552.18 34146552.32 0.0271 0.0231 Saturn 88779-01-07 06:00 G 34146929.52 34146929.75 34146929.98 0.0275 0.0093 Neptune 88780-07-10 19:55 G 34147480.21 34147480.33 34147480.45 0.0088 0.0078 Neptune 88781-07-13 06:29 G 34147847.60 34147847.77 34147847.98 0.0088 0.0059 Neptune 88782-07-15 17:31 G 34148215.02 34148215.23 34148215.48 0.0088 0.0041 Neptune 88783-07-18 04:34 G 34148582.45 34148582.69 34148582.95 0.0088 0.0022 Neptune 88784-07-19 15:51 G 34148949.91 34148950.16 34148950.42 0.0088 0.0003 Neptune 88785-07-22 02:53 G 34149317.37 34149317.62 34149317.87 0.0088 0.0017 Neptune 88786-07-24 13:27 G 34149684.85 34149685.06 34149685.32 0.0088 0.0037 Neptune 88787-07-27 00:29 G 34150052.34 34150052.52 34150052.75 0.0088 0.0055 Neptune 88788-07-28 11:31 G 34150419.87 34150419.98 34150420.15 0.0088 0.0074 Saturn 88791-06-23 23:31 G 34151480.35 34151480.48 34151480.64 0.0291 0.0232 Saturn 88792-07-06 19:27 G 34151859.11 34151859.31 34151859.52 0.0287 0.0155 88797-10-11 22:19 G 34153782.17 34153782.43 34153782.69 0.0081 0.0001 Pluto Uranus 88797-12-09 01:12 G 34153840.53 34153840.55 34153840.60 0.0141 0.0140 Uranus 88798-12-13 23:03 G 34154210.24 34154210.46 34154210.69 0.0141 0.0066 Uranus 88799-12-18 19:55 G 34154580.08 34154580.33 34154580.59 0.0141 0.0007 Uranus 88800-12-22 15:51 G 34154949.95 34154950.16 34154950.37 0.0140 0.0079 Jupiter 88807-01-18 06:15 G 34157167.60 34157167.76 34157167.93 0.0498 0.0357 Saturn 88808-01-01 23:17 G 34157516.23 34157516.47 34157516.71 0.0272 0.0059 Saturn 88809-01-13 16:34 G 34157894.17 34157894.19 34157894.23 0.0277 0.0274 88815-10-27 07:41 G 34160371.79 34160371.82 34160371.85 0.1675 0.1648 Mars Jupiter 88819-01-22 18:15 G 34161555.03 34161555.26 34161555.49 0.0498 0.0082 Saturn 88821-06-30 22:05 G 34162445.18 34162445.42 34162445.67 0.0289 0.0023 Jupiter 88836-07-15 11:17 G 34167938.82 34167938.97 34167939.13 0.0529 0.0394 Saturn 88836-12-26 11:31 G 34168102.84 34168102.98 34168103.15 0.0271 0.0210 Saturn 88838-01-08 00:58 G 34168480.32 34168480.54 34168480.77 0.0275 0.0114 Uranus 88842-06-10 15:07 G 34170094.94 34170095.13 34170095.35 0.0137 0.0079 Uranus 88843-06-15 02:10 G 34170464.34 34170464.59 34170464.84 0.0137 0.0013 Uranus 88844-06-18 13:27 G 34170833.84 34170834.06 34170834.31 0.0138 0.0054 Uranus 88845-06-23 02:10 G 34171203.47 34171203.59 34171203.71 0.0138 0.0120 Jupiter 88848-07-20 12:00 G 34172326.78 34172327.00 34172327.23 0.0527 0.0141 Saturn 88850-06-24 17:46 G 34173031.08 34173031.24 34173031.42 0.0292 0.0211 Saturn 88851-07-08 13:55 G 34173409.90 34173410.08 34173410.28 0.0287 0.0176 Neptune 88864-01-13 23:31 G 34177982.37 34177982.48 34177982.62 0.0089 0.0077 Neptune 88865-01-15 11:31 G 34178349.81 34178349.98 34178350.20 0.0089 0.0058 Neptune 88866-01-18 00:15 G 34178717.29 34178717.51 34178717.75 0.0089 0.0038 Saturn 88867-01-02 18:43 G 34179067.04 34179067.28 34179067.53 0.0272 0.0038 Neptune 88867-01-20 12:29 G 34179084.78 34179085.02 34179085.28 0.0089 0.0019 Neptune 88868-01-23 01:12 G 34179452.29 34179452.55 34179452.81 0.0089 0.0001 Neptune 88869-01-24 12:58 G 34179819.80 34179820.04 34179820.31 0.0089 0.0021

Neptune 88870-01-27 01:12 G 34180187.33 34180187.55 34180187.79 0.0089 0.0040 Neptune 88871-01-29 13:41 G 34180554.88 34180555.07 34180555.26 0.0089 0.0060 Neptune 88872-02-01 01:12 G 34180922.46 34180922.55 34180922.69 0.0089 0.0079 88880-07-01 18:00 G 34183996.01 34183996.25 34183996.50 0.0289 0.0004 Saturn Uranus 88881-12-09 16:19 G 34184522.11 34184522.18 34184522.29 0.0141 0.0132 Uranus 88882-12-14 14:10 G 34184891.86 34184892.09 34184892.33 0.0141 0.0058 Uranus 88883-12-19 10:48 G 34185261.70 34185261.95 34185262.21 0.0141 0.0016 Uranus 88884-12-23 06:29 G 34185631.59 34185631.77 34185631.99 0.0140 0.0088 Jupiter 88890-01-17 17:17 G 34187483.09 34187483.22 34187483.36 0.0497 0.0398 88894-10-29 16:48 G 34189229.03 34189229.20 34189229.38 0.1680 0.0716 Mars Saturn 88895-12-28 09:07 G 34189653.71 34189653.88 34189654.07 0.0271 0.0186 Saturn 88897-01-08 22:19 G 34190031.23 34190031.43 34190031.65 0.0275 0.0138 Jupiter 88902-01-23 05:17 G 34191870.49 34191870.72 34191870.96 0.0498 0.0043 Saturn 88909-06-26 14:24 G 34194581.92 34194582.10 34194582.30 0.0291 0.0186 Saturn 88910-07-10 10:48 G 34194960.78 34194960.95 34194961.13 0.0287 0.0199 Jupiter 88914-01-27 15:51 G 34196258.10 34196258.16 34196258.22 0.0500 0.0480 Jupiter 88919-07-16 19:27 G 34198254.19 34198254.31 34198254.44 0.0528 0.0446 Uranus 88925-06-07 18:00 G 34200407.25 34200407.25 34200407.28 0.0137 0.0136 Saturn 88926-01-04 17:46 G 34200618.00 34200618.24 34200618.49 0.0272 0.0012 Uranus 88926-06-12 04:19 G 34200776.48 34200776.68 34200776.91 0.0137 0.0072 Uranus 88927-06-16 15:22 G 34201145.88 34201146.14 34201146.39 0.0137 0.0006 Uranus 88928-06-20 02:39 G 34201515.40 34201515.61 34201515.85 0.0138 0.0061 Uranus 88929-06-24 14:53 G 34201885.05 34201885.12 34201885.24 0.0138 0.0128 Jupiter 88931-07-21 17:46 G 34202642.01 34202642.24 34202642.47 0.0527 0.0074 Saturn 88939-07-04 16:05 G 34205546.93 34205547.17 34205547.42 0.0289 0.0027 Neptune 88944-07-11 01:12 G 34207380.50 34207380.55 34207380.66 0.0088 0.0085 Neptune 88945-07-13 12:29 G 34207747.87 34207748.02 34207748.22 0.0088 0.0066 Neptune 88946-07-15 23:31 G 34208115.28 34208115.48 34208115.72 0.0088 0.0047 Neptune 88947-07-18 10:48 G 34208482.72 34208482.95 34208483.21 0.0088 0.0028 Neptune 88948-07-19 21:51 G 34208850.16 34208850.41 34208850.67 0.0088 0.0009 Neptune 88949-07-22 09:07 G 34209217.62 34209217.88 34209218.14 0.0088 0.0010 Neptune 88950-07-24 19:55 G 34209585.10 34209585.33 34209585.58 0.0088 0.0030 Neptune 88951-07-27 06:43 G 34209952.58 34209952.78 34209953.01 0.0088 0.0049 Neptune 88952-07-28 17:46 G 34210320.10 34210320.24 34210320.43 0.0088 0.0068 Neptune 88953-07-31 04:48 G 34210687.67 34210687.70 34210687.78 0.0088 0.0086 **Pluto** 88954-04-15 00:15 G 34210945.26 34210945.51 34210945.76 0.0063 0.0015 88954-12-30 10:19 G 34211204.73 34211204.93 34211205.13 0.0271 0.0158 Saturn 88956-01-11 23:31 G 34211582.29 34211582.48 34211582.68 0.0275 0.0165 Saturn Uranus 88965-12-11 04:34 G 34215203.58 34215203.69 34215203.82 0.0142 0.0125 88966-12-16 02:24 G 34215573.37 34215573.60 34215573.84 0.0141 0.0051 **Uranus** 88967-12-20 23:17 G 34215943.22 34215943.47 34215943.72 0.0141 0.0022 **Uranus** 88968-06-27 14:24 G 34216132.90 34216133.10 34216133.30 0.0291 0.0158 Saturn **Uranus** 88968-12-24 18:58 G 34216313.11 34216313.29 34216313.49 0.0140 0.0095 Saturn 88969-07-11 10:19 G 34216511.79 34216511.93 34216512.09 0.0287 0.0226 Jupiter 88973-01-18 00:43 G 34217798.44 34217798.53 34217798.64 0.0498 0.0450 Saturn 88985-01-05 20:24 G 34222169.10 34222169.35 34222169.59 0.0273 0.0018 Jupiter 88985-01-22 12:58 G 34222185.80 34222186.04 34222186.27 0.0499 0.0012 88997-01-27 00:43 G 34226573.42 34226573.53 34226573.65 0.0499 0.0431 88998-07-05 18:15 G 34227098.03 34227098.26 34227098.51 0.0289 0.0059

## 90TH MILLENNIUM CE

## This is a list of transits of Earth in the 90th millennium CE.

FROM MAX- C START MAX END SUNRAD DEPTH S

TRANSIT

TIME

Jupiter 89002-07-16 22:05 G 34228569.42 34228569.42 34228569.44 0.0529 0.0528 Uranus 89009-06-09 06:00 G 34231088.69 34231088.75 34231088.83 0.0137 0.0131 Uranus 89010-06-13 16:05 G 34231457.96 34231458.17 34231458.40 0.0137 0.0066 Uranus 89011-06-18 03:07 G 34231827.37 34231827.63 34231827.88 0.0137 0.0002 Uranus 89012-06-21 14:24 G 34232196.89 34232197.10 34232197.33 0.0138 0.0067 Uranus 89013-06-26 02:39 G 34232566.57 34232566.61 34232566.68 0.0138 0.0134 Saturn 89014-01-01 15:51 G 34232755.94 34232756.16 34232756.38 0.0271 0.0125 Jupiter 89014-07-22 00:15 G 34232957.28 34232957.51 34232957.74 0.0528 0.0009 Saturn 89015-01-14 05:17 G 34233133.56 34233133.72 34233133.90 0.0275 0.0198 Saturn 89027-06-30 18:43 G 34237684.06 34237684.28 34237684.50 0.0291 0.0123 Neptune 89028-01-15 05:31 G 34237882.65 34237882.73 34237882.83 0.0089 0.0083 Saturn 89028-07-13 13:55 G 34238062.99 34238063.08 34238063.19 0.0286 0.0258 Neptune 89029-01-16 17:31 G 34238250.07 34238250.23 34238250.43 0.0089 0.0064 Neptune 89030-01-19 05:46 G 34238617.53 34238617.74 34238617.98 0.0089 0.0045 Neptune 89031-01-21 18:15 G 34238985.02 34238985.26 34238985.52 0.0089 0.0025 Neptune 89032-01-24 06:43 G 34239352.52 34239352.78 34239353.04 0.0089 0.0006 Neptune 89033-01-25 18:58 G 34239720.04 34239720.29 34239720.55 0.0089 0.0014 Neptune 89034-01-28 07:12 G 34240087.57 34240087.80 34240088.04 0.0089 0.0033 Neptune 89035-01-30 19:12 G 34240455.11 34240455.30 34240455.52 0.0089 0.0053 Neptune 89036-02-02 07:12 G 34240822.67 34240822.80 34240822.97 0.0089 0.0073 Saturn 89042-12-27 16:48 G 34243343.15 34243343.20 34243343.26 0.0269 0.0262 Saturn 89044-01-09 03:22 G 34243720.40 34243720.64 34243720.88 0.0273 0.0052 Pluto 89044-10-14 10:34 G 34243999.81 34243999.94 34244000.14 0.0081 0.0064 Uranus 89049-12-12 15:36 G 34245885.03 34245885.15 34245885.30 0.0142 0.0120 Uranus 89050-12-17 13:41 G 34246254.83 34246255.07 34246255.32 0.0141 0.0045 Uranus 89051-12-22 10:34 G 34246624.69 34246624.94 34246625.20 0.0141 0.0029 Uranus 89052-12-26 06:58 G 34246994.61 34246994.79 34246994.97 0.0140 0.0101 Saturn 89057-07-08 00:43 G 34248649.30 34248649.53 34248649.76 0.0289 0.0095 Jupiter 89068-01-23 18:15 G 34252501.03 34252501.26 34252501.50 0.0498 0.0074 Saturn 89073-01-03 00:58 G 34254307.31 34254307.54 34254307.78 0.0271 0.0089

Saturn 89074-01-15 15:07 G 34254685.01 34254685.13 34254685.26 0.0276 0.0236 Jupiter 89080-01-28 05:17 G 34256888.56 34256888.72 34256888.88 0.0499 0.0362 Saturn 89086-07-02 03:36 G 34259235.42 34259235.65 34259235.89 0.0291 0.0083 Uranus 89093-06-09 18:29 G 34261770.17 34261770.27 34261770.37 0.0137 0.0125 Uranus 89094-06-14 04:34 G 34262139.47 34262139.69 34262139.92 0.0137 0.0060 Uranus 89095-06-18 15:07 G 34262508.88 34262509.13 34262509.39 0.0137 0.0007 Uranus 89096-06-22 02:53 G 34262878.41 34262878.62 34262878.83 0.0138 0.0073 Jupiter 89097-07-21 04:05 G 34263272.44 34263272.67 34263272.90 0.0527 0.0066 89099-10-30 03:36 G 34264103.50 34264103.65 34264103.80 0.1669 0.1035 Mars Saturn 89101-12-30 03:07 G 34264894.50 34264894.63 34264894.77 0.0269 0.0224 Saturn 89103-01-11 14:39 G 34265271.88 34265272.11 34265272.34 0.0273 0.0092 Neptune 89109-07-14 18:29 G 34267648.14 34267648.27 34267648.44 0.0088 0.0072 Jupiter 89109-07-27 00:00 G 34267660.37 34267660.50 34267660.62 0.0527 0.0441 Neptune 89110-07-17 05:46 G 34268015.55 34268015.74 34268015.96 0.0088 0.0053 Neptune 89111-07-19 16:48 G 34268382.97 34268383.20 34268383.45 0.0088 0.0034 Neptune 89112-07-21 04:19 G 34268750.42 34268750.68 34268750.93 0.0088 0.0015 Neptune 89113-07-23 15:22 G 34269117.88 34269118.14 34269118.40 0.0088 0.0004 Neptune 89114-07-26 02:10 G 34269485.35 34269485.59 34269485.84 0.0088 0.0023 Saturn 89115-06-27 13:12 G 34269821.94 34269822.05 34269822.19 0.0293 0.0250 Neptune 89115-07-28 12:58 G 34269852.83 34269853.04 34269853.29 0.0088 0.0043 Saturn 89116-07-10 11:46 G 34270200.78 34270200.99 34270201.21 0.0288 0.0137 Neptune 89116-07-29 23:46 G 34270220.34 34270220.49 34270220.71 0.0088 0.0062 Neptune 89117-08-01 11:17 G 34270587.88 34270587.97 34270588.09 0.0088 0.0080 Saturn 89132-01-06 14:10 G 34275858.85 34275859.09 34275859.33 0.0272 0.0047 Uranus 89133-12-13 22:34 G 34276566.31 34276566.44 34276566.60 0.0142 0.0117 Uranus 89134-12-18 20:53 G 34276936.13 34276936.37 34276936.62 0.0141 0.0042 Uranus 89135-12-23 18:00 G 34277306.00 34277306.25 34277306.50 0.0141 0.0032 Uranus 89136-12-27 14:10 G 34277675.93 34277676.09 34277676.27 0.0140 0.0105 Saturn 89145-07-04 17:03 G 34280786.97 34280787.21 34280787.46 0.0290 0.0037 Jupiter 89151-01-23 17:46 G 34282816.02 34282816.24 34282816.47 0.0498 0.0161

Saturn 89160-12-31 16:05 G 34286445.99 34286446.17 34286446.35 0.0270 0.0182 Saturn 89162-01-13 04:19 G 34286823.47 34286823.68 34286823.90 0.0274 0.0136 Jupiter 89163-01-28 05:17 G 34287203.53 34287203.72 34287203.91 0.0499 0.0277 Saturn 89174-06-29 05:03 G 34291373.54 34291373.71 34291373.89 0.0292 0.0200 Saturn 89175-07-13 02:10 G 34291752.41 34291752.59 34291752.78 0.0288 0.0184 Uranus 89177-06-11 07:12 G 34292451.69 34292451.80 34292451.93 0.0136 0.0119 Uranus 89178-06-15 17:03 G 34292820.99 34292821.21 34292821.46 0.0137 0.0054 89178-11-02 12:43 G 34292960.91 34292961.03 34292961.15 0.1673 0.1292 Mars Uranus 89179-06-20 04:05 G 34293190.42 34293190.67 34293190.92 0.0137 0.0013 Uranus 89180-06-23 15:36 G 34293559.95 34293560.15 34293560.36 0.0137 0.0080 Jupiter 89180-07-20 21:51 G 34293587.20 34293587.41 34293587.63 0.0528 0.0188 Saturn 89191-01-08 05:03 G 34297410.47 34297410.71 34297410.96 0.0272 0.0005 Neptune 89192-01-15 12:15 G 34297783.01 34297783.01 34297783.04 0.0089 0.0089 Jupiter 89192-07-25 21:36 G 34297975.23 34297975.40 34297975.58 0.0527 0.0340 Neptune 89193-01-17 00:00 G 34298150.37 34298150.50 34298150.69 0.0089 0.0070 Neptune 89194-01-19 12:58 G 34298517.83 34298518.04 34298518.26 0.0089 0.0050 Neptune 89195-01-22 00:58 G 34298885.31 34298885.54 34298885.80 0.0089 0.0031 Neptune 89196-01-24 13:12 G 34299252.80 34299253.05 34299253.32 0.0089 0.0012 Neptune 89197-01-26 01:41 G 34299620.31 34299620.57 34299620.83 0.0089 0.0008 Neptune 89198-01-28 13:55 G 34299987.84 34299988.08 34299988.33 0.0089 0.0027 Neptune 89199-01-31 01:55 G 34300355.38 34300355.58 34300355.81 0.0089 0.0047 Neptune 89200-02-02 13:55 G 34300722.93 34300723.08 34300723.27 0.0089 0.0067 Neptune 89201-02-04 02:24 G 34301090.54 34301090.60 34301090.68 0.0089 0.0086 Pluto 89201-04-18 00:58 G 34301163.34 34301163.54 34301163.77 0.0063 0.0033 Pluto 89202-04-19 10:48 G 34301529.79 34301529.95 34301530.15 0.0063 0.0045 Saturn 89204-07-06 10:48 G 34302338.70 34302338.95 34302339.19 0.0289 0.0016 Uranus 89217-12-14 07:41 G 34307247.68 34307247.82 34307247.99 0.0142 0.0113 Uranus 89218-12-19 05:46 G 34307617.51 34307617.74 34307618.00 0.0141 0.0039 Uranus 89219-12-24 02:53 G 34307987.39 34307987.62 34307987.88 0.0141 0.0037 Saturn 89220-01-03 06:15 G 34307997.55 34307997.76 34307997.98 0.0270 0.0139

Uranus 89220-12-27 23:31 G 34308357.34 34308357.48 34308357.65 0.0140 0.0110 Saturn 89221-01-14 19:41 G 34308375.14 34308375.32 34308375.51 0.0274 0.0181 89232-05-03 00:43 G 34312501.40 34312501.53 34312501.66 0.1864 0.1393 Mars Saturn 89233-06-30 23:03 G 34312925.26 34312925.46 34312925.68 0.0292 0.0147 Jupiter 89234-01-22 20:53 G 34313131.17 34313131.37 34313131.58 0.0498 0.0236 Saturn 89234-07-14 19:12 G 34313304.16 34313304.30 34313304.44 0.0287 0.0232 Jupiter 89246-01-27 06:43 G 34317518.57 34317518.78 34317519.00 0.0498 0.0197 Saturn 89248-12-28 09:51 G 34318584.91 34318584.91 34318584.94 0.0269 0.0269 Saturn 89250-01-09 20:24 G 34318962.11 34318962.35 34318962.60 0.0273 0.0043 Uranus 89261-06-11 20:24 G 34323133.23 34323133.35 34323133.51 0.0136 0.0113 Uranus 89262-06-16 06:58 G 34323502.56 34323502.79 34323503.04 0.0137 0.0047 Uranus 89263-06-20 17:46 G 34323872.00 34323872.24 34323872.50 0.0137 0.0020 Saturn 89263-07-09 05:17 G 34323890.49 34323890.72 34323890.96 0.0288 0.0068 Jupiter 89263-07-20 21:22 G 34323902.20 34323902.39 34323902.59 0.0528 0.0282 Uranus 89264-06-24 05:03 G 34324241.53 34324241.71 34324241.92 0.0137 0.0088 Neptune 89273-07-14 01:27 G 34327548.46 34327548.56 34327548.71 0.0088 0.0078 Neptune 89274-07-16 12:29 G 34327915.85 34327916.02 34327916.23 0.0088 0.0059 Neptune 89275-07-19 00:00 G 34328283.28 34328283.50 34328283.74 0.0088 0.0040 Jupiter 89275-07-25 22:05 G 34328290.22 34328290.42 34328290.63 0.0527 0.0246 Neptune 89276-07-20 11:17 G 34328650.73 34328650.97 34328651.23 0.0088 0.0021 Neptune 89277-07-22 22:19 G 34329018.18 34329018.43 34329018.69 0.0088 0.0002 Neptune 89278-07-25 09:22 G 34329385.65 34329385.89 34329386.15 0.0088 0.0018 Saturn 89279-01-04 19:27 G 34329549.09 34329549.31 34329549.55 0.0271 0.0097 Neptune 89279-07-27 20:24 G 34329753.12 34329753.35 34329753.59 0.0088 0.0036 Saturn 89280-01-17 10:05 G 34329926.79 34329926.92 34329927.07 0.0275 0.0226 Neptune 89280-07-29 07:12 G 34330120.62 34330120.80 34330121.02 0.0088 0.0055 Neptune 89281-07-31 18:43 G 34330488.14 34330488.28 34330488.42 0.0088 0.0074 Saturn 89292-07-02 18:43 G 34334477.05 34334477.28 34334477.52 0.0291 0.0092 Pluto 89292-10-18 12:15 G 34334584.90 34334585.01 34334585.18 0.0081 0.0068 Saturn 89293-07-16 13:12 G 34334856.02 34334856.05 34334856.10 0.0286 0.0282

Uranus 89301-12-15 16:48 G 34337929.06 34337929.20 34337929.39 0.0142 0.0109 Uranus 89302-12-20 15:22 G 34338298.89 34338299.14 34338299.39 0.0141 0.0033 Uranus 89303-12-25 12:15 G 34338668.78 34338669.01 34338669.27 0.0141 0.0042 Uranus 89304-12-29 09:07 G 34339038.74 34339038.88 34339039.03 0.0140 0.0115 Saturn 89307-12-31 22:34 G 34340136.32 34340136.44 34340136.58 0.0270 0.0228 Saturn 89309-01-12 10:19 G 34340513.70 34340513.93 34340514.17 0.0274 0.0086 Jupiter 89317-01-22 21:07 G 34343446.20 34343446.38 34343446.56 0.0497 0.0321 Saturn 89321-06-28 01:55 G 34345063.49 34345063.58 34345063.69 0.0292 0.0264 Saturn 89322-07-11 23:46 G 34345442.28 34345442.49 34345442.72 0.0288 0.0120 Jupiter 89329-01-27 04:48 G 34347833.48 34347833.70 34347833.93 0.0498 0.0101 Saturn 89338-01-07 07:12 G 34351100.56 34351100.80 34351101.05 0.0272 0.0055 Saturn 89339-01-19 22:48 G 34351478.40 34351478.45 34351478.51 0.0276 0.0268 Uranus 89345-06-13 09:51 G 34353814.76 34353814.91 34353815.07 0.0137 0.0106 Uranus 89346-06-17 20:10 G 34354184.10 34354184.34 34354184.58 0.0137 0.0040 Jupiter 89346-07-20 15:36 G 34354217.00 34354217.15 34354217.30 0.0528 0.0404 Uranus 89347-06-22 06:58 G 34354553.55 34354553.79 34354554.04 0.0137 0.0027 Uranus 89348-06-25 18:29 G 34354923.10 34354923.27 34354923.46 0.0138 0.0095 Saturn 89351-07-06 12:29 G 34356028.78 34356029.02 34356029.26 0.0290 0.0041 Neptune 89357-01-17 07:41 G 34358050.70 34358050.82 34358050.97 0.0089 0.0075 Neptune 89358-01-19 19:41 G 34358418.14 34358418.32 34358418.54 0.0089 0.0056 Jupiter 89358-07-25 14:10 G 34358604.86 34358605.09 34358605.32 0.0528 0.0115 Neptune 89359-01-22 07:55 G 34358785.61 34358785.83 34358786.08 0.0089 0.0037 Neptune 89360-01-24 20:39 G 34359153.10 34359153.36 34359153.61 0.0089 0.0017 Neptune 89361-01-26 08:53 G 34359520.61 34359520.87 34359521.12 0.0089 0.0002 Neptune 89362-01-28 20:39 G 34359888.13 34359888.36 34359888.63 0.0089 0.0022 Neptune 89363-01-31 08:53 G 34360255.65 34360255.87 34360256.11 0.0089 0.0041 Neptune 89364-02-02 21:07 G 34360623.21 34360623.38 34360623.58 0.0089 0.0060 Neptune 89365-02-04 09:22 G 34360990.79 34360990.89 34360991.02 0.0089 0.0080 Saturn 89367-01-02 08:39 G 34361687.69 34361687.86 34361688.04 0.0270 0.0189 Saturn 89368-01-14 20:53 G 34362065.15 34362065.37 34362065.59 0.0274 0.0126

Saturn 89380-06-29 19:55 G 34366615.16 34366615.33 34366615.49 0.0292 0.0212 Saturn 89381-07-13 16:48 G 34366994.00 34366994.20 34366994.40 0.0287 0.0169 Mars 89383-11-02 00:29 G 34367835.33 34367835.52 34367835.71 0.1663 0.0409 Uranus 89385-12-16 05:46 G 34368610.57 34368610.74 34368610.92 0.0141 0.0102 Uranus 89386-12-21 03:51 G 34368980.41 34368980.66 34368980.92 0.0141 0.0026 Uranus 89387-12-26 00:43 G 34369350.30 34369350.53 34369350.78 0.0141 0.0049 Uranus 89388-12-29 21:36 G 34369720.28 34369720.40 34369720.53 0.0140 0.0122 Saturn 89397-01-08 15:22 G 34372651.89 34372652.14 34372652.38 0.0272 0.0018 Jupiter 89400-01-22 22:34 G 34373761.31 34373761.44 34373761.58 0.0497 0.0403 Saturn 89410-07-09 03:22 G 34377580.40 34377580.64 34377580.88 0.0290 0.0007 Jupiter 89412-01-28 11:03 G 34378148.72 34378148.96 34378149.19 0.0498 0.0039 Jupiter 89424-02-01 21:51 G 34382536.34 34382536.41 34382536.48 0.0499 0.0474 Saturn 89426-01-04 14:53 G 34383238.93 34383239.12 34383239.34 0.0270 0.0156 Saturn 89427-01-17 03:51 G 34383616.47 34383616.66 34383616.87 0.0274 0.0162 Uranus 89429-06-14 22:19 G 34384496.27 34384496.43 34384496.61 0.0137 0.0100 Jupiter 89429-07-20 12:58 G 34384531.99 34384532.04 34384532.11 0.0529 0.0508 Uranus 89430-06-19 08:39 G 34384865.63 34384865.86 34384866.11 0.0137 0.0034 Uranus 89431-06-23 19:27 G 34385235.07 34385235.31 34385235.56 0.0137 0.0034 Uranus 89432-06-27 06:43 G 34385604.63 34385604.78 34385604.96 0.0138 0.0102 Neptune 89437-07-15 09:07 G 34387448.81 34387448.88 34387448.99 0.0089 0.0083 Neptune 89438-07-17 19:55 G 34387816.18 34387816.33 34387816.54 0.0088 0.0065 Saturn 89439-07-03 09:07 G 34388166.69 34388166.88 34388167.08 0.0292 0.0166 Neptune 89439-07-20 07:12 G 34388183.60 34388183.80 34388184.04 0.0088 0.0046 Saturn 89440-07-16 05:31 G 34388545.57 34388545.73 34388545.89 0.0287 0.0212 Neptune 89440-07-21 18:29 G 34388551.04 34388551.27 34388551.53 0.0088 0.0027 Neptune 89441-07-24 06:00 G 34388918.49 34388918.75 34388919.01 0.0088 0.0007 Jupiter 89441-07-25 15:51 G 34388919.93 34388920.16 34388920.39 0.0528 0.0030 Neptune 89442-07-26 17:03 G 34389285.96 34389286.21 34389286.47 0.0088 0.0012 Neptune 89443-07-29 04:05 G 34389653.44 34389653.67 34389653.92 0.0088 0.0031 Neptune 89444-07-30 15:07 G 34390020.93 34390021.13 34390021.36 0.0088 0.0050 Neptune 89445-08-02 01:55 G 34390388.45 34390388.58 34390388.77 0.0088 0.0069 Neptune 89446-08-04 13:41 G 34390756.03 34390756.07 34390756.11 0.0088 0.0087 89448-04-21 04:48 G 34391381.54 34391381.70 34391381.92 0.0063 0.0042 Pluto 89449-04-22 15:07 G 34391747.93 34391748.13 34391748.35 0.0063 0.0036 Pluto Saturn 89456-01-11 19:12 G 34394203.06 34394203.30 34394203.55 0.0272 0.0014 Saturn 89469-07-10 14:10 G 34399131.85 34399132.09 34399132.33 0.0290 0.0049 Uranus 89469-12-17 17:17 G 34399292.05 34399292.22 34399292.43 0.0141 0.0096 Uranus 89470-12-22 15:36 G 34399661.90 34399662.15 34399662.41 0.0141 0.0020 Uranus 89471-12-27 12:43 G 34400031.79 34400032.03 34400032.27 0.0141 0.0055 Uranus 89472-12-31 08:53 G 34400401.78 34400401.87 34400401.98 0.0140 0.0129 Jupiter 89483-01-23 06:15 G 34404076.67 34404076.76 34404076.86 0.0497 0.0455 Saturn 89485-01-05 17:17 G 34404790.00 34404790.22 34404790.44 0.0270 0.0126 Saturn 89486-01-18 06:29 G 34405167.60 34405167.77 34405167.95 0.0275 0.0192 Jupiter 89495-01-27 17:17 G 34408463.98 34408464.22 34408464.45 0.0498 0.0024 Saturn 89498-07-04 18:29 G 34409718.05 34409718.27 34409718.49 0.0291 0.0126 Saturn 89499-07-18 14:24 G 34410096.99 34410097.10 34410097.22 0.0287 0.0251 Jupiter 89507-02-02 02:39 G 34412851.48 34412851.61 34412851.75 0.0499 0.0405 Uranus 89513-06-16 09:07 G 34415177.72 34415177.88 34415178.08 0.0137 0.0095 Saturn 89514-01-01 10:05 G 34415376.90 34415376.92 34415376.96 0.0269 0.0266 Uranus 89514-06-20 19:27 G 34415547.07 34415547.31 34415547.57 0.0137 0.0028 Saturn 89515-01-13 19:55 G 34415754.08 34415754.33 34415754.57 0.0272 0.0042 Uranus 89515-06-25 06:15 G 34415916.52 34415916.76 34415917.00 0.0137 0.0040 89516-05-05 20:53 G 34416232.20 34416232.37 34416232.55 0.1874 0.0828 Mars Uranus 89516-06-28 17:17 G 34416286.08 34416286.22 34416286.39 0.0138 0.0108 Neptune 89521-01-18 15:51 G 34417951.07 34417951.16 34417951.28 0.0089 0.0080 Neptune 89522-01-21 04:05 G 34418318.50 34418318.67 34418318.87 0.0089 0.0061 Neptune 89523-01-23 16:19 G 34418685.97 34418686.18 34418686.42 0.0089 0.0042 Neptune 89524-01-26 04:34 G 34419053.45 34419053.69 34419053.95 0.0089 0.0023 Jupiter 89524-07-25 17:46 G 34419235.00 34419235.24 34419235.47 0.0528 0.0056 Neptune 89525-01-27 17:03 G 34419420.96 34419421.21 34419421.47 0.0089 0.0004

Neptune 89526-01-30 05:03 G 34419788.47 34419788.71 34419788.97 0.0089 0.0016 Neptune 89527-02-01 17:17 G 34420155.99 34420156.22 34420156.46 0.0089 0.0035 Neptune 89528-02-04 05:03 G 34420523.53 34420523.71 34420523.93 0.0089 0.0055 Saturn 89528-07-12 19:41 G 34420683.10 34420683.32 34420683.56 0.0289 0.0085 Neptune 89529-02-05 17:17 G 34420891.10 34420891.22 34420891.39 0.0089 0.0074 Jupiter 89536-07-30 17:17 G 34423623.12 34423623.22 34423623.33 0.0527 0.0468 89539-10-23 15:36 G 34424802.99 34424803.15 34424803.37 0.0081 0.0056 Pluto Saturn 89544-01-08 16:05 G 34426340.94 34426341.17 34426341.40 0.0270 0.0101 Saturn 89545-01-20 05:17 G 34426718.57 34426718.72 34426718.87 0.0275 0.0217 Uranus 89553-12-19 05:03 G 34429973.52 34429973.71 34429973.92 0.0141 0.0089 Uranus 89554-12-24 03:22 G 34430343.38 34430343.64 34430343.90 0.0141 0.0013 Uranus 89555-12-29 00:00 G 34430713.28 34430713.50 34430713.74 0.0141 0.0062 Uranus 89557-01-01 20:24 G 34431083.30 34431083.35 34431083.43 0.0140 0.0136 Saturn 89557-07-06 22:34 G 34431269.21 34431269.44 34431269.67 0.0291 0.0092 Saturn 89558-07-20 18:15 G 34431648.24 34431648.26 34431648.31 0.0286 0.0284 Saturn 89573-01-02 07:12 G 34436927.71 34436927.80 34436927.92 0.0269 0.0243 Saturn 89574-01-14 17:03 G 34437304.97 34437305.21 34437305.45 0.0272 0.0066 Jupiter 89578-01-28 02:24 G 34438779.37 34438779.60 34438779.83 0.0498 0.0072 Saturn 89586-06-30 20:39 G 34441855.28 34441855.36 34441855.45 0.0294 0.0274 Saturn 89587-07-14 21:22 G 34442234.18 34442234.39 34442234.62 0.0289 0.0115 Jupiter 89590-02-01 14:53 G 34443166.96 34443167.12 34443167.27 0.0499 0.0370 Uranus 89597-06-16 19:12 G 34445859.13 34445859.30 34445859.51 0.0137 0.0090 Uranus 89598-06-21 05:31 G 34446228.49 34446228.73 34446228.98 0.0137 0.0023 Uranus 89599-06-25 16:05 G 34446597.94 34446598.17 34446598.41 0.0137 0.0045 Uranus 89600-06-29 02:53 G 34446967.50 34446967.62 34446967.78 0.0138 0.0113 Neptune 89601-07-15 18:00 G 34447349.24 34447349.25 34447349.30 0.0089 0.0088 Neptune 89602-07-18 04:48 G 34447716.57 34447716.70 34447716.88 0.0089 0.0070 Saturn 89603-01-09 12:29 G 34447891.78 34447892.02 34447892.26 0.0270 0.0078 Neptune 89603-07-20 15:51 G 34448083.97 34448084.16 34448084.39 0.0088 0.0051 Saturn 89604-01-22 01:27 G 34448269.45 34448269.56 34448269.69 0.0275 0.0239

Neptune 89604-07-22 03:07 G 34448451.40 34448451.63 34448451.88 0.0088 0.0032 Neptune 89605-07-24 14:10 G 34448818.84 34448819.09 34448819.35 0.0088 0.0013 Neptune 89606-07-27 01:12 G 34449186.30 34449186.55 34449186.81 0.0088 0.0007 Jupiter 89607-07-25 22:48 G 34449550.22 34449550.45 34449550.67 0.0528 0.0125 Neptune 89607-07-29 12:00 G 34449553.77 34449554.00 34449554.27 0.0088 0.0026 Neptune 89608-07-30 23:46 G 34449921.26 34449921.49 34449921.71 0.0088 0.0044 Neptune 89609-08-02 10:34 G 34450288.77 34450288.94 34450289.13 0.0088 0.0062 Neptune 89610-08-04 21:22 G 34450656.32 34450656.39 34450656.52 0.0088 0.0082 Saturn 89616-07-07 22:34 G 34452820.21 34452820.44 34452820.68 0.0291 0.0063 Jupiter 89619-07-31 00:58 G 34453938.40 34453938.54 34453938.69 0.0528 0.0409 Saturn 89632-01-04 02:39 G 34458478.49 34458478.61 34458478.77 0.0268 0.0222 Saturn 89633-01-15 12:00 G 34458855.77 34458856.00 34458856.24 0.0272 0.0086 Uranus 89637-12-19 12:43 G 34460654.84 34460655.03 34460655.25 0.0141 0.0086 Uranus 89638-12-24 11:03 G 34461024.70 34461024.96 34461025.21 0.0141 0.0010 Uranus 89639-12-29 07:55 G 34461394.61 34461394.83 34461395.06 0.0141 0.0066 Uranus 89641-01-02 04:19 G 34461764.67 34461764.68 34461764.71 0.0141 0.0140 Saturn 89645-07-01 17:31 G 34463406.12 34463406.23 34463406.37 0.0294 0.0250 Saturn 89646-07-15 19:12 G 34463785.09 34463785.30 34463785.52 0.0290 0.0139 Jupiter 89661-01-27 14:53 G 34469094.89 34469095.12 34469095.35 0.0498 0.0103 Saturn 89662-01-10 07:12 G 34469442.56 34469442.80 34469443.04 0.0270 0.0059 Saturn 89663-01-22 19:41 G 34469820.24 34469820.32 34469820.41 0.0274 0.0258 89667-11-04 21:51 G 34471567.22 34471567.41 34471567.60 0.1657 0.0218 Mars Jupiter 89673-02-01 02:53 G 34473482.45 34473482.62 34473482.80 0.0499 0.0335 Saturn 89675-07-09 19:27 G 34474371.07 34474371.31 34474371.55 0.0292 0.0039 Uranus 89681-06-17 05:31 G 34476540.54 34476540.73 34476540.94 0.0137 0.0085 Uranus 89682-06-21 15:36 G 34476909.90 34476910.15 34476910.40 0.0137 0.0018 Uranus 89683-06-26 01:55 G 34477279.35 34477279.58 34477279.82 0.0137 0.0049 Uranus 89684-06-29 12:43 G 34477648.92 34477649.03 34477649.18 0.0138 0.0118 Neptune 89685-01-17 23:46 G 34477851.44 34477851.49 34477851.58 0.0089 0.0085 Neptune 89686-01-20 12:29 G 34478218.85 34478219.02 34478219.20 0.0089 0.0066

Neptune 89687-01-23 00:29 G 34478586.32 34478586.52 34478586.76 0.0089 0.0047 Neptune 89688-01-25 12:58 G 34478953.81 34478954.04 34478954.30 0.0089 0.0028 Neptune 89689-01-27 01:27 G 34479321.31 34479321.56 34479321.82 0.0089 0.0008 Neptune 89690-01-29 13:27 G 34479688.81 34479689.06 34479689.33 0.0089 0.0011 Jupiter 89690-07-25 10:48 G 34479865.73 34479865.95 34479866.17 0.0529 0.0166 Saturn 89691-01-04 21:36 G 34480029.25 34480029.40 34480029.57 0.0268 0.0201 Neptune 89691-02-01 01:41 G 34480056.33 34480056.57 34480056.82 0.0089 0.0030 Saturn 89692-01-17 06:29 G 34480406.55 34480406.77 34480407.00 0.0272 0.0106 Neptune 89692-02-03 13:55 G 34480423.88 34480424.08 34480424.31 0.0089 0.0049 Neptune 89693-02-05 02:10 G 34480791.43 34480791.59 34480791.76 0.0089 0.0068 Neptune 89694-02-07 14:10 G 34481159.06 34481159.09 34481159.15 0.0089 0.0087 89695-04-24 13:27 G 34481599.89 34481600.06 34481600.29 0.0063 0.0039 Pluto Pluto 89696-04-24 23:46 G 34481966.30 34481966.49 34481966.70 0.0063 0.0039 Jupiter 89702-07-31 10:34 G 34484253.78 34484253.94 34484254.12 0.0527 0.0363 Saturn 89704-07-03 12:58 G 34484956.90 34484957.04 34484957.20 0.0294 0.0228 Saturn 89705-07-17 14:53 G 34485335.92 34485336.12 34485336.33 0.0290 0.0160 Saturn 89721-01-12 01:41 G 34490993.33 34490993.57 34490993.82 0.0270 0.0039 Uranus 89721-12-20 18:58 G 34491336.10 34491336.29 34491336.52 0.0142 0.0084 Uranus 89722-12-25 17:31 G 34491705.97 34491706.23 34491706.49 0.0141 0.0006 Uranus 89723-12-30 14:24 G 34492075.89 34492076.10 34492076.34 0.0141 0.0069 Saturn 89734-07-11 14:10 G 34495921.85 34495922.09 34495922.33 0.0292 0.0017 Jupiter 89744-01-29 02:39 G 34499410.39 34499410.61 34499410.84 0.0498 0.0140 Saturn 89750-01-06 16:48 G 34501580.03 34501580.20 34501580.40 0.0268 0.0181 Saturn 89751-01-19 01:12 G 34501957.34 34501957.55 34501957.78 0.0272 0.0126 Jupiter 89756-02-02 15:07 G 34503797.95 34503798.13 34503798.33 0.0499 0.0300 Saturn 89763-07-05 07:12 G 34506507.63 34506507.80 34506507.97 0.0294 0.0207 Saturn 89764-07-18 09:07 G 34506886.70 34506886.88 34506887.08 0.0290 0.0181 Uranus 89765-06-18 16:34 G 34507222.00 34507222.19 34507222.40 0.0137 0.0080 Uranus 89766-06-23 02:39 G 34507591.36 34507591.61 34507591.86 0.0137 0.0013 Neptune 89766-07-18 14:39 G 34507616.98 34507617.11 34507617.26 0.0089 0.0074

Uranus 89767-06-27 12:43 G 34507960.81 34507961.03 34507961.27 0.0137 0.0055 Neptune 89767-07-21 01:12 G 34507984.38 34507984.55 34507984.78 0.0089 0.0056 Uranus 89768-06-30 23:46 G 34508330.39 34508330.49 34508330.61 0.0137 0.0123 Neptune 89768-07-22 12:15 G 34508351.79 34508352.01 34508352.26 0.0088 0.0037 Neptune 89769-07-24 23:46 G 34508719.24 34508719.49 34508719.74 0.0088 0.0018 Neptune 89770-07-27 10:34 G 34509086.69 34509086.94 34509087.20 0.0088 0.0001 Neptune 89771-07-29 21:36 G 34509454.15 34509454.40 34509454.65 0.0088 0.0020 Neptune 89772-07-31 08:39 G 34509821.63 34509821.86 34509822.10 0.0088 0.0039 Jupiter 89773-07-25 20:10 G 34510181.12 34510181.34 34510181.55 0.0528 0.0214 Neptune 89773-08-02 19:41 G 34510189.14 34510189.32 34510189.53 0.0088 0.0057 Neptune 89774-08-05 06:29 G 34510556.67 34510556.77 34510556.93 0.0088 0.0077 Saturn 89780-01-13 21:07 G 34512544.14 34512544.38 34512544.63 0.0270 0.0019 Jupiter 89785-07-30 18:29 G 34514569.09 34514569.27 34514569.46 0.0527 0.0305 Pluto 89786-10-26 00:29 G 34515021.37 34515021.52 34515021.71 0.0081 0.0062 Saturn 89793-07-12 09:22 G 34517472.65 34517472.89 34517473.14 0.0292 0.0008 Mars 89800-05-07 14:10 G 34519962.89 34519963.09 34519963.28 0.1883 0.0101 Uranus 89805-12-22 02:10 G 34522017.38 34522017.59 34522017.80 0.0142 0.0080 Uranus 89806-12-27 00:00 G 34522387.24 34522387.50 34522387.76 0.0141 0.0004 Uranus 89807-12-31 21:07 G 34522757.16 34522757.38 34522757.60 0.0141 0.0072 Saturn 89809-01-08 14:10 G 34523130.90 34523131.09 34523131.29 0.0268 0.0159 Saturn 89810-01-20 22:05 G 34523508.22 34523508.42 34523508.63 0.0272 0.0147 Saturn 89822-07-07 01:55 G 34528058.40 34528058.58 34528058.78 0.0294 0.0185 Saturn 89823-07-21 04:19 G 34528437.50 34528437.68 34528437.85 0.0290 0.0202 Jupiter 89827-01-29 12:43 G 34529725.82 34529726.03 34529726.26 0.0498 0.0182 Saturn 89839-01-15 18:58 G 34534095.05 34534095.29 34534095.54 0.0270 0.0006 Jupiter 89839-02-03 01:41 G 34534113.37 34534113.57 34534113.77 0.0499 0.0261 Uranus 89849-06-20 03:36 G 34537903.45 34537903.65 34537903.87 0.0137 0.0075 Neptune 89850-01-21 20:53 G 34538119.23 34538119.37 34538119.54 0.0089 0.0071 Uranus 89850-06-24 13:41 G 34538272.82 34538273.07 34538273.33 0.0137 0.0008 Neptune 89851-01-24 09:22 G 34538486.70 34538486.89 34538487.12 0.0089 0.0052 Uranus 89851-06-29 00:00 G 34538642.28 34538642.50 34538642.74 0.0137 0.0061 Neptune 89852-01-26 21:51 G 34538854.19 34538854.41 34538854.67 0.0089 0.0033 Uranus 89852-07-02 11:17 G 34539011.89 34539011.97 34539012.06 0.0137 0.0129 Saturn 89852-07-14 05:46 G 34539023.50 34539023.74 34539023.99 0.0292 0.0029 Neptune 89853-01-28 10:34 G 34539221.68 34539221.94 34539222.20 0.0089 0.0013 Neptune 89854-01-30 22:48 G 34539589.19 34539589.45 34539589.71 0.0089 0.0006 Neptune 89855-02-02 10:48 G 34539956.71 34539956.95 34539957.21 0.0089 0.0025 Neptune 89856-02-04 23:03 G 34540324.25 34540324.46 34540324.69 0.0089 0.0044 Jupiter 89856-07-26 02:10 G 34540496.40 34540496.59 34540496.79 0.0528 0.0279 Neptune 89857-02-06 11:03 G 34540691.79 34540691.96 34540692.16 0.0089 0.0064 Neptune 89858-02-08 23:03 G 34541059.38 34541059.46 34541059.58 0.0089 0.0083 Saturn 89868-01-10 13:41 G 34544681.86 34544682.07 34544682.29 0.0268 0.0134 Jupiter 89868-07-31 04:19 G 34544884.48 34544884.68 34544884.88 0.0528 0.0256 Saturn 89869-01-21 21:36 G 34545059.21 34545059.40 34545059.59 0.0272 0.0172 89872-11-04 13:55 G 34546441.97 34546442.08 34546442.20 0.1648 0.1290 Mars Saturn 89881-07-08 00:00 G 34549609.31 34549609.50 34549609.72 0.0294 0.0158 Saturn 89882-07-22 02:10 G 34549988.45 34549988.59 34549988.75 0.0289 0.0227 Uranus 89889-12-22 11:03 G 34552698.75 34552698.96 34552699.19 0.0142 0.0076 Uranus 89890-12-27 09:07 G 34553068.63 34553068.88 34553069.14 0.0141 0.0002 Uranus 89892-01-01 06:00 G 34553438.55 34553438.75 34553438.98 0.0141 0.0077 Saturn 89897-01-04 15:07 G 34555269.10 34555269.13 34555269.15 0.0266 0.0265 Saturn 89898-01-16 19:55 G 34555646.09 34555646.33 34555646.58 0.0270 0.0032 Jupiter 89910-01-29 23:17 G 34560041.26 34560041.47 34560041.68 0.0498 0.0224 Saturn 89911-07-17 05:46 G 34560574.50 34560574.74 34560574.98 0.0292 0.0057 Jupiter 89922-02-03 10:19 G 34564428.72 34564428.93 34564429.14 0.0498 0.0211 Saturn 89927-01-12 16:48 G 34566232.98 34566233.20 34566233.43 0.0268 0.0105 Saturn 89928-01-25 00:58 G 34566610.39 34566610.54 34566610.72 0.0272 0.0202 Neptune 89930-07-20 00:15 G 34567517.42 34567517.51 34567517.65 0.0089 0.0079 Neptune 89931-07-22 11:17 G 34567884.79 34567884.97 34567885.17 0.0089 0.0060 Uranus 89932-06-17 05:03 G 34568215.70 34568215.71 34568215.75 0.0136 0.0136

Neptune 89932-07-23 22:05 G 34568252.21 34568252.42 34568252.67 0.0089 0.0042 Uranus 89933-06-21 14:39 G 34568584.91 34568585.11 34568585.34 0.0137 0.0070 Neptune 89933-07-26 09:22 G 34568619.65 34568619.89 34568620.14 0.0088 0.0023 Uranus 89934-06-26 00:58 G 34568954.28 34568954.54 34568954.79 0.0137 0.0003 Neptune 89934-07-28 20:10 G 34568987.09 34568987.34 34568987.60 0.0088 0.0005 Uranus 89935-06-30 11:17 G 34569323.76 34569323.97 34569324.20 0.0137 0.0066 Neptune 89935-07-31 07:12 G 34569354.55 34569354.80 34569355.06 0.0088 0.0015 Uranus 89936-07-03 22:34 G 34569693.41 34569693.44 34569693.50 0.0138 0.0135 Neptune 89936-08-01 18:00 G 34569722.02 34569722.25 34569722.50 0.0088 0.0034 Neptune 89937-08-04 04:48 G 34570089.52 34570089.70 34570089.93 0.0088 0.0053 Neptune 89938-08-06 16:19 G 34570457.03 34570457.18 34570457.34 0.0088 0.0071 Jupiter 89939-07-27 11:17 G 34570811.79 34570811.97 34570812.15 0.0528 0.0328 Saturn 89940-07-10 01:55 G 34571160.36 34571160.58 34571160.80 0.0294 0.0127 Saturn 89941-07-24 03:36 G 34571539.54 34571539.65 34571539.77 0.0289 0.0255 Pluto 89942-04-29 00:58 G 34571818.34 34571818.54 34571818.79 0.0063 0.0029 Pluto 89943-04-30 11:17 G 34572184.82 34572184.97 34572185.14 0.0063 0.0049 Jupiter 89951-08-01 11:31 G 34575199.77 34575199.98 34575200.20 0.0527 0.0198 89951-11-08 19:55 G 34575299.16 34575299.33 34575299.49 0.1651 0.0849 Mars Saturn 89956-01-07 18:58 G 34576820.18 34576820.29 34576820.41 0.0267 0.0235 Saturn 89957-01-19 00:29 G 34577197.28 34577197.52 34577197.76 0.0270 0.0063 Saturn 89970-07-18 10:05 G 34582125.69 34582125.92 34582126.15 0.0292 0.0091 Uranus 89973-12-23 21:51 G 34583380.19 34583380.41 34583380.64 0.0141 0.0070 Uranus 89974-12-28 19:41 G 34583750.06 34583750.32 34583750.58 0.0141 0.0007 Uranus 89976-01-02 16:19 G 34584119.99 34584120.18 34584120.40 0.0141 0.0083 Saturn 89986-01-13 23:46 G 34587784.25 34587784.49 34587784.73 0.0269 0.0071 Saturn 89987-01-26 08:39 G 34588161.75 34588161.86 34588161.99 0.0273 0.0235 Jupiter 89993-01-29 04:34 G 34590356.50 34590356.69 34590356.89 0.0498 0.0287 Saturn 89999-07-12 09:22 G 34592711.66 34592711.89 34592712.12 0.0293 0.0088

## 91ST MILLENNIUM CE

## This is a list of transits of Earth in the 91st millennium CE.

FROM MAX- C START MAX END SUNRAD DEPTH S

TRANSIT

TIME

Jupiter 90005-02-02 12:43 G 34594743.80 34594744.03 34594744.25 0.0499 0.0136 Neptune 90014-01-22 05:46 G 34598019.63 34598019.74 34598019.89 0.0089 0.0076 Saturn 90015-01-09 03:07 G 34598371.47 34598371.63 34598371.79 0.0267 0.0200 Neptune 90015-01-24 18:15 G 34598387.08 34598387.26 34598387.48 0.0089 0.0057 Saturn 90016-01-21 09:07 G 34598748.66 34598748.88 34598749.12 0.0271 0.0099 Neptune 90016-01-27 06:43 G 34598754.56 34598754.78 34598755.03 0.0089 0.0038 Uranus 90016-06-17 14:53 G 34598897.08 34598897.12 34598897.21 0.0136 0.0132 Neptune 90017-01-28 19:12 G 34599122.06 34599122.30 34599122.57 0.0089 0.0019 Uranus 90017-06-22 00:43 G 34599266.32 34599266.53 34599266.76 0.0137 0.0065 Neptune 90018-01-31 07:55 G 34599489.58 34599489.83 34599490.09 0.0089 0.0002 90018-06-26 11:03 G 34599635.71 34599635.96 34599636.21 0.0137 0.0003 Neptune 90019-02-02 20:24 G 34599857.10 34599857.35 34599857.61 0.0089 0.0020 Uranus 90019-06-30 21:36 G 34600005.19 34600005.40 34600005.62 0.0137 0.0072 Neptune 90020-02-05 08:39 G 34600224.64 34600224.86 34600225.10 0.0089 0.0039 Neptune 90021-02-06 20:53 G 34600592.18 34600592.37 34600592.57 0.0089 0.0058 Neptune 90022-02-09 09:07 G 34600959.76 34600959.88 34600960.01 0.0089 0.0077 Jupiter 90022-07-26 10:48 G 34601126.82 34601126.95 34601127.09 0.0528 0.0424 90028-07-05 14:24 G 34603297.99 34603298.10 34603298.23 0.0296 0.0258 Saturn 90029-07-19 18:58 G 34603677.07 34603677.29 34603677.51 0.0291 0.0130 Pluto 90032-10-27 08:53 G 34604872.87 34604872.87 34604872.92 0.0082 0.0082

Jupiter 90034-07-31 09:22 G 34605514.66 34605514.89 34605515.12 0.0527 0.0094 Saturn 90045-01-15 10:05 G 34609335.68 34609335.92 34609336.17 0.0269 0.0034 Saturn 90046-01-27 19:55 G 34609713.33 34609713.33 34609713.35 0.0273 0.0273 Uranus 90056-12-19 10:48 G 34613691.94 34613691.95 34613691.99 0.0142 0.0141 Uranus 90057-12-24 09:22 G 34614061.66 34614061.89 34614062.12 0.0141 0.0064 Saturn 90058-07-13 21:51 G 34614263.17 34614263.41 34614263.65 0.0293 0.0044 Uranus 90058-12-29 06:58 G 34614431.54 34614431.79 34614432.05 0.0141 0.0013 Uranus 90060-01-03 03:36 G 34614801.47 34614801.65 34614801.87 0.0141 0.0089 Saturn 90074-01-10 13:27 G 34619922.88 34619923.06 34619923.27 0.0268 0.0163 Saturn 90075-01-22 20:53 G 34620300.16 34620300.37 34620300.59 0.0271 0.0138 Jupiter 90076-01-29 04:34 G 34620671.54 34620671.69 34620671.85 0.0498 0.0372 Mars 90084-05-08 05:17 G 34623693.54 34623693.72 34623693.89 0.1892 0.0780 Saturn 90087-07-08 05:31 G 34624849.57 34624849.73 34624849.91 0.0295 0.0209 Jupiter 90088-02-02 17:03 G 34625058.98 34625059.21 34625059.44 0.0498 0.0067 Saturn 90088-07-21 08:53 G 34625228.69 34625228.87 34625229.07 0.0291 0.0176 Neptune 90094-07-19 11:03 G 34627417.88 34627417.96 34627418.05 0.0089 0.0083 Neptune 90095-07-21 21:51 G 34627785.25 34627785.41 34627785.60 0.0089 0.0065 Neptune 90096-07-23 09:07 G 34628152.66 34628152.88 34628153.10 0.0089 0.0046 Neptune 90097-07-25 19:41 G 34628520.09 34628520.32 34628520.58 0.0088 0.0028 Neptune 90098-07-28 06:58 G 34628887.54 34628887.79 34628888.05 0.0088 0.0009 Neptune 90099-07-30 17:46 G 34629254.99 34629255.24 34629255.50 0.0088 0.0011 Uranus 90100-06-19 00:15 G 34629578.44 34629578.51 34629578.62 0.0136 0.0128 Neptune 90100-08-02 04:48 G 34629622.46 34629622.70 34629622.95 0.0088 0.0029 Uranus 90101-06-23 10:05 G 34629947.70 34629947.92 34629948.15 0.0137 0.0061 Neptune 90101-08-04 15:22 G 34629989.94 34629990.14 34629990.38 0.0088 0.0048 Uranus 90102-06-27 20:10 G 34630317.09 34630317.34 34630317.59 0.0137 0.0008 Neptune 90102-08-07 02:10 G 34630357.45 34630357.59 34630357.79 0.0088 0.0066 Uranus 90103-07-02 06:43 G 34630686.59 34630686.78 34630687.00 0.0137 0.0077 Neptune 90103-08-09 13:27 G 34630725.00 34630725.06 34630725.15 0.0088 0.0085 Saturn 90104-01-18 23:31 G 34630887.24 34630887.48 34630887.73 0.0270 0.0008

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Neptune 90349-02-08 15:51 G 34720392.97 34720393.16 34720393.40 0.0089 0.0049 Neptune 90350-02-11 04:05 G 34720760.53 34720760.67 34720760.86 0.0089 0.0068 Neptune 90351-02-13 16:19 G 34721128.16 34721128.18 34721128.27 0.0089 0.0087 Uranus 90352-06-22 03:51 G 34721622.54 34721622.66 34721622.80 0.0136 0.0116 Saturn 90352-07-12 14:24 G 34721642.90 34721643.10 34721643.29 0.0294 0.0172 Uranus 90353-06-26 13:27 G 34721991.84 34721992.06 34721992.31 0.0137 0.0049 Saturn 90353-07-26 16:34 G 34722022.04 34722022.19 34722022.37 0.0290 0.0209 Uranus 90354-07-01 00:00 G 34722361.25 34722361.50 34722361.75 0.0137 0.0020 Uranus 90355-07-05 10:34 G 34722730.76 34722730.94 34722731.14 0.0137 0.0090 Jupiter 90366-07-31 03:07 G 34726774.45 34726774.63 34726774.82 0.0529 0.0309 Saturn 90368-01-10 14:53 G 34727303.09 34727303.12 34727303.16 0.0266 0.0263 90368-05-10 18:43 G 34727424.21 34727424.28 34727424.35 0.1901 0.1769 Mars Saturn 90369-01-21 19:55 G 34727680.08 34727680.33 34727680.57 0.0270 0.0029 Jupiter 90378-08-04 23:46 G 34731162.28 34731162.49 34731162.71 0.0527 0.0203 Saturn 90382-07-20 23:03 G 34732608.22 34732608.46 34732608.70 0.0293 0.0044 Uranus 90392-12-23 16:34 G 34736417.08 34736417.19 34736417.29 0.0142 0.0129 Uranus 90393-12-28 15:22 G 34736786.90 34736787.14 34736787.38 0.0141 0.0051 Uranus 90395-01-02 12:58 G 34737156.79 34737157.04 34737157.30 0.0141 0.0028 Uranus 90396-01-07 10:19 G 34737526.77 34737526.93 34737527.11 0.0141 0.0104 Saturn 90398-01-16 20:53 G 34738267.14 34738267.37 34738267.60 0.0268 0.0103 Saturn 90399-01-29 04:48 G 34738644.54 34738644.70 34738644.88 0.0272 0.0198 Saturn 90411-07-15 01:12 G 34743194.34 34743194.55 34743194.77 0.0294 0.0131 Saturn 90412-07-28 03:22 G 34743573.52 34743573.64 34743573.77 0.0290 0.0248 Jupiter 90420-02-03 00:14 G 34746319.31 34746319.51 34746319.72 0.0497 0.0247 Neptune 90423-07-23 18:58 G 34747586.17 34747586.29 34747586.46 0.0089 0.0074 Neptune 90424-07-25 06:14 G 34747953.57 34747953.76 34747953.97 0.0089 0.0055 Neptune 90425-07-27 17:02 G 34748320.99 34748321.21 34748321.46 0.0089 0.0037 Neptune 90426-07-30 04:19 G 34748688.44 34748688.68 34748688.94 0.0088 0.0018 Saturn 90427-01-11 16:48 G 34748854.10 34748854.20 34748854.32 0.0266 0.0235 Neptune 90427-08-01 15:36 G 34749055.89 34749056.15 34749056.41 0.0088 0.0001

Saturn 90428-01-23 21:50 G 34749231.17 34749231.41 34749231.65 0.0270 0.0057 Neptune 90428-08-03 02:10 G 34749423.36 34749423.59 34749423.86 0.0088 0.0021 Neptune 90429-08-05 13:12 G 34749790.83 34749791.05 34749791.29 0.0088 0.0039 Neptune 90430-08-08 00:00 G 34750158.32 34750158.50 34750158.71 0.0088 0.0057 Neptune 90431-08-10 10:48 G 34750525.84 34750525.95 34750526.10 0.0088 0.0076 Jupiter 90432-02-07 12:14 G 34750706.80 34750707.01 34750707.23 0.0498 0.0189 90435-05-04 22:34 G 34751889.39 34751889.44 34751889.54 0.0063 0.0060 Pluto 90436-05-05 09:07 G 34752255.64 34752255.88 34752256.13 0.0063 0.0017 Pluto Uranus 90436-06-22 14:10 G 34752303.96 34752304.09 34752304.24 0.0136 0.0112 Uranus 90437-06-27 00:00 G 34752673.27 34752673.50 34752673.75 0.0137 0.0044 Uranus 90438-07-01 10:05 G 34753042.68 34753042.92 34753043.18 0.0137 0.0026 Uranus 90439-07-05 20:53 G 34753412.20 34753412.37 34753412.56 0.0137 0.0095 Mars 90440-11-10 12:58 G 34753905.84 34753906.04 34753906.23 0.1637 0.0076 Saturn 90441-07-22 06:29 G 34754159.54 34754159.77 34754160.01 0.0292 0.0081 Jupiter 90449-07-30 02:53 G 34757089.47 34757089.62 34757089.77 0.0528 0.0400 Saturn 90457-01-17 20:53 G 34759818.14 34759818.37 34759818.61 0.0268 0.0078 Saturn 90458-01-30 04:48 G 34760195.58 34760195.70 34760195.86 0.0272 0.0223 Jupiter 90461-08-04 01:41 G 34761477.34 34761477.57 34761477.79 0.0528 0.0118 Saturn 90470-07-16 07:12 G 34764745.58 34764745.80 34764746.04 0.0294 0.0096 Saturn 90471-07-30 09:07 G 34765124.84 34765124.88 34765124.94 0.0289 0.0281 Uranus 90476-12-24 01:41 G 34767098.47 34767098.57 34767098.71 0.0142 0.0125 Uranus 90477-12-29 00:29 G 34767468.29 34767468.52 34767468.77 0.0141 0.0046 Uranus 90479-01-02 22:34 G 34767838.19 34767838.44 34767838.69 0.0141 0.0032 Uranus 90480-01-07 19:12 G 34768208.17 34768208.30 34768208.49 0.0141 0.0110 Saturn 90486-01-12 15:36 G 34770405.00 34770405.15 34770405.30 0.0266 0.0212 Saturn 90487-01-24 20:10 G 34770782.11 34770782.34 34770782.58 0.0270 0.0080 Saturn 90499-07-10 02:24 G 34775331.53 34775331.60 34775331.69 0.0297 0.0279 Saturn 90500-07-24 09:22 G 34775710.67 34775710.89 34775711.12 0.0292 0.0110 Jupiter 90503-02-03 10:19 G 34776634.74 34776634.93 34776635.12 0.0498 0.0289 Neptune 90507-01-26 23:02 G 34778088.32 34778088.46 34778088.64 0.0089 0.0070

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Uranus 90732-01-12 03:22 G 34860252.55 34860252.64 34860252.76 0.0141 0.0128 Saturn 90735-07-17 07:41 G 34861534.63 34861534.82 34861535.00 0.0297 0.0191 Saturn 90736-07-30 15:36 G 34861913.97 34861914.15 34861914.33 0.0292 0.0195 Saturn 90751-01-14 20:38 G 34867195.34 34867195.36 34867195.40 0.0264 0.0262 Neptune 90751-07-25 17:17 G 34867387.15 34867387.22 34867387.34 0.0089 0.0082 Saturn 90752-01-26 21:07 G 34867572.14 34867572.38 34867572.63 0.0267 0.0021 Jupiter 90752-02-04 20:53 G 34867581.24 34867581.37 34867581.52 0.0498 0.0397 Neptune 90752-07-27 04:05 G 34867754.52 34867754.67 34867754.88 0.0089 0.0064 Neptune 90753-07-29 15:07 G 34868121.93 34868122.13 34868122.37 0.0089 0.0045 Neptune 90754-08-01 01:55 G 34868489.35 34868489.58 34868489.84 0.0089 0.0027 Neptune 90755-08-03 13:12 G 34868856.79 34868857.05 34868857.30 0.0088 0.0008 Neptune 90756-08-05 00:00 G 34869224.25 34869224.50 34869224.76 0.0088 0.0011 Neptune 90757-08-07 11:02 G 34869591.72 34869591.96 34869592.21 0.0088 0.0030 Neptune 90758-08-09 21:50 G 34869959.21 34869959.41 34869959.64 0.0088 0.0048 Neptune 90759-08-12 08:53 G 34870326.72 34870326.87 34870327.05 0.0088 0.0067 Neptune 90760-08-13 20:10 G 34870694.28 34870694.34 34870694.41 0.0088 0.0085 Jupiter 90764-02-09 10:34 G 34871968.70 34871968.94 34871969.17 0.0498 0.0045 Saturn 90765-07-24 13:41 G 34872499.82 34872500.07 34872500.31 0.0295 0.0022 Uranus 90772-06-27 01:26 G 34875029.40 34875029.56 34875029.75 0.0136 0.0097 Pluto 90772-11-07 05:17 G 34875162.58 34875162.72 34875162.88 0.0082 0.0066 Uranus 90773-07-01 11:17 G 34875398.72 34875398.97 34875399.22 0.0137 0.0028 Uranus 90774-07-05 21:07 G 34875768.14 34875768.38 34875768.62 0.0137 0.0042 Uranus 90775-07-10 07:12 G 34876137.68 34876137.80 34876137.97 0.0137 0.0113 Jupiter 90776-02-13 22:05 G 34876356.37 34876356.42 34876356.49 0.0499 0.0480 Saturn 90781-01-20 17:46 G 34878159.02 34878159.24 34878159.47 0.0266 0.0112 Saturn 90782-02-01 20:38 G 34878536.19 34878536.36 34878536.56 0.0270 0.0178 Jupiter 90793-08-05 16:34 G 34882738.96 34882739.19 34882739.42 0.0528 0.0074 Saturn 90794-07-18 04:19 G 34883085.49 34883085.68 34883085.89 0.0297 0.0167 Saturn 90795-08-01 12:14 G 34883464.86 34883465.01 34883465.18 0.0292 0.0218 Jupiter 90805-08-10 16:48 G 34887127.09 34887127.20 34887127.33 0.0527 0.0450

Saturn 90810-01-15 19:55 G 34888746.24 34888746.33 34888746.45 0.0264 0.0238 Saturn 90811-01-27 20:38 G 34889123.11 34889123.36 34889123.60 0.0268 0.0044 Uranus 90812-12-28 17:17 G 34889824.05 34889824.22 34889824.40 0.0142 0.0105 Uranus 90814-01-02 15:36 G 34890193.91 34890194.15 34890194.41 0.0141 0.0026 Uranus 90815-01-07 13:26 G 34890563.83 34890564.06 34890564.30 0.0141 0.0053 Uranus 90816-01-12 10:34 G 34890933.86 34890933.94 34890934.04 0.0141 0.0131 Saturn 90824-07-25 11:31 G 34894050.74 34894050.98 34894051.22 0.0295 0.0047 Neptune 90835-01-27 18:29 G 34897889.17 34897889.27 34897889.40 0.0089 0.0079 Jupiter 90835-02-04 07:26 G 34897896.70 34897896.81 34897896.92 0.0498 0.0438 Neptune 90836-01-30 07:12 G 34898256.63 34898256.80 34898257.01 0.0089 0.0060 Neptune 90837-01-31 19:55 G 34898624.11 34898624.33 34898624.57 0.0089 0.0041 Neptune 90838-02-03 08:24 G 34898991.61 34898991.85 34898992.11 0.0089 0.0022 Neptune 90839-02-05 21:07 G 34899359.12 34899359.38 34899359.64 0.0089 0.0003 Saturn 90840-01-22 19:12 G 34899710.07 34899710.30 34899710.54 0.0266 0.0086 Neptune 90840-02-08 09:22 G 34899726.64 34899726.89 34899727.15 0.0089 0.0016 Saturn 90841-02-02 22:19 G 34900087.28 34900087.43 34900087.61 0.0270 0.0204 Neptune 90841-02-09 21:22 G 34900094.17 34900094.39 34900094.64 0.0089 0.0035 Neptune 90842-02-12 09:36 G 34900461.72 34900461.90 34900462.13 0.0089 0.0054 Neptune 90843-02-14 22:34 G 34900829.29 34900829.44 34900829.59 0.0089 0.0072 Jupiter 90847-02-08 19:26 G 34902284.08 34902284.31 34902284.55 0.0498 0.0005 Saturn 90853-07-19 04:34 G 34904636.48 34904636.69 34904636.91 0.0296 0.0138 Saturn 90854-08-02 12:14 G 34905015.89 34905016.01 34905016.15 0.0292 0.0245 Uranus 90856-06-27 09:50 G 34905710.74 34905710.91 34905711.10 0.0136 0.0094 Uranus 90857-07-01 19:26 G 34906080.06 34906080.31 34906080.56 0.0137 0.0025 Uranus 90858-07-06 05:02 G 34906449.48 34906449.71 34906449.96 0.0137 0.0045 Jupiter 90859-02-13 04:19 G 34906671.56 34906671.68 34906671.81 0.0499 0.0422 Uranus 90859-07-10 15:36 G 34906819.03 34906819.15 34906819.29 0.0137 0.0116 Saturn 90869-01-16 23:02 G 34910297.31 34910297.46 34910297.61 0.0264 0.0210 Saturn 90870-01-28 23:31 G 34910674.25 34910674.48 34910674.73 0.0268 0.0073 Jupiter 90876-08-04 20:38 G 34913054.15 34913054.36 34913054.59 0.0527 0.0150

Saturn 90883-07-27 14:24 G 34915601.87 34915602.10 34915602.34 0.0294 0.0079 Jupiter 90888-08-09 19:26 G 34917442.14 34917442.31 34917442.47 0.0527 0.0366 Uranus 90896-12-28 23:02 G 34920505.30 34920505.46 34920505.65 0.0142 0.0103 Uranus 90898-01-02 21:36 G 34920875.16 34920875.40 34920875.66 0.0141 0.0024 Uranus 90899-01-07 19:12 G 34921245.08 34921245.30 34921245.55 0.0141 0.0056 Saturn 90899-01-24 00:43 G 34921261.29 34921261.53 34921261.78 0.0266 0.0055 Uranus 90900-01-12 16:05 G 34921615.12 34921615.17 34921615.27 0.0141 0.0134 Saturn 90900-02-05 04:48 G 34921638.58 34921638.70 34921638.82 0.0270 0.0235 Saturn 90912-07-21 09:36 G 34926187.68 34926187.90 34926188.14 0.0296 0.0103 Saturn 90913-08-04 16:34 G 34926567.12 34926567.19 34926567.27 0.0292 0.0277 Neptune 90915-07-26 04:34 G 34927287.66 34927287.69 34927287.79 0.0089 0.0086 Neptune 90916-07-27 15:50 G 34927655.00 34927655.16 34927655.33 0.0089 0.0067 Neptune 90917-07-30 02:38 G 34928022.41 34928022.61 34928022.84 0.0089 0.0049 Neptune 90918-08-01 13:26 G 34928389.83 34928390.06 34928390.31 0.0089 0.0030 Neptune 90919-08-04 00:29 G 34928757.27 34928757.52 34928757.77 0.0089 0.0012 Neptune 90920-08-05 11:17 G 34929124.72 34929124.97 34929125.23 0.0088 0.0007 Neptune 90921-08-07 21:50 G 34929492.18 34929492.41 34929492.67 0.0088 0.0026 Neptune 90922-08-10 08:53 G 34929859.66 34929859.87 34929860.10 0.0088 0.0044 Neptune 90923-08-12 19:26 G 34930227.16 34930227.31 34930227.52 0.0088 0.0063 Neptune 90924-08-14 06:58 G 34930594.70 34930594.79 34930594.91 0.0088 0.0081 Saturn 90928-01-20 05:17 G 34931848.54 34931848.72 34931848.91 0.0265 0.0178 Saturn 90929-01-31 06:43 G 34932225.55 34932225.78 34932226.01 0.0268 0.0105 Pluto 90929-05-12 17:02 G 34932326.97 34932327.21 34932327.47 0.0063 0.0014 90929-11-14 11:02 G 34932512.77 34932512.96 34932513.14 0.1625 0.0495 Mars Jupiter 90930-02-08 22:19 G 34932599.20 34932599.43 34932599.67 0.0498 0.0076 Uranus 90940-06-28 19:12 G 34936392.13 34936392.30 34936392.50 0.0136 0.0090 Uranus 90941-07-03 04:48 G 34936761.46 34936761.70 34936761.96 0.0137 0.0021 Saturn 90941-07-15 11:02 G 34936773.88 34936773.96 34936774.07 0.0298 0.0273 Jupiter 90942-02-13 11:17 G 34936986.82 34936986.97 34936987.14 0.0499 0.0365 Uranus 90942-07-07 14:38 G 34937130.89 34937131.11 34937131.35 0.0137 0.0050

Saturn 90942-07-29 21:36 G 34937153.18 34937153.40 34937153.63 0.0294 0.0116 Uranus 90943-07-12 00:43 G 34937500.44 34937500.53 34937500.68 0.0137 0.0121 Saturn 90958-01-26 09:36 G 34942812.65 34942812.90 34942813.15 0.0267 0.0020 Saturn 90959-02-07 14:10 G 34943190.08 34943190.09 34943190.11 0.0271 0.0270 Jupiter 90959-08-05 22:34 G 34943369.24 34943369.44 34943369.65 0.0528 0.0233 90971-07-23 20:53 G 34947739.14 34947739.37 34947739.61 0.0296 0.0060 Jupiter 90971-08-11 00:29 G 34947757.34 34947757.52 34947757.72 0.0527 0.0299 Uranus 90980-12-30 06:29 G 34951186.61 34951186.77 34951186.97 0.0142 0.0100 Uranus 90982-01-04 05:17 G 34951556.47 34951556.72 34951556.98 0.0141 0.0020 Uranus 90983-01-09 03:07 G 34951926.40 34951926.63 34951926.86 0.0141 0.0059 Uranus 90984-01-14 00:14 G 34952296.46 34952296.51 34952296.57 0.0141 0.0137 Saturn 90987-01-21 14:53 G 34953399.91 34953400.12 34953400.33 0.0265 0.0142 Saturn 90988-02-02 17:02 G 34953777.01 34953777.21 34953777.43 0.0269 0.0143 Neptune 90999-01-28 04:05 G 34957789.60 34957789.67 34957789.77 0.0089 0.0083 Neptune 91000-01-30 16:19 G 34958157.03 34958157.18 34958157.38 0.0089 0.0065 Saturn 91000-07-18 00:29 G 34958325.37 34958325.52 34958325.68 0.0298 0.0227

## 92ND MILLENNIUM CE

### This is a list of transits of Earth in the 92nd millennium CE.

FROM MAX- C START MAX END SUNRAD DEPTH S

TRANSIT

TIME

Neptune 91001-02-02 05:02 G 34958524.50 34958524.71 34958524.95 0.0089 0.0046

Saturn 91001-08-01 09:50 G 34958704.72 34958704.91 34958705.12 0.0294 0.0159

Neptune 91002-02-04 17:46 G 34958892.00 34958892.24 34958892.50 0.0089 0.0027

Neptune 91003-02-07 06:29 G 34959259.52 34959259.77 34959260.04 0.0089 0.0008 Neptune 91004-02-09 18:58 G 34959627.04 34959627.29 34959627.55 0.0089 0.0012 Neptune 91005-02-11 07:26 G 34959994.57 34959994.81 34959995.05 0.0089 0.0030 Neptune 91006-02-13 19:41 G 34960362.11 34960362.32 34960362.54 0.0089 0.0049 Neptune 91007-02-16 07:41 G 34960729.68 34960729.82 34960730.01 0.0089 0.0068 Neptune 91008-02-18 19:55 G 34961097.30 34961097.33 34961097.41 0.0089 0.0087 91008-11-17 15:07 G 34961370.06 34961370.13 34961370.21 0.1628 0.1485 Mars Jupiter 91013-02-09 02:24 G 34962914.38 34962914.60 34962914.83 0.0498 0.0143 Mars 91015-05-18 23:17 G 34963743.28 34963743.47 34963743.66 0.1912 0.0439 Saturn 91016-01-17 21:50 G 34963987.37 34963987.41 34963987.45 0.0264 0.0260 Saturn 91017-01-28 21:22 G 34964364.14 34964364.39 34964364.64 0.0267 0.0018 91019-11-12 16:19 G 34965381.94 34965382.18 34965382.43 0.0081 0.0031 Uranus 91024-06-30 04:34 G 34967073.50 34967073.69 34967073.89 0.0136 0.0086 Jupiter 91025-02-13 13:12 G 34967301.86 34967302.05 34967302.25 0.0499 0.0286 Uranus 91025-07-04 14:10 G 34967442.85 34967443.09 34967443.34 0.0137 0.0017 Uranus 91026-07-09 00:00 G 34967812.28 34967812.50 34967812.74 0.0137 0.0054 Uranus 91027-07-13 10:48 G 34968181.86 34968181.95 34968182.06 0.0137 0.0125 Saturn 91030-07-26 12:29 G 34969290.77 34969291.02 34969291.26 0.0295 0.0012 Jupiter 91042-08-06 01:41 G 34973684.38 34973684.57 34973684.76 0.0528 0.0314 Saturn 91046-01-24 02:24 G 34974951.38 34974951.60 34974951.83 0.0266 0.0105 Saturn 91047-02-05 05:31 G 34975328.56 34975328.73 34975328.93 0.0269 0.0183 Jupiter 91054-08-10 20:38 G 34978072.15 34978072.36 34978072.58 0.0527 0.0187 Saturn 91059-07-20 18:43 G 34979877.09 34979877.28 34979877.48 0.0297 0.0176 Saturn 91060-08-03 02:53 G 34980256.46 34980256.62 34980256.80 0.0293 0.0206 Uranus 91064-12-31 16:48 G 34981868.02 34981868.20 34981868.40 0.0142 0.0095 Uranus 91066-01-05 15:22 G 34982237.89 34982238.14 34982238.40 0.0141 0.0015 Uranus 91067-01-10 12:43 G 34982607.82 34982608.03 34982608.28 0.0141 0.0065 Saturn 91075-01-19 10:05 G 34985538.80 34985538.92 34985539.06 0.0265 0.0222 Saturn 91076-01-31 11:02 G 34985915.72 34985915.96 34985916.20 0.0268 0.0058 Neptune 91080-07-28 02:10 G 34987555.47 34987555.59 34987555.77 0.0089 0.0072

Neptune 91081-07-30 13:26 G 34987922.87 34987923.06 34987923.28 0.0089 0.0053 Neptune 91082-08-02 00:00 G 34988290.28 34988290.50 34988290.75 0.0089 0.0035 Neptune 91083-08-04 11:02 G 34988657.72 34988657.96 34988658.22 0.0089 0.0016 Neptune 91084-08-05 22:05 G 34989025.16 34989025.42 34989025.68 0.0089 0.0002 Neptune 91085-08-08 08:53 G 34989392.62 34989392.87 34989393.12 0.0088 0.0021 Neptune 91086-08-10 19:12 G 34989760.09 34989760.30 34989760.55 0.0088 0.0040 Neptune 91087-08-13 06:14 G 34990127.58 34990127.76 34990127.97 0.0088 0.0058 Neptune 91088-08-14 16:48 G 34990495.10 34990495.20 34990495.36 0.0088 0.0077 Saturn 91089-07-28 07:55 G 34990842.59 34990842.83 34990843.07 0.0294 0.0040 Jupiter 91096-02-08 23:31 G 34993229.27 34993229.48 34993229.68 0.0498 0.0242 Saturn 91105-01-26 15:07 G 34996502.90 34996503.13 34996503.38 0.0266 0.0066 Saturn 91106-02-07 19:26 G 34996880.19 34996880.31 34996880.46 0.0270 0.0223 Jupiter 91108-02-14 10:48 G 34997616.73 34997616.95 34997617.17 0.0498 0.0190 Uranus 91108-07-01 14:24 G 34997754.91 34997755.10 34997755.31 0.0137 0.0082 Uranus 91109-07-06 00:14 G 34998124.26 34998124.51 34998124.76 0.0137 0.0012 Uranus 91110-07-10 10:05 G 34998493.70 34998493.92 34998494.16 0.0137 0.0059 Uranus 91111-07-14 20:24 G 34998863.30 34998863.35 34998863.46 0.0137 0.0131 Saturn 91118-07-23 15:07 G 35001428.92 35001429.13 35001429.36 0.0297 0.0123 Saturn 91119-08-06 22:05 G 35001808.31 35001808.42 35001808.54 0.0292 0.0256 Jupiter 91125-08-05 17:31 G 35003999.12 35003999.23 35003999.37 0.0528 0.0443 Saturn 91134-01-21 22:34 G 35007090.27 35007090.44 35007090.62 0.0265 0.0184 Saturn 91135-02-03 00:14 G 35007467.29 35007467.51 35007467.75 0.0268 0.0099 Jupiter 91137-08-10 15:36 G 35008386.92 35008387.15 35008387.38 0.0528 0.0071 Saturn 91147-07-17 18:58 G 35012015.26 35012015.29 35012015.35 0.0298 0.0293 Saturn 91148-07-31 05:31 G 35012394.50 35012394.73 35012394.96 0.0294 0.0093 Uranus 91149-01-02 04:34 G 35012549.50 35012549.69 35012549.91 0.0142 0.0088 Uranus 91150-01-07 03:07 G 35012919.38 35012919.63 35012919.89 0.0141 0.0009 Uranus 91151-01-12 00:43 G 35013289.32 35013289.53 35013289.76 0.0141 0.0071 Neptune 91163-01-29 12:43 G 35017690.02 35017690.03 35017690.10 0.0089 0.0088 Saturn 91164-01-29 03:22 G 35018054.40 35018054.64 35018054.89 0.0267 0.0027

Neptune 91164-02-01 01:26 G 35018057.42 35018057.56 35018057.74 0.0089 0.0069 Neptune 91165-02-02 14:10 G 35018424.89 35018425.09 35018425.32 0.0089 0.0050 Saturn 91165-02-09 08:53 G 35018431.81 35018431.87 35018431.93 0.0271 0.0262 Neptune 91166-02-05 03:07 G 35018792.39 35018792.63 35018792.87 0.0089 0.0031 Neptune 91167-02-07 15:36 G 35019159.90 35019160.15 35019160.41 0.0089 0.0012 Neptune 91168-02-10 04:05 G 35019527.42 35019527.67 35019527.94 0.0089 0.0007 Neptune 91169-02-11 16:34 G 35019894.96 35019895.19 35019895.45 0.0089 0.0026 Neptune 91170-02-14 04:48 G 35020262.50 35020262.70 35020262.95 0.0089 0.0045 Neptune 91171-02-16 17:17 G 35020630.07 35020630.22 35020630.43 0.0089 0.0064 Neptune 91172-02-19 05:46 G 35020997.66 35020997.74 35020997.85 0.0089 0.0082 Pluto 91175-05-16 09:36 G 35022179.65 35022179.90 35022180.15 0.0063 0.0013 Saturn 91177-07-25 12:43 G 35022980.80 35022981.03 35022981.27 0.0296 0.0069 Jupiter 91179-02-09 01:55 G 35023544.41 35023544.58 35023544.77 0.0498 0.0317 Jupiter 91191-02-13 13:12 G 35027931.83 35027932.05 35027932.28 0.0498 0.0116 Uranus 91192-07-01 22:48 G 35028436.26 35028436.45 35028436.67 0.0137 0.0078 Saturn 91193-01-23 10:05 G 35028641.72 35028641.92 35028642.13 0.0265 0.0148 Uranus 91193-07-06 08:53 G 35028805.61 35028805.87 35028806.12 0.0137 0.0008 Saturn 91194-02-04 12:43 G 35029018.83 35029019.03 35029019.26 0.0269 0.0137 Uranus 91194-07-10 18:29 G 35029175.06 35029175.27 35029175.51 0.0137 0.0064 Uranus 91195-07-15 05:31 G 35029544.69 35029544.73 35029544.79 0.0137 0.0135 Saturn 91206-07-19 16:48 G 35033567.06 35033567.20 35033567.34 0.0297 0.0239 Saturn 91207-08-03 01:55 G 35033946.37 35033946.58 35033946.79 0.0293 0.0145 91213-11-17 13:41 G 35036244.88 35036245.07 35036245.26 0.1621 0.0260 Mars Jupiter 91220-08-09 16:19 G 35038701.95 35038702.18 35038702.41 0.0528 0.0021 Saturn 91223-01-30 13:41 G 35039605.82 35039606.07 35039606.31 0.0267 0.0010 Jupiter 91232-08-14 11:31 G 35043089.90 35043089.98 35043090.08 0.0527 0.0484 Uranus 91233-01-02 16:48 G 35043231.00 35043231.20 35043231.41 0.0142 0.0082 Uranus 91234-01-07 15:22 G 35043600.88 35043601.14 35043601.40 0.0141 0.0001 Uranus 91235-01-12 12:58 G 35043970.83 35043971.04 35043971.26 0.0141 0.0078 Saturn 91236-07-27 08:24 G 35044532.61 35044532.85 35044533.10 0.0296 0.0019

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Saturn 91472-08-04 17:17 G 35130738.00 35130738.22 35130738.44 0.0295 0.0125 Jupiter 91481-08-14 22:05 G 35134035.22 35134035.42 35134035.63 0.0527 0.0255 Uranus 91485-01-05 17:31 G 35135275.02 35135275.23 35135275.46 0.0142 0.0071 Uranus 91486-01-10 16:34 G 35135644.93 35135645.19 35135645.45 0.0141 0.0011 Uranus 91487-01-15 14:38 G 35136014.92 35136015.11 35136015.31 0.0141 0.0091 Saturn 91488-02-01 21:50 G 35136397.16 35136397.41 35136397.66 0.0266 0.0016 Saturn 91489-02-13 00:43 G 35136774.52 35136774.53 35136774.57 0.0269 0.0268 Neptune 91492-02-01 18:14 G 35137858.16 35137858.26 35137858.41 0.0089 0.0078 Neptune 91493-02-03 06:43 G 35138225.62 35138225.78 35138226.00 0.0089 0.0060 Neptune 91494-02-05 19:26 G 35138593.10 35138593.31 35138593.56 0.0089 0.0041 Neptune 91495-02-08 08:10 G 35138960.60 35138960.84 35138961.10 0.0089 0.0022 Neptune 91496-02-10 20:53 G 35139328.11 35139328.37 35139328.63 0.0089 0.0003 Neptune 91497-02-12 09:22 G 35139695.64 35139695.89 35139696.15 0.0089 0.0016 91497-11-20 17:02 G 35139977.06 35139977.21 35139977.36 0.1617 0.1011 Mars Neptune 91498-02-14 21:36 G 35140063.17 35140063.40 35140063.65 0.0089 0.0035 Neptune 91499-02-17 09:50 G 35140430.73 35140430.91 35140431.14 0.0089 0.0054 Neptune 91500-02-19 22:48 G 35140798.31 35140798.45 35140798.61 0.0089 0.0072 Saturn 91501-07-30 11:31 G 35141323.74 35141323.98 35141324.22 0.0297 0.0053 Pluto 91511-11-18 12:29 G 35145086.94 35145087.02 35145087.13 0.0082 0.0076 Saturn 91517-01-27 18:00 G 35146984.04 35146984.25 35146984.46 0.0264 0.0144 Saturn 91518-02-08 17:17 G 35147361.01 35147361.22 35147361.44 0.0268 0.0133 Jupiter 91523-02-14 16:48 G 35149192.97 35149193.20 35149193.43 0.0498 0.0109 Uranus 91527-07-03 02:53 G 35150792.59 35150792.62 35150792.71 0.0136 0.0132 Uranus 91528-07-06 12:14 G 35151161.80 35151162.01 35151162.24 0.0136 0.0062 Uranus 91529-07-10 21:50 G 35151531.16 35151531.41 35151531.66 0.0137 0.0009 Uranus 91530-07-15 07:41 G 35151900.63 35151900.82 35151901.03 0.0137 0.0080 Saturn 91530-07-24 00:00 G 35151909.37 35151909.50 35151909.65 0.0299 0.0242 Saturn 91531-08-07 13:12 G 35152288.84 35152289.05 35152289.27 0.0295 0.0146 Jupiter 91535-02-19 04:05 G 35153580.50 35153580.67 35153580.85 0.0499 0.0325 Saturn 91547-02-03 16:19 G 35157947.93 35157948.18 35157948.43 0.0265 0.0002

Jupiter 91552-08-10 06:00 G 35159962.58 35159962.75 35159962.94 0.0528 0.0323 Saturn 91560-07-31 06:43 G 35162874.54 35162874.78 35162875.03 0.0297 0.0032 Jupiter 91564-08-15 06:14 G 35164350.55 35164350.76 35164350.98 0.0527 0.0200 Uranus 91569-01-07 03:36 G 35165956.43 35165956.65 35165956.89 0.0142 0.0066 Uranus 91570-01-12 02:24 G 35166326.35 35166326.60 35166326.86 0.0141 0.0016 Uranus 91571-01-17 00:29 G 35166696.35 35166696.52 35166696.72 0.0141 0.0097 Neptune 91572-07-30 09:07 G 35167256.83 35167256.88 35167256.98 0.0089 0.0085 Neptune 91573-08-01 19:41 G 35167624.18 35167624.32 35167624.52 0.0089 0.0067 Neptune 91574-08-04 06:58 G 35167991.59 35167991.79 35167992.02 0.0089 0.0048 Neptune 91575-08-06 17:46 G 35168359.01 35168359.24 35168359.49 0.0089 0.0030 Saturn 91576-01-29 12:29 G 35168534.80 35168535.02 35168535.24 0.0264 0.0126 Neptune 91576-08-08 04:48 G 35168726.45 35168726.70 35168726.96 0.0089 0.0011 Saturn 91577-02-09 11:31 G 35168911.79 35168911.98 35168912.19 0.0268 0.0150 Neptune 91577-08-10 15:36 G 35169093.90 35169094.15 35169094.41 0.0088 0.0008 Neptune 91578-08-13 02:38 G 35169461.37 35169461.61 35169461.86 0.0088 0.0026 Neptune 91579-08-15 12:58 G 35169828.84 35169829.04 35169829.28 0.0088 0.0045 Neptune 91580-08-16 23:46 G 35170196.33 35170196.49 35170196.69 0.0088 0.0063 Neptune 91581-08-19 10:34 G 35170563.86 35170563.94 35170564.06 0.0088 0.0081 Saturn 91589-07-24 17:17 G 35173460.07 35173460.22 35173460.39 0.0299 0.0223 Saturn 91590-08-08 06:43 G 35173839.59 35173839.78 35173839.99 0.0295 0.0165 Saturn 91605-01-23 13:55 G 35179122.02 35179122.08 35179122.17 0.0262 0.0249 Saturn 91606-02-04 10:34 G 35179498.69 35179498.94 35179499.19 0.0265 0.0020 Jupiter 91606-02-14 04:05 G 35179508.45 35179508.67 35179508.90 0.0498 0.0144 Uranus 91611-07-03 14:53 G 35181474.04 35181474.12 35181474.22 0.0136 0.0126 Uranus 91612-07-07 00:00 G 35181843.28 35181843.50 35181843.74 0.0136 0.0056 Uranus 91613-07-11 09:36 G 35182212.65 35182212.90 35182213.15 0.0137 0.0015 Uranus 91614-07-15 19:12 G 35182582.12 35182582.30 35182582.51 0.0137 0.0087 Jupiter 91618-02-18 17:31 G 35183896.05 35183896.23 35183896.43 0.0499 0.0297 Saturn 91619-08-01 23:46 G 35184425.25 35184425.49 35184425.74 0.0297 0.0013 Saturn 91635-01-30 06:58 G 35190085.57 35190085.79 35190086.02 0.0264 0.0108

Jupiter 91635-08-10 17:46 G 35190278.08 35190278.24 35190278.41 0.0528 0.0362 Saturn 91636-02-11 06:00 G 35190462.56 35190462.75 35190462.94 0.0267 0.0167 Jupiter 91647-08-15 19:26 G 35194666.09 35194666.31 35194666.53 0.0527 0.0169 Saturn 91648-07-25 10:34 G 35195010.77 35195010.94 35195011.12 0.0299 0.0203 Saturn 91649-08-09 00:00 G 35195390.32 35195390.50 35195390.70 0.0295 0.0183 Uranus 91652-01-03 16:19 G 35196268.17 35196268.18 35196268.21 0.0142 0.0141 Uranus 91653-01-07 15:50 G 35196637.93 35196638.16 35196638.40 0.0142 0.0059 Uranus 91654-01-12 14:38 G 35197007.86 35197008.11 35197008.37 0.0141 0.0023 Uranus 91655-01-17 12:29 G 35197377.86 35197378.02 35197378.21 0.0141 0.0104 Neptune 91656-02-02 01:41 G 35197758.50 35197758.57 35197758.68 0.0089 0.0083 Neptune 91657-02-03 13:55 G 35198125.93 35198126.08 35198126.29 0.0089 0.0065 Neptune 91658-02-06 02:38 G 35198493.41 35198493.61 35198493.85 0.0089 0.0046 Neptune 91659-02-08 15:22 G 35198860.90 35198861.14 35198861.40 0.0089 0.0027 Neptune 91660-02-11 04:05 G 35199228.41 35199228.67 35199228.93 0.0089 0.0008 Neptune 91661-02-12 16:19 G 35199595.93 35199596.18 35199596.45 0.0089 0.0011 Neptune 91662-02-15 04:34 G 35199963.46 35199963.69 35199963.95 0.0089 0.0030 Neptune 91663-02-17 17:17 G 35200331.02 35200331.22 35200331.45 0.0089 0.0048 Saturn 91664-01-25 09:22 G 35200672.77 35200672.89 35200673.01 0.0262 0.0230 Neptune 91664-02-20 05:46 G 35200698.59 35200698.74 35200698.92 0.0089 0.0067 Saturn 91665-02-05 05:31 G 35201049.49 35201049.73 35201049.98 0.0265 0.0038 Neptune 91665-02-21 18:00 G 35201066.22 35201066.25 35201066.35 0.0089 0.0086 Pluto 91667-05-22 00:00 G 35201885.35 35201885.50 35201885.67 0.0063 0.0049 Pluto 91668-05-22 10:19 G 35202251.70 35202251.93 35202252.16 0.0063 0.0027 Saturn 91678-08-02 17:31 G 35205975.99 35205976.23 35205976.47 0.0297 0.0008 Jupiter 91689-02-13 16:34 G 35209823.97 35209824.19 35209824.41 0.0498 0.0176 Saturn 91694-01-31 03:22 G 35211636.41 35211636.64 35211636.88 0.0264 0.0088 Saturn 91695-02-12 02:10 G 35212013.42 35212013.59 35212013.77 0.0267 0.0187 Uranus 91695-07-04 01:26 G 35212155.46 35212155.56 35212155.68 0.0136 0.0122 Uranus 91696-07-07 10:19 G 35212524.71 35212524.93 35212525.17 0.0136 0.0051 Uranus 91697-07-11 19:41 G 35212894.08 35212894.32 35212894.58 0.0137 0.0021

Uranus 91698-07-16 05:31 G 35213263.56 35213263.73 35213263.93 0.0137 0.0092 Jupiter 91701-02-19 05:31 G 35214211.53 35214211.73 35214211.93 0.0499 0.0260 91702-11-21 17:02 G 35214852.02 35214852.21 35214852.40 0.1611 0.0131 Mars Saturn 91707-07-28 04:34 G 35216561.51 35216561.69 35216561.89 0.0299 0.0182 Saturn 91708-08-10 18:00 G 35216941.09 35216941.25 35216941.44 0.0295 0.0203 Jupiter 91718-08-11 06:29 G 35220593.62 35220593.77 35220593.93 0.0528 0.0396 Saturn 91723-01-27 06:14 G 35222223.61 35222223.76 35222223.91 0.0262 0.0209 Saturn 91724-02-08 02:38 G 35222600.37 35222600.61 35222600.85 0.0265 0.0059 Jupiter 91730-08-16 03:36 G 35224981.42 35224981.65 35224981.87 0.0527 0.0111 Uranus 91736-01-05 06:29 G 35226949.70 35226949.77 35226949.88 0.0142 0.0133 Uranus 91737-01-09 06:14 G 35227319.53 35227319.76 35227320.01 0.0142 0.0051 Neptune 91737-08-02 05:46 G 35227524.60 35227524.74 35227524.90 0.0089 0.0071 Saturn 91737-08-04 13:41 G 35227526.83 35227527.07 35227527.32 0.0297 0.0031 Uranus 91738-01-14 04:48 G 35227689.46 35227689.70 35227689.96 0.0141 0.0032 Neptune 91738-08-04 16:19 G 35227891.99 35227892.18 35227892.40 0.0089 0.0053 Uranus 91739-01-19 02:38 G 35228059.48 35228059.61 35228059.78 0.0141 0.0113 Neptune 91739-08-07 03:07 G 35228259.40 35228259.63 35228259.88 0.0089 0.0035 Neptune 91740-08-08 14:10 G 35228626.84 35228627.09 35228627.34 0.0089 0.0016 Neptune 91741-08-11 00:58 G 35228994.29 35228994.54 35228994.80 0.0089 0.0003 Neptune 91742-08-13 12:00 G 35229361.75 35229362.00 35229362.25 0.0088 0.0021 Neptune 91743-08-15 22:19 G 35229729.22 35229729.43 35229729.68 0.0088 0.0040 Neptune 91744-08-17 09:22 G 35230096.71 35230096.89 35230097.10 0.0088 0.0058 Neptune 91745-08-19 20:10 G 35230464.22 35230464.34 35230464.48 0.0088 0.0076 Saturn 91753-02-02 02:24 G 35233187.36 35233187.60 35233187.84 0.0264 0.0065 Saturn 91754-02-14 00:58 G 35233564.40 35233564.54 35233564.70 0.0268 0.0210 Pluto 91758-11-22 14:10 G 35235306.97 35235307.09 35235307.24 0.0081 0.0069 Saturn 91766-07-29 02:53 G 35238112.42 35238112.62 35238112.83 0.0299 0.0155 Saturn 91767-08-12 15:50 G 35238492.02 35238492.16 35238492.33 0.0295 0.0228 Jupiter 91772-02-14 22:48 G 35240139.24 35240139.45 35240139.66 0.0498 0.0234 Uranus 91779-07-05 12:29 G 35242836.91 35242837.02 35242837.17 0.0136 0.0116

Uranus 91780-07-08 21:36 G 35243206.17 35243206.40 35243206.65 0.0136 0.0046 Uranus 91781-07-13 06:58 G 35243575.55 35243575.79 35243576.04 0.0137 0.0026 Saturn 91782-01-28 06:29 G 35243774.60 35243774.77 35243774.95 0.0263 0.0184 Uranus 91782-07-17 16:34 G 35243945.03 35243945.19 35243945.38 0.0137 0.0098 Saturn 91783-02-09 03:07 G 35244151.40 35244151.63 35244151.87 0.0266 0.0085 Jupiter 91784-02-19 12:00 G 35244526.79 35244527.00 35244527.22 0.0499 0.0205 Saturn 91796-08-05 13:41 G 35249077.83 35249078.07 35249078.31 0.0297 0.0058 Jupiter 91801-08-11 10:19 G 35250908.84 35250908.93 35250909.04 0.0528 0.0473 Saturn 91812-02-05 04:48 G 35254738.45 35254738.70 35254738.95 0.0264 0.0038 Saturn 91813-02-16 03:50 G 35255115.55 35255115.66 35255115.78 0.0268 0.0236 Jupiter 91813-08-16 09:50 G 35255296.68 35255296.91 35255297.14 0.0527 0.0048 Uranus 91820-01-06 20:10 G 35257631.23 35257631.34 35257631.47 0.0142 0.0126 Neptune 91820-02-03 08:24 G 35257658.84 35257658.85 35257658.89 0.0089 0.0088 Uranus 91821-01-10 19:26 G 35258001.08 35258001.31 35258001.57 0.0142 0.0043 Neptune 91821-02-04 20:38 G 35258026.23 35258026.36 35258026.55 0.0089 0.0070 Uranus 91822-01-15 18:29 G 35258371.02 35258371.27 35258371.52 0.0141 0.0040 Neptune 91822-02-07 09:36 G 35258393.70 35258393.90 35258394.12 0.0089 0.0051 Uranus 91823-01-20 16:19 G 35258741.06 35258741.18 35258741.32 0.0141 0.0122 Neptune 91823-02-09 22:19 G 35258761.20 35258761.43 35258761.68 0.0089 0.0032 Neptune 91824-02-12 10:48 G 35259128.70 35259128.95 35259129.21 0.0089 0.0014 Neptune 91825-02-13 23:17 G 35259496.22 35259496.47 35259496.73 0.0089 0.0006 Saturn 91825-07-31 05:46 G 35259663.52 35259663.74 35259663.97 0.0299 0.0123 Neptune 91826-02-16 11:46 G 35259863.74 35259863.99 35259864.24 0.0089 0.0024 Saturn 91826-08-14 18:14 G 35260043.16 35260043.26 35260043.39 0.0295 0.0258 Neptune 91827-02-19 00:00 G 35260231.29 35260231.50 35260231.74 0.0089 0.0043 Neptune 91828-02-21 12:43 G 35260598.85 35260599.03 35260599.22 0.0089 0.0061 Neptune 91829-02-23 00:43 G 35260966.44 35260966.53 35260966.66 0.0089 0.0080 Saturn 91841-01-30 10:05 G 35265325.73 35265325.92 35265326.13 0.0263 0.0156 Saturn 91842-02-11 07:12 G 35265702.58 35265702.80 35265703.03 0.0266 0.0114 Saturn 91854-07-25 03:07 G 35270249.59 35270249.63 35270249.68 0.0301 0.0295

Jupiter 91855-02-15 07:12 G 35270454.61 35270454.80 35270454.99 0.0498 0.0285 Saturn 91855-08-08 18:58 G 35270629.07 35270629.29 35270629.53 0.0297 0.0093 Uranus 91863-07-06 22:34 G 35273518.30 35273518.44 35273518.59 0.0136 0.0111 Uranus 91864-07-10 07:12 G 35273887.56 35273887.80 35273888.04 0.0136 0.0041 Uranus 91865-07-14 16:05 G 35274256.93 35274257.17 35274257.42 0.0137 0.0031 Uranus 91866-07-19 01:55 G 35274626.42 35274626.58 35274626.75 0.0137 0.0102 Jupiter 91867-02-19 19:26 G 35274842.08 35274842.31 35274842.53 0.0498 0.0150 Saturn 91871-02-06 11:17 G 35276289.72 35276289.97 35276290.22 0.0265 0.0007 Saturn 91872-02-18 11:17 G 35276666.97 35276666.97 35276666.98 0.0268 0.0268 Saturn 91884-08-01 14:53 G 35281214.89 35281215.12 35281215.35 0.0298 0.0083 Saturn 91885-08-16 02:24 G 35281594.59 35281594.60 35281594.63 0.0294 0.0293 Jupiter 91896-08-15 17:02 G 35285611.97 35285612.21 35285612.44 0.0527 0.0018 Saturn 91900-02-01 17:31 G 35286877.01 35286877.23 35286877.45 0.0263 0.0123 Saturn 91901-02-13 15:07 G 35287253.93 35287254.13 35287254.34 0.0266 0.0147 Neptune 91901-08-03 14:24 G 35287424.99 35287425.10 35287425.25 0.0089 0.0076 Neptune 91902-08-06 00:58 G 35287792.37 35287792.54 35287792.75 0.0089 0.0058 Neptune 91903-08-08 11:46 G 35288159.78 35288159.99 35288160.23 0.0089 0.0040 Uranus 91904-01-08 07:12 G 35288312.67 35288312.80 35288312.95 0.0142 0.0120 Neptune 91904-08-09 22:48 G 35288527.20 35288527.45 35288527.70 0.0089 0.0021 Uranus 91905-01-12 06:58 G 35288682.55 35288682.79 35288683.04 0.0142 0.0036 Neptune 91905-08-12 09:22 G 35288894.64 35288894.89 35288895.15 0.0089 0.0003 Uranus 91906-01-17 05:46 G 35289052.50 35289052.74 35289052.98 0.0142 0.0047 Neptune 91906-08-14 20:10 G 35289262.09 35289262.34 35289262.60 0.0089 0.0016 Uranus 91907-01-22 03:36 G 35289422.56 35289422.65 35289422.77 0.0141 0.0129 Neptune 91907-08-17 06:43 G 35289629.56 35289629.78 35289630.03 0.0088 0.0034 91907-11-22 18:00 G 35289727.13 35289727.25 35289727.37 0.1605 0.1219 Mars Neptune 91908-08-18 17:31 G 35289997.04 35289997.23 35289997.45 0.0088 0.0053 Jupiter 91908-08-21 12:00 G 35289999.92 35290000.00 35290000.10 0.0527 0.0482 Neptune 91909-08-21 04:34 G 35290364.56 35290364.69 35290364.86 0.0088 0.0071 Pluto 91913-05-25 21:22 G 35291738.36 35291738.39 35291738.49 0.0063 0.0061

Saturn 91913-07-27 14:24 G 35291800.98 35291801.10 35291801.24 0.0300 0.0252 Pluto 91914-05-27 07:55 G 35292104.60 35292104.83 35292105.09 0.0063 0.0016 Saturn 91914-08-11 05:31 G 35292180.52 35292180.73 35292180.96 0.0297 0.0134 Saturn 91929-01-28 01:12 G 35297464.46 35297464.55 35297464.67 0.0262 0.0236 Saturn 91930-02-08 21:07 G 35297841.13 35297841.38 35297841.63 0.0265 0.0028 Jupiter 91938-02-15 10:05 G 35300769.77 35300769.92 35300770.09 0.0498 0.0356 Saturn 91943-08-05 05:31 G 35302766.49 35302766.73 35302766.97 0.0298 0.0038 91946-05-27 06:58 G 35303792.63 35303792.79 35303792.95 0.1930 0.1128 Mars Uranus 91947-07-08 09:22 G 35304199.75 35304199.89 35304200.06 0.0136 0.0106 Uranus 91948-07-11 18:14 G 35304569.02 35304569.26 35304569.51 0.0136 0.0036 Uranus 91949-07-16 03:07 G 35304938.39 35304938.63 35304938.88 0.0137 0.0036 Jupiter 91950-02-19 18:00 G 35305157.02 35305157.25 35305157.49 0.0498 0.0060 Uranus 91950-07-20 12:29 G 35305307.88 35305308.02 35305308.19 0.0137 0.0108 Saturn 91959-02-04 04:05 G 35308428.43 35308428.67 35308428.90 0.0264 0.0088 Saturn 91960-02-16 02:38 G 35308805.43 35308805.61 35308805.79 0.0267 0.0183 Jupiter 91962-02-24 06:00 G 35309544.72 35309544.75 35309544.79 0.0499 0.0492 Saturn 91972-07-29 07:55 G 35313352.66 35313352.83 35313353.01 0.0300 0.0203 Saturn 91973-08-12 22:05 G 35313732.23 35313732.42 35313732.62 0.0296 0.0179 Jupiter 91979-08-16 11:46 G 35315926.76 35315926.99 35315927.21 0.0527 0.0132 Neptune 91985-02-05 02:24 G 35317926.47 35317926.60 35317926.75 0.0089 0.0075 Neptune 91986-02-07 14:53 G 35318293.94 35318294.12 35318294.34 0.0089 0.0057 91986-11-24 20:53 G 35318584.19 35318584.37 35318584.54 0.1607 0.0632 Mars Neptune 91987-02-10 03:50 G 35318661.44 35318661.66 35318661.91 0.0089 0.0038 Uranus 91988-01-08 16:05 G 35318994.02 35318994.17 35318994.32 0.0142 0.0116 Saturn 91988-01-30 13:12 G 35319015.89 35319016.05 35319016.21 0.0263 0.0200 Neptune 91988-02-12 16:34 G 35319028.94 35319029.19 35319029.45 0.0089 0.0019 Uranus 91989-01-12 15:36 G 35319363.90 35319364.15 35319364.40 0.0142 0.0032 Saturn 91989-02-10 09:36 G 35319392.66 35319392.90 35319393.14 0.0266 0.0066 Neptune 91989-02-14 05:17 G 35319396.46 35319396.72 35319396.98 0.0089 0.0001 Uranus 91990-01-17 14:38 G 35319733.87 35319734.11 35319734.35 0.0142 0.0051

Neptune 91990-02-16 17:31 G 35319763.98 35319764.23 35319764.49 0.0089 0.0019

Uranus 91991-01-22 12:58 G 35320103.96 35320104.04 35320104.13 0.0141 0.0133

Neptune 91991-02-19 06:14 G 35320131.53 35320131.76 35320132.00 0.0089 0.0037

Jupiter 91991-08-21 09:22 G 35320314.73 35320314.89 35320315.05 0.0527 0.0377

Neptune 91992-02-21 18:00 G 35320499.07 35320499.25 35320499.48 0.0089 0.0056

Neptune 91993-02-23 06:58 G 35320866.66 35320866.79 35320866.94 0.0089 0.0074

### 93RD MILLENNIUM CE

#### This is a list of transits of Earth in the 93rd millennium CE.

FROM MAX- C START MAX END SUNRAD DEPTH S

TRANSIT

TIME

Saturn 92002-08-07 00:00 G 35324318.26 35324318.50 35324318.75 0.0297 0.0014

Pluto 92004-11-25 10:05 G 35325159.74 35325159.92 35325160.14 0.0081 0.0053

Saturn 92018-02-05 16:05 G 35329979.93 35329980.17 35329980.42 0.0264 0.0051

Saturn 92019-02-17 15:50 G 35330357.03 35330357.16 35330357.31 0.0267 0.0222

Jupiter 92021-02-14 07:26 G 35331084.73 35331084.81 35331084.92 0.0498 0.0452

Uranus 92031-07-08 20:38 G 35334881.20 35334881.36 35334881.54 0.0136 0.0101

Saturn 92031-08-01 04:34 G 35334904.48 35334904.69 35334904.90 0.0299 0.0151

Uranus 92032-07-12 05:17 G 35335250.48 35335250.72 35335250.97 0.0136 0.0030

Saturn 92033-02-18 20:53 G 35335472.13 35335284.23 35335284.39 0.0295 0.0229

Jupiter 92033-02-16 13:41 G 35335619.84 35335620.07 35335620.32 0.0136 0.0042

Uranus 92034-07-20 23:17 G 35335989.34 35335989.47 35335989.62 0.0137 0.0113

Jupiter 92045-02-23 08:24 G 35339859.73 35339859.85 35339859.98 0.0499 0.0417

Saturn 92047-02-01 01:41 G 35340567.38 35340567.57 35340567.77 0.0263 0.0164 Saturn 92048-02-12 23:02 G 35340944.24 35340944.46 35340944.69 0.0266 0.0104 Saturn 92061-08-08 22:19 G 35345870.19 35345870.43 35345870.67 0.0297 0.0066 Jupiter 92062-08-15 10:05 G 35346241.71 35346241.92 35346242.12 0.0528 0.0232 Neptune 92065-08-02 22:34 G 35347325.36 35347325.44 35347325.57 0.0089 0.0081 Neptune 92066-08-05 09:22 G 35347692.73 35347692.89 35347693.09 0.0089 0.0063 Neptune 92067-08-07 20:10 G 35348060.14 35348060.34 35348060.58 0.0089 0.0045 Neptune 92068-08-09 06:58 G 35348427.56 35348427.79 35348428.05 0.0089 0.0027 Neptune 92069-08-11 18:00 G 35348794.99 35348795.25 35348795.50 0.0089 0.0008 Neptune 92070-08-14 04:34 G 35349162.44 35349162.69 35349162.95 0.0089 0.0010 Neptune 92071-08-16 15:07 G 35349529.90 35349530.13 35349530.38 0.0089 0.0029 Uranus 92072-01-09 00:43 G 35349675.39 35349675.53 35349675.70 0.0142 0.0111 Neptune 92072-08-18 02:10 G 35349897.38 35349897.59 35349897.81 0.0088 0.0047 Uranus 92073-01-13 00:58 G 35350045.29 35350045.54 35350045.79 0.0142 0.0027 Neptune 92073-08-20 12:14 G 35350264.87 35350265.01 35350265.21 0.0088 0.0066 Uranus 92074-01-18 00:00 G 35350415.26 35350415.50 35350415.73 0.0142 0.0056 Jupiter 92074-08-20 09:50 G 35350629.72 35350629.91 35350630.11 0.0527 0.0286 Neptune 92074-08-22 23:17 G 35350632.41 35350632.47 35350632.58 0.0088 0.0084 Uranus 92075-01-22 21:50 G 35350785.38 35350785.41 35350785.49 0.0141 0.0139 Saturn 92077-02-07 04:48 G 35351531.46 35351531.70 35351531.95 0.0265 0.0014 Saturn 92078-02-19 05:31 G 35351908.68 35351908.73 35351908.80 0.0268 0.0260 Saturn 92090-08-03 02:38 G 35356456.39 35356456.61 35356456.84 0.0299 0.0098 Saturn 92091-08-17 14:38 G 35356836.03 35356836.11 35356836.19 0.0295 0.0278 Saturn 92106-02-03 13:41 G 35362118.86 35362119.07 35362119.30 0.0263 0.0128 Saturn 92107-02-15 12:00 G 35362495.79 35362496.00 35362496.21 0.0267 0.0141 Uranus 92115-07-10 09:50 G 35365562.73 35365562.91 35365563.09 0.0136 0.0094 Jupiter 92116-02-19 20:53 G 35365787.14 35365787.37 35365787.61 0.0498 0.0098 Uranus 92116-07-13 18:14 G 35365932.01 35365932.26 35365932.51 0.0136 0.0024 Uranus 92117-07-18 02:53 G 35366301.40 35366301.62 35366301.87 0.0136 0.0048 Uranus 92118-07-22 12:00 G 35366670.91 35366671.00 35366671.14 0.0137 0.0121

Saturn 92119-07-29 05:02 G 35367042.61 35367042.71 35367042.83 0.0300 0.0266 Saturn 92120-08-11 19:55 G 35367422.12 35367422.33 35367422.56 0.0296 0.0118 Jupiter 92128-02-24 05:31 G 35370174.55 35370174.73 35370174.91 0.0498 0.0320 Saturn 92135-01-29 19:55 G 35372706.24 35372706.33 35372706.43 0.0263 0.0242 Saturn 92136-02-10 16:05 G 35373082.92 35373083.17 35373083.42 0.0265 0.0022 Jupiter 92145-08-15 05:17 G 35376556.55 35376556.72 35376556.90 0.0528 0.0343 Neptune 92149-02-05 07:12 G 35377826.71 35377826.80 35377826.92 0.0089 0.0081 Saturn 92149-08-06 00:29 G 35378008.28 35378008.52 35378008.76 0.0298 0.0046 Neptune 92150-02-07 19:41 G 35378194.16 35378194.32 35378194.53 0.0089 0.0063 Neptune 92151-02-10 08:38 G 35378561.64 35378561.86 35378562.10 0.0089 0.0044 Neptune 92152-02-12 21:22 G 35378929.14 35378929.39 35378929.64 0.0089 0.0025 Neptune 92153-02-14 09:50 G 35379296.66 35379296.91 35379297.18 0.0089 0.0007 Neptune 92154-02-16 22:34 G 35379664.19 35379664.44 35379664.71 0.0089 0.0013 Neptune 92155-02-19 11:02 G 35380031.72 35380031.96 35380032.21 0.0089 0.0031 Uranus 92156-01-10 12:14 G 35380356.86 35380357.01 35380357.20 0.0142 0.0105 Neptune 92156-02-21 23:17 G 35380399.27 35380399.47 35380399.70 0.0089 0.0050 Uranus 92157-01-14 12:14 G 35380726.76 35380727.01 35380727.27 0.0142 0.0021 Neptune 92157-02-23 11:31 G 35380766.84 35380766.98 35380767.17 0.0089 0.0069 Jupiter 92157-08-20 02:53 G 35380944.40 35380944.62 35380944.84 0.0527 0.0164 Uranus 92158-01-19 11:02 G 35381096.75 35381096.96 35381097.21 0.0142 0.0063 Neptune 92158-02-26 00:00 G 35381134.47 35381134.50 35381134.58 0.0089 0.0087 Pluto 92160-05-29 08:53 G 35381957.63 35381957.87 35381958.13 0.0063 0.0013 Saturn 92165-02-04 23:46 G 35383670.26 35383670.49 35383670.73 0.0264 0.0095 Saturn 92166-02-16 22:34 G 35384047.27 35384047.44 35384047.64 0.0267 0.0176 Saturn 92178-07-31 01:41 G 35388594.41 35388594.57 35388594.74 0.0300 0.0215 Saturn 92179-08-14 15:50 G 35388973.97 35388974.16 35388974.37 0.0296 0.0167 92191-11-24 22:48 G 35393459.26 35393459.45 35393459.63 0.1602 0.0436 Mars Saturn 92194-01-31 04:19 G 35394257.54 35394257.68 35394257.84 0.0263 0.0211 Saturn 92195-02-12 00:58 G 35394634.30 35394634.54 35394634.78 0.0265 0.0054 Jupiter 92199-02-18 20:53 G 35396102.15 35396102.37 35396102.59 0.0498 0.0182

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Saturn 92414-08-08 11:02 G 35474799.72 35474799.96 35474800.19 0.0299 0.0073 Jupiter 92418-08-25 10:05 G 35476277.80 35476277.92 35476278.04 0.0527 0.0442 Saturn 92430-02-07 05:31 G 35480461.52 35480461.73 35480461.96 0.0262 0.0120 Saturn 92431-02-19 01:26 G 35480838.35 35480838.56 35480838.77 0.0266 0.0144 Saturn 92443-08-01 22:05 G 35485385.31 35485385.42 35485385.55 0.0301 0.0260 Saturn 92444-08-15 16:19 G 35485764.96 35485765.18 35485765.40 0.0298 0.0127 Jupiter 92448-02-19 19:12 G 35487048.13 35487048.30 35487048.48 0.0498 0.0334 Uranus 92451-07-14 12:29 G 35488288.82 35488289.02 35488289.25 0.0136 0.0069 Uranus 92452-07-17 21:07 G 35488658.13 35488658.38 35488658.63 0.0136 0.0003 Uranus 92453-07-22 05:31 G 35489027.54 35489027.73 35489027.96 0.0136 0.0076 Saturn 92459-02-02 08:53 G 35491048.78 35491048.87 35491048.99 0.0261 0.0237 Saturn 92460-02-14 02:24 G 35491425.35 35491425.60 35491425.84 0.0263 0.0020 Jupiter 92460-02-24 09:36 G 35491435.67 35491435.90 35491436.13 0.0499 0.0105 Saturn 92473-08-09 07:12 G 35496350.56 35496350.80 35496351.04 0.0300 0.0051 Mars 92475-11-28 03:50 G 35497191.48 35497191.66 35497191.85 0.1599 0.0357 Neptune 92478-02-08 04:05 G 35497994.56 35497994.67 35497994.84 0.0089 0.0075 Neptune 92479-02-10 17:02 G 35498362.02 35498362.21 35498362.42 0.0089 0.0056 Neptune 92480-02-13 05:17 G 35498729.51 35498729.72 35498729.98 0.0089 0.0038 Neptune 92481-02-14 18:14 G 35499097.01 35499097.26 35499097.52 0.0089 0.0019 Neptune 92482-02-17 06:58 G 35499464.53 35499464.79 35499465.05 0.0089 0.0001 Neptune 92483-02-19 19:12 G 35499832.05 35499832.30 35499832.56 0.0089 0.0019 Neptune 92484-02-22 07:41 G 35500199.60 35500199.82 35500200.07 0.0089 0.0038 Neptune 92485-02-23 20:24 G 35500567.17 35500567.35 35500567.57 0.0089 0.0056 Neptune 92486-02-26 08:24 G 35500934.74 35500934.85 35500935.02 0.0089 0.0075 Saturn 92489-02-08 00:58 G 35502012.31 35502012.54 35502012.77 0.0262 0.0101 Jupiter 92489-08-19 21:07 G 35502205.16 35502205.38 35502205.61 0.0528 0.0117 Saturn 92490-02-19 19:55 G 35502389.14 35502389.33 35502389.54 0.0265 0.0161 Uranus 92492-01-14 18:29 G 35503083.06 35503083.27 35503083.50 0.0143 0.0075 Uranus 92493-01-18 19:12 G 35503453.04 35503453.30 35503453.56 0.0142 0.0011 Uranus 92494-01-23 18:29 G 35503823.09 35503823.27 35503823.47 0.0142 0.0096

92496-12-01 11:31 G 35504865.78 35504865.98 35504866.22 0.0081 0.0045 Pluto Jupiter 92501-08-25 22:05 G 35506593.28 35506593.42 35506593.57 0.0527 0.0407 Saturn 92502-08-03 15:50 G 35506936.03 35506936.16 35506936.32 0.0301 0.0241 Saturn 92503-08-18 10:34 G 35507315.73 35507315.94 35507316.15 0.0298 0.0146 Saturn 92518-02-04 03:50 G 35512599.54 35512599.66 35512599.80 0.0261 0.0219 Saturn 92519-02-15 20:53 G 35512976.12 35512976.37 35512976.61 0.0263 0.0037 Jupiter 92531-02-20 08:53 G 35517363.71 35517363.87 35517364.03 0.0498 0.0362 Saturn 92532-08-11 00:58 G 35517901.30 35517901.54 35517901.79 0.0300 0.0032 Uranus 92534-07-11 17:31 G 35518601.19 35518601.23 35518601.29 0.0135 0.0133 Uranus 92535-07-16 01:26 G 35518970.34 35518970.56 35518970.78 0.0136 0.0062 Uranus 92536-07-19 09:36 G 35519339.65 35519339.90 35519340.15 0.0136 0.0010 Uranus 92537-07-23 18:00 G 35519709.06 35519709.25 35519709.46 0.0136 0.0082 Jupiter 92543-02-24 22:19 G 35521751.20 35521751.43 35521751.66 0.0498 0.0074 Saturn 92548-02-10 19:55 G 35523563.09 35523563.33 35523563.56 0.0262 0.0084 Saturn 92549-02-21 14:38 G 35523939.93 35523940.11 35523940.30 0.0265 0.0178 Neptune 92558-08-07 05:02 G 35527393.62 35527393.71 35527393.84 0.0089 0.0080 Neptune 92559-08-09 16:05 G 35527761.00 35527761.17 35527761.37 0.0089 0.0062 Neptune 92560-08-11 02:53 G 35528128.42 35528128.62 35528128.86 0.0089 0.0044 Saturn 92561-08-04 09:07 G 35528486.73 35528486.88 35528487.06 0.0301 0.0221 Neptune 92561-08-13 14:10 G 35528495.85 35528496.09 35528496.34 0.0089 0.0025 Neptune 92562-08-16 00:58 G 35528863.29 35528863.54 35528863.80 0.0089 0.0007 Saturn 92562-08-19 04:05 G 35528866.47 35528866.67 35528866.87 0.0298 0.0165 Neptune 92563-08-18 11:46 G 35529230.75 35529230.99 35529231.25 0.0089 0.0012 Neptune 92564-08-19 22:19 G 35529598.21 35529598.43 35529598.69 0.0089 0.0031 Neptune 92565-08-22 08:53 G 35529965.68 35529965.87 35529966.11 0.0089 0.0049 Neptune 92566-08-24 19:41 G 35530333.18 35530333.32 35530333.52 0.0089 0.0067 Neptune 92567-08-27 06:14 G 35530700.71 35530700.76 35530700.86 0.0088 0.0085 Jupiter 92572-08-20 10:48 G 35532520.73 35532520.95 35532521.17 0.0527 0.0147 Uranus 92576-01-16 02:38 G 35533764.40 35533764.61 35533764.85 0.0143 0.0071 Uranus 92577-01-20 03:36 G 35534134.39 35534134.65 35534134.91 0.0142 0.0016

Saturn 92577-02-04 23:17 G 35534150.32 35534150.47 35534150.64 0.0261 0.0200 Uranus 92578-01-25 03:07 G 35534504.46 35534504.63 35534504.82 0.0142 0.0101 Saturn 92578-02-16 16:05 G 35534526.93 35534527.17 35534527.41 0.0263 0.0056 Jupiter 92584-08-25 07:41 G 35536908.65 35536908.82 35536908.99 0.0527 0.0356 Saturn 92591-08-12 18:00 G 35539452.01 35539452.25 35539452.49 0.0300 0.0012 Saturn 92607-02-12 15:50 G 35545113.92 35545114.16 35545114.40 0.0262 0.0064 Saturn 92608-02-24 10:19 G 35545490.78 35545490.93 35545491.11 0.0265 0.0196 Jupiter 92614-02-20 20:53 G 35547679.24 35547679.37 35547679.52 0.0498 0.0395 Uranus 92618-07-13 07:26 G 35549282.73 35549282.81 35549282.92 0.0135 0.0126 Uranus 92619-07-17 15:22 G 35549651.92 35549652.14 35549652.38 0.0135 0.0054 Uranus 92620-07-20 23:31 G 35550021.23 35550021.48 35550021.73 0.0136 0.0017 Saturn 92620-08-06 02:53 G 35550037.44 35550037.62 35550037.80 0.0301 0.0199 Uranus 92621-07-25 07:41 G 35550390.65 35550390.82 35550391.03 0.0136 0.0090 Saturn 92621-08-20 21:22 G 35550417.21 35550417.39 35550417.59 0.0298 0.0185 Jupiter 92626-02-25 06:43 G 35552066.55 35552066.78 35552067.02 0.0499 0.0027 Saturn 92636-02-07 19:55 G 35555701.16 35555701.33 35555701.52 0.0261 0.0180 Saturn 92637-02-18 12:29 G 35556077.79 35556078.02 35556078.27 0.0263 0.0077 Jupiter 92638-03-01 20:38 G 35556454.28 35556454.36 35556454.45 0.0499 0.0464 Neptune 92642-02-09 09:07 G 35557894.78 35557894.88 35557895.00 0.0088 0.0080 Neptune 92643-02-11 21:22 G 35558262.22 35558262.39 35558262.59 0.0088 0.0062 Neptune 92644-02-14 09:50 G 35558629.70 35558629.91 35558630.15 0.0089 0.0044 Neptune 92645-02-15 22:34 G 35558997.20 35558997.44 35558997.70 0.0089 0.0025 Neptune 92646-02-18 11:02 G 35559364.70 35559364.96 35559365.22 0.0089 0.0006 Neptune 92647-02-20 23:17 G 35559732.23 35559732.47 35559732.74 0.0089 0.0013 Neptune 92648-02-23 12:00 G 35560099.77 35560100.00 35560100.25 0.0089 0.0031 Neptune 92649-02-25 00:14 G 35560467.31 35560467.51 35560467.74 0.0089 0.0050 Neptune 92650-02-27 12:58 G 35560834.89 35560835.04 35560835.22 0.0089 0.0068 Saturn 92650-08-14 13:12 G 35561002.80 35561003.05 35561003.29 0.0300 0.0011 Neptune 92651-03-02 01:12 G 35561202.52 35561202.55 35561202.63 0.0089 0.0087 Pluto 92651-06-05 02:53 G 35561297.62 35561297.62 35561297.67 0.0063 0.0063

Pluto 92652-06-05 13:26 G 35561663.81 35561664.06 35561664.31 0.0063 0.0013 Jupiter 92655-08-21 18:00 G 35562836.04 35562836.25 35562836.46 0.0527 0.0210 Uranus 92660-01-17 13:41 G 35564445.84 35564446.07 35564446.30 0.0143 0.0065 Uranus 92661-01-21 14:10 G 35564815.84 35564816.09 35564816.35 0.0142 0.0022 Uranus 92662-01-26 13:26 G 35565185.92 35565186.06 35565186.25 0.0142 0.0107 Saturn 92666-02-13 13:55 G 35566664.84 35566665.08 35566665.33 0.0262 0.0042 Saturn 92667-02-25 08:53 G 35567041.73 35567041.87 35567042.01 0.0265 0.0218 Jupiter 92667-08-26 17:31 G 35567224.04 35567224.23 35567224.42 0.0527 0.0308 Saturn 92679-08-07 23:02 G 35571588.27 35571588.46 35571588.66 0.0301 0.0175 Saturn 92680-08-21 17:17 G 35571968.05 35571968.22 35571968.40 0.0298 0.0207 92680-11-28 07:12 G 35572066.63 35572066.80 35572066.98 0.1595 0.0627 Mars Saturn 92695-02-08 18:58 G 35577252.10 35577252.29 35577252.49 0.0261 0.0157 Saturn 92696-02-20 12:00 G 35577628.77 35577629.00 35577629.23 0.0263 0.0099 Jupiter 92697-02-20 03:36 G 35577994.56 35577994.65 35577994.75 0.0498 0.0451 Uranus 92702-07-14 21:36 G 35579964.30 35579964.40 35579964.54 0.0135 0.0118 Uranus 92703-07-19 05:31 G 35580333.50 35580333.73 35580333.97 0.0136 0.0047 Uranus 92704-07-22 13:26 G 35580702.82 35580703.06 35580703.32 0.0136 0.0026 Uranus 92705-07-26 21:50 G 35581072.25 35581072.41 35581072.60 0.0136 0.0098 Jupiter 92709-02-25 18:29 G 35582382.03 35582382.27 35582382.50 0.0499 0.0014 Saturn 92709-08-16 10:48 G 35582553.71 35582553.95 35582554.19 0.0300 0.0036 Jupiter 92721-03-02 07:26 G 35586769.69 35586769.81 35586769.93 0.0499 0.0424 Neptune 92722-08-08 10:48 G 35587293.91 35587293.95 35587294.03 0.0089 0.0086 Neptune 92723-08-10 21:22 G 35587661.25 35587661.39 35587661.58 0.0089 0.0068 Neptune 92724-08-12 08:10 G 35588028.65 35588028.84 35588029.08 0.0089 0.0050 Saturn 92725-02-15 14:53 G 35588215.87 35588216.12 35588216.37 0.0262 0.0018 Neptune 92725-08-14 19:26 G 35588396.08 35588396.31 35588396.56 0.0089 0.0031 Saturn 92726-02-27 09:36 G 35588592.82 35588592.90 35588593.01 0.0265 0.0242 Neptune 92726-08-17 06:29 G 35588763.52 35588763.77 35588764.03 0.0089 0.0013 Neptune 92727-08-19 17:31 G 35589130.97 35589131.23 35589131.48 0.0089 0.0006 Neptune 92728-08-21 04:05 G 35589498.43 35589498.67 35589498.93 0.0089 0.0024

Neptune 92729-08-23 14:38 G 35589865.91 35589866.11 35589866.36 0.0089 0.0043 Neptune 92730-08-26 01:12 G 35590233.39 35590233.55 35590233.76 0.0089 0.0061 Neptune 92731-08-28 12:14 G 35590600.91 35590601.01 35590601.15 0.0089 0.0079 Saturn 92738-08-10 00:14 G 35593139.30 35593139.51 35593139.72 0.0301 0.0145 Jupiter 92738-08-22 04:19 G 35593151.48 35593151.68 35593151.89 0.0527 0.0254 Saturn 92739-08-24 18:00 G 35593519.11 35593519.25 35593519.40 0.0297 0.0234 Pluto 92742-12-06 15:50 G 35594719.00 35594719.16 35594719.38 0.0081 0.0056 Uranus 92744-01-19 00:58 G 35595127.31 35595127.54 35595127.78 0.0143 0.0059 Uranus 92745-01-23 01:26 G 35595497.31 35595497.56 35595497.82 0.0142 0.0028 Uranus 92746-01-28 01:12 G 35595867.40 35595867.55 35595867.71 0.0142 0.0113 Jupiter 92750-08-27 04:48 G 35597539.50 35597539.70 35597539.90 0.0527 0.0264 Saturn 92754-02-10 20:38 G 35598803.16 35598803.36 35598803.59 0.0261 0.0131 Saturn 92755-02-22 13:55 G 35599179.88 35599180.08 35599180.31 0.0264 0.0126 92759-12-02 09:50 G 35600923.78 35600923.91 35600924.04 0.1596 0.1153 Mars Saturn 92768-08-17 13:41 G 35604104.84 35604105.07 35604105.31 0.0300 0.0067 Jupiter 92780-02-21 12:29 G 35608310.02 35608310.02 35608310.04 0.0498 0.0497 Saturn 92783-02-06 03:36 G 35609390.56 35609390.65 35609390.75 0.0260 0.0240 Saturn 92784-02-17 19:12 G 35609767.05 35609767.30 35609767.55 0.0263 0.0011 Uranus 92786-07-15 12:14 G 35610645.88 35610646.01 35610646.17 0.0135 0.0111 Uranus 92787-07-19 20:10 G 35611015.10 35611015.34 35611015.58 0.0136 0.0039 Uranus 92788-07-23 04:05 G 35611384.43 35611384.67 35611384.92 0.0136 0.0034 Uranus 92789-07-27 12:43 G 35611753.88 35611754.03 35611754.18 0.0136 0.0107 Jupiter 92792-02-26 01:12 G 35612697.32 35612697.55 35612697.78 0.0498 0.0068 Saturn 92797-08-11 06:14 G 35614690.54 35614690.76 35614690.99 0.0300 0.0109 Saturn 92798-08-25 23:17 G 35615070.37 35615070.47 35615070.58 0.0297 0.0267 Jupiter 92804-03-01 09:07 G 35617084.72 35617084.88 35617085.06 0.0499 0.0347 Neptune 92806-02-09 13:12 G 35617795.00 35617795.05 35617795.12 0.0088 0.0086 Neptune 92807-02-12 01:26 G 35618162.42 35618162.56 35618162.75 0.0088 0.0068 Neptune 92808-02-14 13:55 G 35618529.89 35618530.08 35618530.32 0.0088 0.0050 Neptune 92809-02-16 02:38 G 35618897.38 35618897.61 35618897.86 0.0089 0.0031

Neptune 92810-02-18 15:07 G 35619264.88 35619265.13 35619265.39 0.0089 0.0012 Neptune 92811-02-21 03:50 G 35619632.40 35619632.66 35619632.92 0.0089 0.0006 Neptune 92812-02-23 16:05 G 35619999.92 35620000.17 35620000.42 0.0089 0.0025 Saturn 92813-02-12 01:55 G 35620354.35 35620354.58 35620354.81 0.0262 0.0102 Neptune 92813-02-25 04:19 G 35620367.47 35620367.68 35620367.92 0.0089 0.0044 Saturn 92814-02-23 19:41 G 35620731.13 35620731.32 35620731.53 0.0264 0.0156 Neptune 92814-02-27 16:48 G 35620735.03 35620735.20 35620735.40 0.0089 0.0062 Neptune 92815-03-02 05:02 G 35621102.63 35621102.71 35621102.85 0.0089 0.0081 Jupiter 92821-08-21 06:58 G 35623466.62 35623466.79 35623466.97 0.0527 0.0336 Saturn 92826-08-05 02:24 G 35625276.52 35625276.60 35625276.70 0.0302 0.0279 Uranus 92827-01-14 14:53 G 35625439.07 35625439.12 35625439.22 0.0143 0.0137 Saturn 92827-08-19 22:34 G 35625656.22 35625656.44 35625656.67 0.0299 0.0105 Uranus 92828-01-19 16:19 G 35625808.95 35625809.18 35625809.43 0.0143 0.0050 Uranus 92829-01-23 16:48 G 35626178.96 35626179.20 35626179.46 0.0142 0.0038 Uranus 92830-01-28 16:19 G 35626549.06 35626549.18 35626549.32 0.0142 0.0123 Jupiter 92833-08-26 03:50 G 35627854.45 35627854.66 35627854.88 0.0527 0.0168 Saturn 92842-02-07 10:19 G 35630941.80 35630941.93 35630942.09 0.0261 0.0211 Saturn 92843-02-19 02:38 G 35631318.37 35631318.61 35631318.86 0.0263 0.0042 Saturn 92856-08-12 18:43 G 35636242.05 35636242.28 35636242.52 0.0300 0.0067 Uranus 92870-07-16 02:53 G 35641327.47 35641327.62 35641327.79 0.0135 0.0103 Uranus 92871-07-20 10:19 G 35641696.69 35641696.93 35641697.18 0.0136 0.0031 Saturn 92872-02-14 10:19 G 35641905.70 35641905.93 35641906.18 0.0262 0.0070 Uranus 92872-07-23 18:14 G 35642066.03 35642066.26 35642066.51 0.0136 0.0042 Saturn 92873-02-25 05:17 G 35642282.55 35642282.72 35642282.89 0.0265 0.0188 Uranus 92873-07-28 02:53 G 35642435.49 35642435.62 35642435.76 0.0136 0.0115 Jupiter 92875-02-25 00:29 G 35643012.30 35643012.52 35643012.75 0.0498 0.0156 92877-06-03 03:36 G 35643841.49 35643841.65 35643841.80 0.1944 0.1191 Mars Saturn 92885-08-06 17:31 G 35646828.09 35646828.23 35646828.39 0.0302 0.0234 92885-11-28 12:29 G 35646941.98 35646942.02 35646942.06 0.1591 0.1548 Mars Saturn 92886-08-21 12:43 G 35647207.82 35647208.03 35647208.24 0.0299 0.0148

Jupiter 92887-03-01 14:10 G 35647399.90 35647400.09 35647400.29 0.0499 0.0282 Neptune 92887-08-10 02:53 G 35647561.51 35647561.62 35647561.79 0.0089 0.0074 Neptune 92888-08-11 13:55 G 35647928.90 35647929.08 35647929.30 0.0089 0.0056 Neptune 92889-08-14 01:12 G 35648296.32 35648296.55 35648296.78 0.0089 0.0037 Neptune 92890-08-16 12:00 G 35648663.75 35648664.00 35648664.25 0.0089 0.0019 Neptune 92891-08-18 22:48 G 35649031.20 35649031.45 35649031.71 0.0089 0.0001 Neptune 92892-08-20 09:50 G 35649398.66 35649398.91 35649399.16 0.0089 0.0018 Neptune 92893-08-22 20:10 G 35649766.13 35649766.34 35649766.60 0.0089 0.0037 Neptune 92894-08-25 07:12 G 35650133.62 35650133.80 35650134.02 0.0089 0.0055 Neptune 92895-08-27 18:00 G 35650501.12 35650501.25 35650501.42 0.0089 0.0073 Pluto 92897-06-07 06:58 G 35651150.70 35651150.79 35651150.89 0.0063 0.0058 92898-06-08 17:02 G 35651516.97 35651517.21 35651517.46 0.0063 0.0018 Pluto Saturn 92901-02-09 19:55 G 35652493.15 35652493.33 35652493.52 0.0261 0.0178 Saturn 92902-02-21 12:58 G 35652869.80 35652870.04 35652870.28 0.0264 0.0076 Jupiter 92904-08-21 04:34 G 35653781.57 35653781.69 35653781.82 0.0528 0.0438 Uranus 92911-01-16 05:17 G 35656120.62 35656120.72 35656120.85 0.0143 0.0128 Uranus 92912-01-21 06:43 G 35656490.53 35656490.78 35656491.03 0.0143 0.0041 Uranus 92913-01-25 06:43 G 35656860.55 35656860.78 35656861.03 0.0142 0.0047 Uranus 92914-01-30 06:14 G 35657230.69 35657230.76 35657230.87 0.0142 0.0133 Saturn 92915-08-16 12:43 G 35657793.79 35657794.03 35657794.27 0.0300 0.0019 Jupiter 92916-08-26 05:02 G 35658169.49 35658169.71 35658169.94 0.0527 0.0081 Saturn 92931-02-16 21:07 G 35663457.13 35663457.38 35663457.63 0.0263 0.0036 Saturn 92932-02-28 16:34 G 35663834.07 35663834.19 35663834.33 0.0265 0.0223 Saturn 92944-08-09 13:55 G 35668379.89 35668380.08 35668380.28 0.0301 0.0183 Saturn 92945-08-24 07:55 G 35668759.66 35668759.83 35668760.02 0.0298 0.0196 Uranus 92954-07-17 16:19 G 35672009.02 35672009.18 35672009.37 0.0135 0.0096 Uranus 92955-07-22 00:00 G 35672378.26 35672378.50 35672378.75 0.0136 0.0023 Uranus 92956-07-25 07:41 G 35672747.59 35672747.82 35672748.06 0.0136 0.0049 Uranus 92957-07-29 15:50 G 35673117.07 35673117.16 35673117.28 0.0136 0.0122 Jupiter 92958-02-25 03:07 G 35673327.42 35673327.63 35673327.84 0.0498 0.0226

Saturn 92960-02-12 07:12 G 35674044.61 35674044.80 35674045.02 0.0261 0.0145 Saturn 92961-02-23 01:12 G 35674421.33 35674421.55 35674421.78 0.0264 0.0111 92964-12-01 13:55 G 35675798.89 35675799.08 35675799.27 0.1592 0.0195 Mars Jupiter 92970-03-01 14:38 G 35677714.90 35677715.11 35677715.33 0.0498 0.0199 Neptune 92971-02-12 06:14 G 35678062.64 35678062.76 35678062.93 0.0088 0.0074 Neptune 92972-02-14 18:58 G 35678430.10 35678430.29 35678430.51 0.0088 0.0055 Neptune 92973-02-16 07:26 G 35678797.58 35678797.81 35678798.06 0.0088 0.0037 Neptune 92974-02-18 20:10 G 35679165.09 35679165.34 35679165.60 0.0089 0.0018 Saturn 92974-08-18 10:19 G 35679345.69 35679345.93 35679346.17 0.0299 0.0033 Neptune 92975-02-21 08:24 G 35679532.60 35679532.85 35679533.12 0.0089 0.0002 Neptune 92976-02-23 20:38 G 35679900.12 35679900.36 35679900.63 0.0089 0.0020 Neptune 92977-02-25 08:53 G 35680267.65 35680267.87 35680268.12 0.0089 0.0038 Neptune 92978-02-27 21:22 G 35680635.21 35680635.39 35680635.61 0.0089 0.0056 Neptune 92979-03-02 10:05 G 35681002.79 35681002.92 35681003.07 0.0089 0.0074 Pluto 92988-12-08 21:22 G 35684572.26 35684572.39 35684572.56 0.0081 0.0066 Saturn 92989-02-06 16:05 G 35684632.13 35684632.17 35684632.25 0.0261 0.0252 Saturn 92990-02-18 08:53 G 35685008.62 35685008.87 35685009.12 0.0263 0.0001 Saturn 92991-03-02 05:17 G 35685385.67 35685385.72 35685385.78 0.0266 0.0259 Uranus 92995-01-16 19:41 G 35686802.19 35686802.32 35686802.46 0.0143 0.0120 Uranus 92996-01-21 20:53 G 35687172.12 35687172.37 35687172.62 0.0143 0.0032 Uranus 92997-01-25 20:53 G 35687542.15 35687542.37 35687542.62 0.0142 0.0055 Uranus 92998-01-30 20:24 G 35687912.34 35687912.35 35687912.40 0.0142 0.0141 Jupiter 92999-08-26 00:43 G 35688484.30 35688484.53 35688484.76 0.0527 0.0029

# 94TH MILLENNIUM CE

This is a list of transits of Earth in the 94th millennium CE.

FROM MAX- C START MAX END SUNRAD DEPTH S

TRANSIT

TIME

93003-08-13 12:43 G 35689931.81 35689932.03 35689932.25 0.0301 0.0131 Saturn 93004-08-27 05:46 G 35690311.61 35690311.74 35690311.88 0.0297 0.0246 Saturn Jupiter 93011-08-31 21:22 G 35692872.29 35692872.39 35692872.49 0.0527 0.0471 Saturn 93019-02-14 19:26 G 35695596.08 35695596.31 35695596.53 0.0262 0.0110 Saturn 93020-02-26 13:41 G 35695972.87 35695973.07 35695973.28 0.0264 0.0147 Saturn 93032-08-06 14:10 G 35700518.05 35700518.09 35700518.13 0.0302 0.0296 Saturn 93033-08-21 09:50 G 35700897.68 35700897.91 35700898.14 0.0299 0.0086 Uranus 93038-07-19 05:46 G 35702690.56 35702690.74 35702690.93 0.0135 0.0088 Uranus 93039-07-23 13:12 G 35703059.80 35703060.05 35703060.30 0.0135 0.0017 Uranus 93040-07-26 20:38 G 35703429.14 35703429.36 35703429.60 0.0136 0.0056 Jupiter 93041-02-25 00:14 G 35703642.33 35703642.51 35703642.69 0.0498 0.0321 Uranus 93041-07-31 04:34 G 35703798.64 35703798.69 35703798.79 0.0136 0.0129 Saturn 93048-02-10 03:50 G 35706183.53 35706183.66 35706183.80 0.0261 0.0219 Saturn 93049-02-20 20:38 G 35706560.11 35706560.36 35706560.61 0.0263 0.0033 Neptune 93051-08-11 08:24 G 35707461.77 35707461.85 35707461.99 0.0089 0.0080 Neptune 93052-08-12 19:12 G 35707829.14 35707829.30 35707829.51 0.0089 0.0062 Jupiter 93053-03-01 12:00 G 35708029.77 35708030.00 35708030.23 0.0498 0.0105 Neptune 93053-08-15 06:29 G 35708196.55 35708196.77 35708197.00 0.0089 0.0043 Neptune 93054-08-17 17:17 G 35708563.98 35708564.22 35708564.47 0.0089 0.0025 Neptune 93055-08-20 04:05 G 35708931.42 35708931.67 35708931.93 0.0089 0.0007 Neptune 93056-08-21 14:53 G 35709298.87 35709299.12 35709299.38 0.0089 0.0012 Neptune 93057-08-24 01:41 G 35709666.34 35709666.57 35709666.82 0.0089 0.0030 Neptune 93058-08-26 12:43 G 35710033.82 35710034.03 35710034.25 0.0089 0.0048 Neptune 93059-08-28 23:17 G 35710401.32 35710401.47 35710401.66 0.0089 0.0067 Neptune 93060-08-30 10:05 G 35710768.88 35710768.92 35710769.03 0.0089 0.0085 Saturn 93062-08-15 12:14 G 35711483.77 35711484.01 35711484.24 0.0301 0.0079

Saturn 93063-08-30 04:19 G 35711863.66 35711863.68 35711863.72 0.0297 0.0295 Saturn 93078-02-16 06:14 G 35717147.53 35717147.76 35717148.00 0.0262 0.0078 Uranus 93079-01-18 04:05 G 35717483.54 35717483.67 35717483.83 0.0143 0.0116 Saturn 93079-02-28 01:26 G 35717524.38 35717524.56 35717524.74 0.0265 0.0180 Uranus 93080-01-23 05:31 G 35717853.48 35717853.73 35717853.99 0.0143 0.0028 Uranus 93081-01-27 05:46 G 35718223.51 35718223.74 35718223.98 0.0143 0.0060 Jupiter 93082-08-25 18:58 G 35718799.07 35718799.29 35718799.51 0.0527 0.0146 Saturn 93091-08-09 12:14 G 35722069.89 35722070.01 35722070.16 0.0302 0.0246 Saturn 93092-08-23 07:41 G 35722449.61 35722449.82 35722450.04 0.0298 0.0135 Jupiter 93094-08-30 18:00 G 35723187.09 35723187.25 35723187.42 0.0527 0.0366 Saturn 93107-02-12 13:41 G 35727734.90 35727735.07 35727735.25 0.0261 0.0187 Saturn 93108-02-24 06:29 G 35728111.54 35728111.77 35728112.02 0.0264 0.0066 Saturn 93121-08-18 09:07 G 35733035.64 35733035.88 35733036.12 0.0300 0.0030 Uranus 93122-07-20 18:29 G 35733372.09 35733372.27 35733372.49 0.0135 0.0083 Uranus 93123-07-25 02:10 G 35733741.34 35733741.59 35733741.84 0.0135 0.0010 Jupiter 93124-02-26 01:55 G 35733957.45 35733957.58 35733957.73 0.0498 0.0395 Uranus 93124-07-28 09:36 G 35734110.69 35734110.90 35734111.13 0.0136 0.0063 Uranus 93125-08-01 17:46 G 35734480.24 35734480.24 35734480.26 0.0136 0.0136 Neptune 93135-02-13 11:31 G 35737962.88 35737962.98 35737963.11 0.0088 0.0079 Neptune 93136-02-15 23:46 G 35738330.32 35738330.49 35738330.70 0.0088 0.0061 Jupiter 93136-03-01 15:07 G 35738344.89 35738345.13 35738345.36 0.0498 0.0037 Neptune 93137-02-17 12:29 G 35738697.81 35738698.02 35738698.27 0.0088 0.0042 Saturn 93137-02-18 15:07 G 35738698.88 35738699.13 35738699.37 0.0262 0.0047 Neptune 93138-02-20 01:12 G 35739065.31 35739065.55 35739065.81 0.0088 0.0024 Saturn 93138-03-02 10:34 G 35739075.79 35739075.94 35739076.09 0.0265 0.0210 Neptune 93139-02-22 13:55 G 35739432.82 35739433.08 35739433.34 0.0088 0.0005 Neptune 93140-02-25 02:10 G 35739800.34 35739800.59 35739800.85 0.0089 0.0014 Neptune 93141-02-26 14:38 G 35740167.87 35740168.11 35740168.36 0.0089 0.0032 Neptune 93142-03-01 02:38 G 35740535.42 35740535.61 35740535.85 0.0089 0.0051 Neptune 93143-03-03 14:53 G 35740902.98 35740903.12 35740903.31 0.0089 0.0069

Pluto 93143-06-12 13:55 G 35741003.93 35741004.08 35741004.29 0.0063 0.0045 Neptune 93144-03-05 03:36 G 35741270.62 35741270.65 35741270.71 0.0089 0.0087 Pluto 93144-06-13 00:14 G 35741370.31 35741370.51 35741370.75 0.0063 0.0032 Jupiter 93148-03-06 02:53 G 35742732.54 35742732.62 35742732.71 0.0499 0.0465 Saturn 93150-08-12 08:10 G 35743621.66 35743621.84 35743622.02 0.0301 0.0198 Saturn 93151-08-27 02:53 G 35744001.43 35744001.62 35744001.81 0.0298 0.0181 93161-06-05 04:05 G 35747571.48 35747571.67 35747571.86 0.1948 0.0587 Mars Uranus 93163-01-19 13:12 G 35748164.90 35748165.05 35748165.22 0.0143 0.0112 Uranus 93164-01-24 14:24 G 35748534.85 35748535.10 35748535.36 0.0143 0.0024 Uranus 93165-01-28 15:07 G 35748904.90 35748905.13 35748905.36 0.0143 0.0064 Jupiter 93165-08-25 19:41 G 35749114.12 35749114.32 35749114.53 0.0528 0.0234 Saturn 93166-02-13 20:38 G 35749286.18 35749286.36 35749286.57 0.0261 0.0160 Saturn 93167-02-25 13:55 G 35749662.85 35749663.08 35749663.32 0.0264 0.0094 93169-12-02 19:26 G 35750674.14 35750674.31 35750674.48 0.1589 0.0716 Mars Jupiter 93177-08-30 17:02 G 35753502.02 35753502.21 35753502.41 0.0527 0.0274 Saturn 93180-08-20 01:12 G 35754587.31 35754587.55 35754587.79 0.0300 0.0013 Saturn 93196-02-20 20:38 G 35760250.11 35760250.36 35760250.60 0.0262 0.0021 Saturn 93197-03-03 15:36 G 35760627.06 35760627.15 35760627.28 0.0265 0.0237 Uranus 93206-07-21 08:24 G 35764053.66 35764053.85 35764054.07 0.0135 0.0075 Jupiter 93207-02-25 06:43 G 35764272.70 35764272.78 35764272.88 0.0498 0.0457 Uranus 93207-07-25 16:05 G 35764422.92 35764423.17 35764423.42 0.0135 0.0003 Uranus 93208-07-28 23:17 G 35764792.27 35764792.47 35764792.70 0.0136 0.0070 Saturn 93209-08-13 21:36 G 35765173.20 35765173.40 35765173.62 0.0301 0.0158 Saturn 93210-08-28 16:05 G 35765553.02 35765553.17 35765553.34 0.0298 0.0221 Neptune 93215-08-11 15:07 G 35767362.07 35767362.13 35767362.20 0.0089 0.0085 Neptune 93216-08-13 01:41 G 35767729.42 35767729.57 35767729.75 0.0089 0.0067 Neptune 93217-08-15 12:29 G 35768096.82 35768097.02 35768097.25 0.0089 0.0049 Neptune 93218-08-17 23:17 G 35768464.25 35768464.47 35768464.72 0.0089 0.0031 Jupiter 93219-03-01 18:29 G 35768660.04 35768660.27 35768660.51 0.0498 0.0031 Neptune 93219-08-20 10:05 G 35768831.68 35768831.92 35768832.18 0.0089 0.0013

Neptune 93220-08-21 21:07 G 35769199.13 35769199.38 35769199.64 0.0089 0.0006 Neptune 93221-08-24 07:41 G 35769566.58 35769566.82 35769567.08 0.0089 0.0024 Neptune 93222-08-26 18:14 G 35769934.06 35769934.26 35769934.51 0.0089 0.0043 Neptune 93223-08-29 05:02 G 35770301.55 35770301.71 35770301.93 0.0089 0.0061 Neptune 93224-08-30 16:05 G 35770669.07 35770669.17 35770669.31 0.0089 0.0079 Saturn 93225-02-15 00:29 G 35770837.31 35770837.52 35770837.74 0.0261 0.0134 Saturn 93226-02-26 17:31 G 35771214.01 35771214.23 35771214.46 0.0264 0.0119 Jupiter 93231-03-06 07:12 G 35773047.66 35773047.80 35773047.94 0.0498 0.0399 93233-12-11 01:41 G 35774058.46 35774058.57 35774058.72 0.0082 0.0071 Pluto Saturn 93239-08-22 12:14 G 35776138.77 35776139.01 35776139.25 0.0300 0.0050 Uranus 93247-01-19 21:07 G 35778846.22 35778846.38 35778846.56 0.0143 0.0109 Uranus 93248-01-24 22:34 G 35779216.18 35779216.44 35779216.70 0.0143 0.0020 Jupiter 93248-08-24 22:05 G 35779429.23 35779429.42 35779429.60 0.0527 0.0310 93248-12-04 20:38 G 35779531.21 35779531.36 35779531.50 0.1590 0.1009 Mars Uranus 93249-01-28 22:48 G 35779586.23 35779586.45 35779586.69 0.0143 0.0068 Saturn 93254-02-10 07:26 G 35781424.74 35781424.81 35781424.91 0.0260 0.0245 Saturn 93255-02-21 22:34 G 35781801.19 35781801.44 35781801.69 0.0262 0.0004 Saturn 93256-03-04 17:31 G 35782178.19 35782178.23 35782178.29 0.0265 0.0259 Jupiter 93260-08-29 18:29 G 35783817.06 35783817.27 35783817.49 0.0527 0.0188 Saturn 93268-08-15 05:17 G 35786724.51 35786724.72 35786724.95 0.0301 0.0124 Saturn 93269-08-29 23:46 G 35787104.37 35787104.49 35787104.62 0.0298 0.0253 Saturn 93284-02-17 00:58 G 35792388.32 35792388.54 35792388.77 0.0261 0.0112 Saturn 93285-02-27 17:31 G 35792765.03 35792765.23 35792765.45 0.0264 0.0140 Uranus 93290-07-21 21:50 G 35794735.21 35794735.41 35794735.64 0.0135 0.0068 Uranus 93291-07-26 05:31 G 35795104.48 35795104.73 35795104.98 0.0135 0.0005 Uranus 93292-07-29 12:58 G 35795473.85 35795474.04 35795474.26 0.0136 0.0078 Saturn 93298-08-23 16:05 G 35797689.94 35797690.17 35797690.41 0.0300 0.0079 Neptune 93299-02-12 16:34 G 35797863.15 35797863.19 35797863.30 0.0088 0.0085 Neptune 93300-02-15 05:46 G 35798230.57 35798230.74 35798230.92 0.0088 0.0066 Neptune 93301-02-17 18:00 G 35798598.05 35798598.25 35798598.49 0.0088 0.0048

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Neptune 93382-08-18 05:31 G 35828364.52 35828364.73 35828364.98 0.0089 0.0037 Neptune 93383-08-20 16:48 G 35828731.95 35828732.20 35828732.45 0.0089 0.0018 Neptune 93384-08-22 03:36 G 35829099.39 35829099.65 35829099.91 0.0089 0.0000 Jupiter 93385-03-01 13:12 G 35829290.83 35829291.05 35829291.29 0.0499 0.0118 Neptune 93385-08-24 14:24 G 35829466.85 35829467.10 35829467.35 0.0089 0.0018 Saturn 93386-08-19 03:50 G 35829826.43 35829826.66 35829826.90 0.0302 0.0074 Neptune 93386-08-27 00:43 G 35829834.32 35829834.53 35829834.79 0.0089 0.0037 Neptune 93387-08-29 11:31 G 35830201.80 35830201.98 35830202.20 0.0089 0.0055 Neptune 93388-08-30 22:34 G 35830569.31 35830569.44 35830569.60 0.0089 0.0073 Pluto 93389-06-14 20:53 G 35830857.16 35830857.37 35830857.59 0.0063 0.0034 Pluto 93390-06-16 07:26 G 35831223.62 35831223.81 35831224.00 0.0063 0.0042 Jupiter 93397-03-06 02:53 G 35833678.44 35833678.62 35833678.80 0.0499 0.0318 Saturn 93402-02-20 17:02 G 35835489.97 35835490.21 35835490.45 0.0261 0.0076 Saturn 93403-03-04 08:38 G 35835866.69 35835866.86 35835867.06 0.0264 0.0174 Jupiter 93414-08-26 14:38 G 35840059.97 35840060.11 35840060.25 0.0527 0.0415 Uranus 93415-01-22 22:19 G 35840209.24 35840209.43 35840209.63 0.0143 0.0094 Saturn 93415-08-13 11:31 G 35840411.86 35840411.98 35840412.10 0.0303 0.0260 Uranus 93416-01-27 23:31 G 35840579.22 35840579.48 35840579.74 0.0143 0.0006 Saturn 93416-08-27 10:05 G 35840791.70 35840791.92 35840792.15 0.0300 0.0123 Uranus 93417-01-31 23:46 G 35840949.29 35840949.49 35840949.71 0.0142 0.0083 Jupiter 93426-08-31 15:07 G 35844447.90 35844448.13 35844448.36 0.0527 0.0099 Saturn 93431-02-15 21:07 G 35846077.21 35846077.38 35846077.55 0.0259 0.0189 Saturn 93432-02-27 11:02 G 35846453.72 35846453.96 35846454.20 0.0262 0.0057 Saturn 93445-08-20 21:36 G 35851377.16 35851377.40 35851377.64 0.0302 0.0055 Mars 93453-12-06 02:38 G 35854406.42 35854406.61 35854406.80 0.1587 0.0109 Uranus 93457-07-20 17:31 G 35855729.16 35855729.23 35855729.34 0.0135 0.0127 Uranus 93458-07-25 00:43 G 35856098.31 35856098.53 35856098.77 0.0135 0.0054 Uranus 93459-07-29 08:38 G 35856467.61 35856467.86 35856468.11 0.0136 0.0020 Uranus 93460-08-01 16:19 G 35856837.01 35856837.18 35856837.37 0.0136 0.0093 Saturn 93461-02-21 11:17 G 35857040.73 35857040.97 35857041.22 0.0261 0.0059

Saturn 93462-03-05 02:38 G 35857417.45 35857417.61 35857417.79 0.0263 0.0191 Neptune 93464-02-16 11:31 G 35858130.86 35858130.98 35858131.16 0.0088 0.0072 Neptune 93465-02-18 00:29 G 35858498.33 35858498.52 35858498.74 0.0088 0.0053 Neptune 93466-02-20 12:58 G 35858865.81 35858866.04 35858866.29 0.0088 0.0034 Neptune 93467-02-23 01:41 G 35859233.32 35859233.57 35859233.83 0.0088 0.0016 Neptune 93468-02-25 14:24 G 35859600.84 35859601.10 35859601.36 0.0088 0.0003 Jupiter 93468-03-02 01:55 G 35859606.35 35859606.58 35859606.80 0.0498 0.0148 Neptune 93469-02-27 02:38 G 35859968.37 35859968.61 35859968.88 0.0089 0.0022 Neptune 93470-03-01 15:22 G 35860335.92 35860336.14 35860336.38 0.0089 0.0040 Neptune 93471-03-04 03:07 G 35860703.47 35860703.63 35860703.86 0.0089 0.0059 Neptune 93472-03-05 15:50 G 35861071.05 35861071.16 35861071.31 0.0089 0.0077 Saturn 93474-08-14 03:36 G 35861962.51 35861962.65 35861962.80 0.0303 0.0242 Saturn 93475-08-29 02:24 G 35862342.39 35862342.60 35862342.82 0.0300 0.0140 Pluto 93479-12-15 12:00 G 35863911.80 35863912.00 35863912.25 0.0081 0.0043 Jupiter 93480-03-06 12:00 G 35863993.81 35863994.00 35863994.20 0.0499 0.0275 Saturn 93490-02-16 15:07 G 35867627.95 35867628.13 35867628.32 0.0259 0.0172 Saturn 93491-02-28 04:34 G 35868004.46 35868004.69 35868004.94 0.0262 0.0074 Jupiter 93497-08-26 01:26 G 35870375.45 35870375.56 35870375.67 0.0527 0.0461 Uranus 93499-01-23 12:43 G 35870890.83 35870891.03 35870891.24 0.0143 0.0086 Uranus 93500-01-28 13:55 G 35871260.83 35871261.08 35871261.34 0.0143 0.0004 Uranus 93501-02-02 14:10 G 35871630.91 35871631.09 35871631.30 0.0142 0.0092 Saturn 93504-08-22 13:41 G 35872927.83 35872928.07 35872928.31 0.0302 0.0037 Jupiter 93509-08-31 23:31 G 35874763.25 35874763.48 35874763.72 0.0527 0.0046 Saturn 93520-02-24 05:46 G 35878591.50 35878591.74 35878591.99 0.0261 0.0042 Saturn 93521-03-06 21:07 G 35878968.23 35878968.38 35878968.54 0.0263 0.0207 Saturn 93533-08-15 20:24 G 35883513.19 35883513.35 35883513.51 0.0303 0.0222 Saturn 93534-08-30 18:58 G 35883893.10 35883893.29 35883893.51 0.0300 0.0159 Uranus 93541-07-22 06:00 G 35886410.66 35886410.75 35886410.88 0.0135 0.0120 Uranus 93542-07-26 13:12 G 35886779.83 35886780.05 35886780.30 0.0135 0.0048 Uranus 93543-07-30 21:07 G 35887149.14 35887149.38 35887149.63 0.0135 0.0026

Uranus 93544-08-03 04:48 G 35887518.54 35887518.70 35887518.88 0.0136 0.0100 Neptune 93544-08-14 15:36 G 35887530.03 35887530.15 35887530.27 0.0089 0.0078 Neptune 93545-08-17 02:10 G 35887897.42 35887897.59 35887897.79 0.0089 0.0060 Neptune 93546-08-19 13:12 G 35888264.84 35888265.05 35888265.29 0.0089 0.0042 Neptune 93547-08-22 00:00 G 35888632.26 35888632.50 35888632.76 0.0089 0.0024 Neptune 93548-08-23 10:48 G 35888999.70 35888999.95 35889000.21 0.0089 0.0006 Saturn 93549-02-18 10:05 G 35889178.74 35889178.92 35889179.14 0.0259 0.0154 Neptune 93549-08-25 21:50 G 35889367.16 35889367.41 35889367.66 0.0089 0.0013 Saturn 93550-03-01 23:46 G 35889555.27 35889555.49 35889555.73 0.0262 0.0092 Neptune 93550-08-28 08:24 G 35889734.62 35889734.85 35889735.09 0.0089 0.0031 Jupiter 93551-03-03 10:34 G 35889921.72 35889921.94 35889922.16 0.0499 0.0194 Neptune 93551-08-30 18:43 G 35890102.10 35890102.28 35890102.52 0.0089 0.0050 Neptune 93552-09-01 06:00 G 35890469.58 35890469.75 35890469.91 0.0089 0.0067 Neptune 93553-09-03 16:05 G 35890837.14 35890837.17 35890837.27 0.0089 0.0086 Jupiter 93563-03-08 01:41 G 35894309.37 35894309.57 35894309.78 0.0499 0.0246 Saturn 93563-08-24 06:43 G 35894478.54 35894478.78 35894479.03 0.0302 0.0018 Saturn 93579-02-25 01:55 G 35900142.33 35900142.58 35900142.83 0.0261 0.0023 Saturn 93580-03-07 17:02 G 35900519.09 35900519.21 35900519.35 0.0263 0.0225 Jupiter 93580-08-26 11:17 G 35900690.92 35900690.97 35900691.04 0.0528 0.0509 Uranus 93583-01-24 23:17 G 35901572.26 35901572.47 35901572.69 0.0143 0.0080 Uranus 93584-01-30 00:43 G 35901942.27 35901942.53 35901942.78 0.0143 0.0009 Uranus 93585-02-03 00:58 G 35902312.37 35902312.54 35902312.74 0.0142 0.0098 Saturn 93592-08-16 14:24 G 35905063.93 35905064.10 35905064.29 0.0303 0.0201 Jupiter 93592-08-31 13:12 G 35905078.81 35905079.05 35905079.28 0.0527 0.0017 Saturn 93593-08-31 13:12 G 35905443.87 35905444.05 35905444.25 0.0300 0.0179 Saturn 93608-02-20 07:12 G 35910729.60 35910729.80 35910730.03 0.0260 0.0133 Saturn 93609-03-02 21:07 G 35911106.16 35911106.38 35911106.61 0.0262 0.0112 Saturn 93622-08-25 03:07 G 35916029.39 35916029.63 35916029.88 0.0302 0.0007 Uranus 93625-07-22 18:00 G 35917092.12 35917092.25 35917092.39 0.0135 0.0114 Uranus 93626-07-27 00:58 G 35917461.31 35917461.54 35917461.79 0.0135 0.0042

Uranus 93627-07-31 08:38 G 35917830.62 35917830.86 35917831.11 0.0135 0.0032 Neptune 93628-02-16 18:58 G 35918031.16 35918031.29 35918031.43 0.0088 0.0076 Uranus 93628-08-03 16:19 G 35918200.04 35918200.18 35918200.35 0.0136 0.0106 Neptune 93629-02-18 07:12 G 35918398.61 35918398.80 35918399.01 0.0088 0.0058 Neptune 93630-02-20 19:26 G 35918766.09 35918766.31 35918766.56 0.0088 0.0040 Neptune 93631-02-23 07:55 G 35919133.60 35919133.83 35919134.10 0.0088 0.0022 Neptune 93632-02-25 20:53 G 35919501.11 35919501.37 35919501.63 0.0088 0.0002 Neptune 93633-02-27 09:07 G 35919868.64 35919868.88 35919869.15 0.0088 0.0017 Neptune 93634-03-01 21:36 G 35920236.17 35920236.40 35920236.65 0.0089 0.0035 Jupiter 93634-03-02 22:34 G 35920237.23 35920237.44 35920237.65 0.0498 0.0227 Neptune 93635-03-04 10:19 G 35920603.73 35920603.93 35920604.15 0.0089 0.0053 Pluto 93635-06-19 05:02 G 35920710.48 35920710.71 35920710.97 0.0063 0.0018 Neptune 93636-03-05 22:34 G 35920971.31 35920971.44 35920971.62 0.0089 0.0072 Pluto 93636-06-19 15:07 G 35921077.06 35921077.13 35921077.26 0.0063 0.0059 Saturn 93637-02-14 12:43 G 35921316.95 35921317.03 35921317.13 0.0259 0.0240 Saturn 93638-02-26 00:58 G 35921693.29 35921693.54 35921693.79 0.0261 0.0002 Saturn 93639-03-09 16:19 G 35922070.11 35922070.18 35922070.27 0.0263 0.0248 Jupiter 93646-03-07 12:00 G 35924624.79 35924625.00 35924625.22 0.0499 0.0204 Saturn 93651-08-18 13:26 G 35926614.87 35926615.06 35926615.26 0.0303 0.0174 Saturn 93652-09-01 11:46 G 35926994.82 35926994.99 35926995.17 0.0300 0.0204 93658-12-06 08:10 G 35929281.67 35929281.84 35929282.01 0.1585 0.0773 Mars Uranus 93667-01-25 07:26 G 35932253.61 35932253.81 35932254.04 0.0143 0.0077 Saturn 93667-02-21 07:26 G 35932280.59 35932280.81 35932281.04 0.0260 0.0109 Uranus 93668-01-30 09:07 G 35932623.63 35932623.88 35932624.14 0.0143 0.0014 Saturn 93668-03-03 21:36 G 35932657.20 35932657.40 35932657.62 0.0262 0.0136 Uranus 93669-02-03 09:50 G 35932993.73 35932993.91 35932994.09 0.0142 0.0102 Jupiter 93675-08-31 20:24 G 35935394.12 35935394.35 35935394.59 0.0527 0.0049 Saturn 93681-08-26 03:22 G 35937580.40 35937580.64 35937580.88 0.0302 0.0035 Jupiter 93687-09-05 17:31 G 35939782.12 35939782.23 35939782.35 0.0526 0.0452 Saturn 93696-02-16 14:38 G 35942867.99 35942868.11 35942868.26 0.0259 0.0215

Saturn 93697-02-27 03:22 G 35943244.39 35943244.64 35943244.89 0.0261 0.0026 Neptune 93708-08-14 22:34 G 35947430.38 35947430.44 35947430.55 0.0089 0.0084 Uranus 93709-07-24 05:46 G 35947773.61 35947773.74 35947773.90 0.0135 0.0109 Neptune 93709-08-17 09:36 G 35947797.75 35947797.90 35947798.10 0.0089 0.0066 Uranus 93710-07-28 12:58 G 35948142.81 35948143.04 35948143.29 0.0135 0.0036 Neptune 93710-08-19 21:07 G 35948165.17 35948165.38 35948165.60 0.0089 0.0047 Saturn 93710-08-20 17:31 G 35948166.02 35948166.23 35948166.45 0.0302 0.0141 Uranus 93711-08-01 20:53 G 35948512.12 35948512.37 35948512.61 0.0135 0.0038 Neptune 93711-08-22 07:55 G 35948532.60 35948532.83 35948533.08 0.0089 0.0029 Saturn 93711-09-04 15:22 G 35948545.99 35948546.14 35948546.29 0.0299 0.0234 Uranus 93712-08-05 04:19 G 35948881.54 35948881.68 35948881.82 0.0136 0.0112 Neptune 93712-08-23 18:58 G 35948900.04 35948900.29 35948900.55 0.0089 0.0011 Neptune 93713-08-26 05:46 G 35949267.49 35949267.74 35949268.00 0.0089 0.0008 Neptune 93714-08-28 16:34 G 35949634.96 35949635.19 35949635.45 0.0089 0.0026 Neptune 93715-08-31 03:22 G 35950002.42 35950002.64 35950002.86 0.0089 0.0044 Neptune 93716-09-01 14:24 G 35950369.92 35950370.10 35950370.28 0.0089 0.0062 Jupiter 93717-03-03 01:12 G 35950552.37 35950552.55 35950552.75 0.0498 0.0301 Neptune 93717-09-04 00:14 G 35950737.44 35950737.51 35950737.65 0.0089 0.0081 Pluto 93725-12-19 03:07 G 35953765.37 35953765.63 35953765.90 0.0081 0.0002 Saturn 93726-02-23 11:02 G 35953831.73 35953831.96 35953832.20 0.0260 0.0082 Saturn 93727-03-07 01:41 G 35954208.38 35954208.57 35954208.77 0.0262 0.0163 Jupiter 93729-03-07 14:38 G 35954939.89 35954940.11 35954940.34 0.0499 0.0131 93737-12-09 09:22 G 35958138.73 35958138.89 35958139.04 0.1586 0.0915 Mars Saturn 93740-08-28 10:19 G 35959131.69 35959131.93 35959132.16 0.0301 0.0069 Uranus 93751-01-26 14:10 G 35962934.87 35962935.09 35962935.31 0.0143 0.0074 Uranus 93752-01-31 15:22 G 35963304.89 35963305.14 35963305.40 0.0143 0.0016 Uranus 93753-02-04 15:50 G 35963675.00 35963675.16 35963675.35 0.0142 0.0105 Saturn 93755-02-18 19:55 G 35964419.17 35964419.33 35964419.51 0.0259 0.0188 Saturn 93756-03-01 09:22 G 35964795.65 35964795.89 35964796.14 0.0261 0.0055 Jupiter 93758-08-31 22:48 G 35965709.22 35965709.45 35965709.67 0.0527 0.0130

Saturn 93769-08-22 03:22 G 35969717.42 35969717.64 35969717.87 0.0302 0.0102 Jupiter 93770-09-05 23:17 G 35970097.32 35970097.47 35970097.63 0.0527 0.0386 Saturn 93770-09-06 00:14 G 35970097.42 35970097.51 35970097.62 0.0299 0.0271 \* Saturn 93785-02-24 18:14 G 35975383.01 35975383.26 35975383.50 0.0260 0.0052 Saturn 93786-03-08 09:07 G 35975759.72 35975759.88 35975760.06 0.0263 0.0194 Neptune 93792-02-17 02:10 G 35977931.51 35977931.59 35977931.72 0.0088 0.0081 Neptune 93793-02-18 14:38 G 35978298.95 35978299.11 35978299.32 0.0088 0.0063 Uranus 93793-07-24 17:17 G 35978455.08 35978455.22 35978455.40 0.0135 0.0103 Neptune 93794-02-21 03:36 G 35978666.42 35978666.65 35978666.88 0.0088 0.0044 Uranus 93794-07-29 00:43 G 35978824.29 35978824.53 35978824.78 0.0135 0.0030 Neptune 93795-02-23 15:50 G 35979033.92 35979034.16 35979034.42 0.0088 0.0026 Uranus 93795-08-02 08:10 G 35979193.61 35979193.84 35979194.08 0.0135 0.0044 Neptune 93796-02-26 04:34 G 35979401.43 35979401.69 35979401.95 0.0088 0.0007 Uranus 93796-08-05 15:36 G 35979563.05 35979563.15 35979563.29 0.0136 0.0119 Neptune 93797-02-27 16:34 G 35979768.94 35979769.19 35979769.46 0.0088 0.0012 Neptune 93798-03-02 05:17 G 35980136.48 35980136.72 35980136.97 0.0089 0.0030 Saturn 93798-08-15 22:48 G 35980303.35 35980303.45 35980303.57 0.0304 0.0269 Neptune 93799-03-04 17:46 G 35980504.03 35980504.24 35980504.47 0.0089 0.0048 Saturn 93799-08-30 22:19 G 35980683.21 35980683.43 35980683.66 0.0301 0.0110 Jupiter 93800-03-03 07:12 G 35980867.64 35980867.80 35980867.96 0.0498 0.0360 Neptune 93800-03-07 06:00 G 35980871.60 35980871.75 35980871.94 0.0089 0.0067 Neptune 93801-03-09 18:29 G 35981239.22 35981239.27 35981239.37 0.0089 0.0085 93808-06-11 16:19 G 35983890.00 35983890.18 35983890.36 0.1954 0.0843 Mars Jupiter 93812-03-07 20:24 G 35985255.12 35985255.35 35985255.58 0.0499 0.0071 Saturn 93814-02-21 04:19 G 35985970.49 35985970.68 35985970.88 0.0260 0.0157 Saturn 93815-03-04 18:29 G 35986347.03 35986347.27 35986347.50 0.0262 0.0086 Jupiter 93824-03-12 08:09 G 35989642.83 35989642.84 35989642.87 0.0499 0.0496 Saturn 93828-08-24 19:41 G 35991269.09 35991269.32 35991269.56 0.0302 0.0057 Uranus 93835-01-27 22:19 G 35993616.22 35993616.43 35993616.67 0.0143 0.0071 Uranus 93836-02-01 23:45 G 35993986.24 35993986.49 35993986.75 0.0143 0.0020

Uranus 93837-02-06 00:14 G 35994356.35 35994356.51 35994356.68 0.0142 0.0109 Jupiter 93841-09-01 02:53 G 35996024.41 35996024.62 35996024.83 0.0528 0.0205 Saturn 93844-02-28 03:50 G 35996934.41 35996934.66 35996934.91 0.0261 0.0020 Saturn 93845-03-10 19:41 G 35997311.20 35997311.32 35997311.45 0.0263 0.0226 Jupiter 93853-09-05 22:05 G 36000412.23 36000412.42 36000412.61 0.0527 0.0289 Saturn 93857-08-18 17:31 G 36001855.07 36001855.23 36001855.40 0.0303 0.0222 Saturn 93858-09-02 16:05 G 36002234.97 36002235.17 36002235.38 0.0301 0.0155 Neptune 93872-08-15 07:41 G 36007330.82 36007330.82 36007330.86 0.0089 0.0089 Saturn 93873-02-22 14:53 G 36007521.91 36007522.12 36007522.34 0.0260 0.0125 Neptune 93873-08-17 18:14 G 36007698.13 36007698.26 36007698.44 0.0089 0.0071 Saturn 93874-03-06 05:45 G 36007898.52 36007898.74 36007898.96 0.0262 0.0119 Neptune 93874-08-20 05:31 G 36008065.53 36008065.73 36008065.94 0.0089 0.0052 Neptune 93875-08-22 16:19 G 36008432.95 36008433.18 36008433.42 0.0089 0.0034 Neptune 93876-08-24 03:07 G 36008800.39 36008800.63 36008800.89 0.0016 Uranus 93877-07-26 05:17 G 36009136.56 36009136.72 36009136.90 0.0135 0.0097 Neptune 93877-08-26 14:24 G 36009167.85 36009168.10 36009168.36 0.0089 0.0003 Uranus 93878-07-30 12:29 G 36009505.78 36009506.02 36009506.27 0.0135 0.0024 Neptune 93878-08-29 00:57 G 36009535.30 36009535.54 36009535.80 0.0089 0.0021 Uranus 93879-08-03 19:55 G 36009875.11 36009875.33 36009875.57 0.0136 0.0050 Neptune 93879-08-31 12:00 G 36009902.77 36009903.00 36009903.23 0.0089 0.0039 Uranus 93880-08-07 03:36 G 36010244.57 36010244.65 36010244.76 0.0136 0.0125 Neptune 93880-09-01 22:19 G 36010270.26 36010270.43 36010270.65 0.0089 0.0058 Pluto 93881-06-22 12:14 G 36010563.76 36010564.01 36010564.27 0.0063 0.0007 Neptune 93881-09-04 08:53 G 36010637.77 36010637.87 36010638.04 0.0089 0.0076 Jupiter 93883-03-03 08:24 G 36011182.75 36011182.85 36011182.97 0.0498 0.0436 Saturn 93887-08-27 16:05 G 36012820.93 36012821.17 36012821.41 0.0301 0.0008 Jupiter 93895-03-07 17:31 G 36015569.99 36015570.23 36015570.46 0.0498 0.0024 Saturn 93902-02-19 00:57 G 36018109.44 36018109.54 36018109.67 0.0260 0.0229 Saturn 93903-03-02 14:53 G 36018485.87 36018486.12 36018486.37 0.0261 0.0013 Saturn 93904-03-13 07:26 G 36018862.79 36018862.81 36018862.86 0.0264 0.0260

Jupiter 93907-03-13 05:17 G 36019957.59 36019957.72 36019957.87 0.0499 0.0401 Saturn 93916-08-21 16:33 G 36023406.99 36023407.19 36023407.39 0.0303 0.0171 Saturn 93917-09-05 14:09 G 36023786.92 36023787.09 36023787.27 0.0300 0.0204 Uranus 93919-01-29 08:38 G 36024297.64 36024297.86 36024298.10 0.0143 0.0065 Uranus 93920-02-03 09:36 G 36024667.66 36024667.90 36024668.17 0.0143 0.0026 Uranus 93921-02-07 10:05 G 36025037.78 36025037.92 36025038.08 0.0142 0.0115 Jupiter 93924-08-31 20:53 G 36026339.19 36026339.37 36026339.55 0.0527 0.0320 Saturn 93932-02-26 02:38 G 36029073.37 36029073.61 36029073.84 0.0260 0.0093 Saturn 93933-03-08 17:45 G 36029450.04 36029450.24 36029450.44 0.0263 0.0153 Jupiter 93936-09-05 16:19 G 36030726.96 36030727.18 36030727.40 0.0527 0.0173 93942-12-10 15:21 G 36033013.94 36033014.14 36033014.33 0.1584 0.0057 Mars Saturn 93946-08-30 15:36 G 36034372.91 36034373.15 36034373.39 0.0301 0.0044 Neptune 93956-02-18 09:36 G 36037831.87 36037831.90 36037832.00 0.0088 0.0086 Neptune 93957-02-19 22:48 G 36038199.29 36038199.45 36038199.63 0.0088 0.0067 Neptune 93958-02-22 11:02 G 36038566.76 36038566.96 36038567.19 0.0088 0.0049 Neptune 93959-02-24 23:45 G 36038934.26 36038934.49 36038934.75 0.0088 0.0031 Neptune 93960-02-27 12:00 G 36039301.76 36039302.00 36039302.27 0.0088 0.0013 Saturn 93961-02-20 12:29 G 36039660.86 36039661.02 36039661.18 0.0260 0.0197 Neptune 93961-03-01 00:43 G 36039669.28 36039669.53 36039669.80 0.0088 0.0007 Uranus 93961-07-27 16:05 G 36039818.01 36039818.17 36039818.37 0.0135 0.0092 Neptune 93962-03-03 13:12 G 36040036.81 36040037.05 36040037.31 0.0088 0.0025 Saturn 93962-03-04 02:38 G 36040037.37 36040037.61 36040037.86 0.0262 0.0045 Uranus 93962-07-31 23:31 G 36040187.24 36040187.48 36040187.74 0.0135 0.0019 Neptune 93963-03-06 01:26 G 36040404.35 36040404.56 36040404.81 0.0089 0.0044 Uranus 93963-08-05 06:57 G 36040556.58 36040556.79 36040557.03 0.0136 0.0057 Neptune 93964-03-07 13:55 G 36040771.92 36040772.08 36040772.29 0.0089 0.0062 Uranus 93964-08-08 14:53 G 36040926.07 36040926.12 36040926.19 0.0136 0.0131 Neptune 93965-03-10 02:38 G 36041139.51 36041139.61 36041139.73 0.0089 0.0080 Pluto 93971-12-23 13:12 G 36043618.82 36043619.05 36043619.31 0.0081 0.0028 Saturn 93975-08-24 15:50 G 36044958.95 36044959.16 36044959.39 0.0302 0.0121

 Saturn
 93976-09-07 12:57 G
 36045338.92
 36045339.04
 36045339.18
 0.0299
 0.0253

 Jupiter
 93978-03-07 18:14 G
 36045885.03
 36045885.26
 36045885.49
 0.0498
 0.0101

 Jupiter
 93990-03-12 06:57 G
 36050272.62
 36050272.79
 36050272.97
 0.0499
 0.0327

 Saturn
 93991-02-27 13:26 G
 36050624.82
 36050625.06
 36050625.31
 0.0261
 0.0062

 Saturn
 93992-03-10 05:02 G
 36051001.54
 36051001.71
 36051001.90
 0.0263
 0.0185

## 95TH MILLENNIUM CE

### This is a list of transits of Earth in the 95th millennium CE.

FROM MAX- C START MAX END SUNRAD DEPTH S

TRANSIT

TIME

Uranus 94003-01-29 21:07 G 36054979.16 36054979.38 36054979.63 0.0143 0.0058

Uranus 94004-02-03 22:19 G 36055349.18 36055349.43 36055349.68 0.0143 0.0033

Saturn 94004-08-17 15:50 G 36055545.09 36055545.16 36055545.25 0.0303 0.0283

Uranus 94005-02-07 21:50 G 36055719.31 36055719.41 36055719.57 0.0142 0.0123

Saturn 94005-09-01 15:07 G 36055924.90 36055925.13 36055925.36 0.0301 0.0095

Jupiter 94007-08-31 16:33 G 36056654.06 36056654.19 36056654.32 0.0528 0.0430

Jupiter 94019-09-05 15:07 G 36061041.91 36061042.13 36061042.36 0.0528 0.0079

Saturn 94020-02-22 22:33 G 36061212.26 36061212.44 36061212.64 0.0260 0.0167

Saturn 94034-08-26 14:53 G 36066510.89 36066511.12 36066511.36 0.0302 0.0071

Neptune 94037-08-18 04:05 G 36067598.55 36067598.67 36067598.82 0.0089 0.0056

Neptune 94039-08-23 01:41 G 36068333.35 36068333.57 36068333.81 0.0089 0.0039

Neptune 94040-08-24 12:43 G 36068700.79 36068701.03 36068701.29 0.0089 0.0021

Neptune 94041-08-26 23:45 G 36069068.23 36069068.49 36069068.74 0.0089 0.0002 Neptune 94042-08-29 10:33 G 36069435.69 36069435.94 36069436.20 0.0089 0.0016 Neptune 94043-08-31 21:36 G 36069803.16 36069803.40 36069803.64 0.0089 0.0034 Neptune 94044-09-02 07:55 G 36070170.65 36070170.83 36070171.06 0.0089 0.0053 Uranus 94045-07-28 03:21 G 36070499.46 36070499.64 36070499.84 0.0135 0.0087 Neptune 94045-09-04 18:57 G 36070538.16 36070538.29 36070538.46 0.0089 0.0071 Uranus 94046-08-01 10:33 G 36070868.69 36070868.94 36070869.19 0.0135 0.0012 Uranus 94047-08-05 18:00 G 36071238.03 36071238.25 36071238.48 0.0136 0.0062 Saturn 94050-02-28 23:02 G 36072176.21 36072176.46 36072176.71 0.0261 0.0032 Saturn 94051-03-12 15:07 G 36072552.99 36072553.13 36072553.27 0.0263 0.0215 Jupiter 94061-03-06 19:41 G 36076200.10 36076200.32 36076200.54 0.0498 0.0176 Saturn 94063-08-20 13:12 G 36077096.91 36077097.05 36077097.21 0.0303 0.0235 Saturn 94064-09-03 12:00 G 36077476.79 36077477.00 36077477.22 0.0300 0.0141 Jupiter 94073-03-11 06:29 G 36080587.56 36080587.77 36080587.97 0.0498 0.0243 Saturn 94079-02-24 06:43 G 36082763.58 36082763.78 36082764.00 0.0260 0.0139 Saturn 94080-03-06 21:07 G 36083140.15 36083140.38 36083140.61 0.0262 0.0104 Uranus 94086-01-25 07:41 G 36085290.80 36085290.82 36085290.88 0.0143 0.0141 Uranus 94087-01-30 08:53 G 36085660.65 36085660.87 36085661.13 0.0143 0.0051 Uranus 94088-02-04 09:50 G 36086030.66 36086030.91 36086031.16 0.0143 0.0040 Uranus 94089-02-08 09:36 G 36086400.81 36086400.90 36086401.02 0.0142 0.0130 Jupiter 94090-08-30 14:53 G 36086969.09 36086969.12 36086969.16 0.0528 0.0521 94092-06-11 12:57 G 36087619.88 36087620.04 36087620.20 0.1956 0.1167 Mars Saturn 94093-08-28 10:05 G 36088062.68 36088062.92 36088063.16 0.0302 0.0026 Jupiter 94102-09-05 12:43 G 36091356.80 36091357.03 36091357.27 0.0527 0.0022 Saturn 94108-02-20 16:33 G 36093351.12 36093351.19 36093351.28 0.0259 0.0244 Saturn 94109-03-03 05:31 G 36093727.48 36093727.73 36093727.98 0.0261 0.0006 Saturn 94110-03-14 21:36 G 36094104.32 36094104.40 36094104.51 0.0263 0.0241 Jupiter 94114-09-10 08:09 G 36095744.75 36095744.84 36095744.95 0.0527 0.0473 Neptune 94121-02-20 06:43 G 36098099.65 36098099.78 36098099.95 0.0088 0.0072 Neptune 94122-02-22 19:26 G 36098467.12 36098467.31 36098467.54 0.0088 0.0054 Saturn 94122-08-23 06:29 G 36098648.58 36098648.77 36098648.95 0.0303 0.0193 Neptune 94123-02-25 08:09 G 36098834.61 36098834.84 36098835.09 0.0088 0.0035 Saturn 94123-09-07 05:02 G 36099028.52 36099028.71 36099028.90 0.0300 0.0183 Neptune 94124-02-27 20:38 G 36099202.11 36099202.36 36099202.62 0.0088 0.0017 Neptune 94125-03-01 09:07 G 36099569.63 36099569.88 36099570.15 0.0088 0.0003 Neptune 94126-03-03 21:36 G 36099937.15 36099937.40 36099937.66 0.0089 0.0020 Neptune 94127-03-06 10:05 G 36100304.69 36100304.92 36100305.16 0.0089 0.0039 Pluto 94127-06-26 21:07 G 36100417.12 36100417.38 36100417.63 0.0063 0.0009 Neptune 94128-03-07 22:19 G 36100672.24 36100672.43 36100672.64 0.0089 0.0057 Neptune 94129-03-10 10:33 G 36101039.83 36101039.94 36101040.10 0.0089 0.0076 Uranus 94129-07-29 12:57 G 36101180.85 36101181.04 36101181.25 0.0135 0.0082 Uranus 94130-08-02 20:09 G 36101550.10 36101550.34 36101550.60 0.0135 0.0009 Uranus 94131-08-07 03:36 G 36101919.44 36101919.65 36101919.88 0.0136 0.0067 Saturn 94138-02-26 12:14 G 36104314.79 36104315.01 36104315.24 0.0260 0.0114 Saturn 94139-03-10 02:24 G 36104691.39 36104691.60 36104691.82 0.0262 0.0129 Jupiter 94144-03-06 22:19 G 36106515.23 36106515.43 36106515.64 0.0498 0.0245 Mars 94147-12-10 22:05 G 36107889.25 36107889.42 36107889.58 0.1582 0.0812 Saturn 94152-08-30 23:45 G 36109614.25 36109614.49 36109614.74 0.0302 0.0014 Jupiter 94156-03-11 09:50 G 36110902.69 36110902.91 36110903.13 0.0499 0.0179 Saturn 94167-02-21 20:53 G 36114902.24 36114902.37 36114902.50 0.0259 0.0219 Saturn 94168-03-04 09:07 G 36115278.64 36115278.88 36115279.13 0.0261 0.0020 Uranus 94170-01-26 16:48 G 36115972.15 36115972.20 36115972.29 0.0143 0.0137 Uranus 94171-01-31 18:14 G 36116342.02 36116342.26 36116342.51 0.0143 0.0046 Uranus 94172-02-05 18:57 G 36116712.05 36116712.29 36116712.54 0.0143 0.0045 Uranus 94173-02-09 18:43 G 36117082.22 36117082.28 36117082.39 0.0142 0.0135 Saturn 94181-08-24 17:02 G 36120200.00 36120200.21 36120200.41 0.0303 0.0157 Saturn 94182-09-08 15:36 G 36120579.99 36120580.15 36120580.32 0.0300 0.0218 Jupiter 94185-09-04 13:12 G 36121671.82 36121672.05 36121672.28 0.0527 0.0108 Saturn 94197-02-27 14:24 G 36125865.87 36125866.10 36125866.34 0.0260 0.0091 Jupiter 94197-09-09 12:14 G 36126059.87 36126060.01 36126060.17 0.0527 0.0402

Saturn 94198-03-11 04:05 G 36126242.48 36126242.67 36126242.88 0.0262 0.0152 Neptune 94201-08-19 13:41 G 36127498.99 36127499.07 36127499.22 0.0089 0.0081 Neptune 94202-08-22 00:29 G 36127866.37 36127866.52 36127866.73 0.0089 0.0063 Neptune 94203-08-24 12:00 G 36128233.78 36128234.00 36128234.22 0.0089 0.0043 Neptune 94204-08-25 22:33 G 36128601.20 36128601.44 36128601.69 0.0089 0.0025 Neptune 94205-08-28 09:21 G 36128968.64 36128968.89 36128969.15 0.0089 0.0007 Neptune 94206-08-30 20:09 G 36129336.09 36129336.34 36129336.60 0.0089 0.0011 Neptune 94207-09-02 06:43 G 36129703.55 36129703.78 36129704.04 0.0089 0.0030 Neptune 94208-09-03 17:45 G 36130071.04 36130071.24 36130071.47 0.0089 0.0048 Neptune 94209-09-06 04:33 G 36130438.53 36130438.69 36130438.87 0.0089 0.0066 Neptune 94210-09-08 15:36 G 36130806.08 36130806.15 36130806.24 0.0089 0.0084 Saturn 94211-09-03 07:41 G 36131165.58 36131165.82 36131166.06 0.0302 0.0046 Uranus 94213-07-30 22:33 G 36131862.25 36131862.44 36131862.66 0.0135 0.0079 Uranus 94214-08-04 06:00 G 36132231.50 36132231.75 36132232.00 0.0135 0.0004 Uranus 94215-08-08 13:12 G 36132600.85 36132601.05 36132601.27 0.0136 0.0071 Pluto 94217-12-27 03:21 G 36133472.52 36133472.64 36133472.81 0.0081 0.0067 Saturn 94226-02-23 21:36 G 36136453.25 36136453.40 36136453.57 0.0259 0.0198 94226-12-13 22:48 G 36136746.29 36136746.45 36136746.61 0.1583 0.0866 Mars Saturn 94227-03-07 09:50 G 36136829.67 36136829.91 36136830.16 0.0260 0.0040 Jupiter 94227-03-08 04:05 G 36136830.49 36136830.67 36136830.86 0.0499 0.0300 Jupiter 94239-03-12 18:29 G 36141218.04 36141218.27 36141218.50 0.0499 0.0132 Saturn 94240-08-26 21:50 G 36141751.19 36141751.41 36141751.63 0.0303 0.0126 Saturn 94241-09-10 20:38 G 36142131.23 36142131.36 36142131.50 0.0300 0.0247 Uranus 94254-01-27 23:31 G 36146653.40 36146653.48 36146653.57 0.0143 0.0134 Uranus 94255-02-02 00:29 G 36147023.29 36147023.52 36147023.78 0.0143 0.0044 Uranus 94256-02-07 01:12 G 36147393.31 36147393.55 36147393.80 0.0143 0.0047 Saturn 94256-03-01 13:41 G 36147416.83 36147417.07 36147417.31 0.0260 0.0070 Uranus 94257-02-11 01:26 G 36147763.50 36147763.56 36147763.64 0.0142 0.0137 Saturn 94257-03-13 02:53 G 36147793.44 36147793.62 36147793.82 0.0262 0.0171 Jupiter 94268-09-04 21:21 G 36151987.17 36151987.39 36151987.61 0.0527 0.0158

Saturn 94270-09-04 08:53 G 36152716.64 36152716.87 36152717.11 0.0302 0.0072 Jupiter 94280-09-09 21:07 G 36156375.22 36156375.38 36156375.56 0.0526 0.0352 Neptune 94285-02-20 15:50 G 36158000.03 36158000.16 36158000.29 0.0088 0.0076 Saturn 94285-02-24 19:55 G 36158004.16 36158004.33 36158004.52 0.0258 0.0178 Neptune 94286-02-23 04:05 G 36158367.48 36158367.67 36158367.88 0.0088 0.0058 Saturn 94286-03-08 07:41 G 36158380.58 36158380.82 36158381.06 0.0260 0.0059 Neptune 94287-02-25 16:33 G 36158734.98 36158735.19 36158735.44 0.0088 0.0040 Neptune 94288-02-28 05:17 G 36159102.48 36159102.72 36159102.99 0.0088 0.0021 Neptune 94289-03-01 18:14 G 36159470.00 36159470.26 36159470.52 0.0088 0.0003 Neptune 94290-03-04 06:43 G 36159837.53 36159837.78 36159838.05 0.0088 0.0016 Neptune 94291-03-06 18:57 G 36160205.06 36160205.29 36160205.54 0.0089 0.0035 Neptune 94292-03-08 07:26 G 36160572.62 36160572.81 36160573.04 0.0089 0.0053 Neptune 94293-03-10 19:55 G 36160940.19 36160940.33 36160940.50 0.0089 0.0071 Uranus 94297-07-31 08:09 G 36162543.64 36162543.84 36162544.06 0.0135 0.0074 Uranus 94298-08-04 15:21 G 36162912.89 36162913.14 36162913.39 0.0135 0.0002 Uranus 94299-08-08 22:33 G 36163282.25 36163282.44 36163282.66 0.0136 0.0076 Saturn 94299-08-28 20:24 G 36163302.13 36163302.35 36163302.59 0.0304 0.0103 Saturn 94300-09-12 19:55 G 36163682.24 36163682.33 36163682.44 0.0300 0.0271 Jupiter 94310-03-08 15:07 G 36167145.96 36167146.13 36167146.31 0.0498 0.0336 Saturn 94315-03-04 10:19 G 36168967.69 36168967.93 36168968.18 0.0260 0.0052 Saturn 94316-03-14 23:17 G 36169344.31 36169344.47 36169344.65 0.0262 0.0188 Jupiter 94322-03-13 05:17 G 36171533.49 36171533.72 36171533.95 0.0499 0.0094 Saturn 94328-08-22 03:50 G 36173887.58 36173887.66 36173887.75 0.0304 0.0284 Saturn 94329-09-06 05:45 G 36174267.52 36174267.74 36174267.98 0.0302 0.0095 Uranus 94338-01-29 04:48 G 36177334.63 36177334.70 36177334.81 0.0143 0.0133 Uranus 94339-02-03 06:14 G 36177704.51 36177704.76 36177705.01 0.0143 0.0042 Uranus 94340-02-08 06:43 G 36178074.55 36178074.78 36178075.03 0.0143 0.0049 Uranus 94341-02-12 06:57 G 36178444.75 36178444.79 36178444.86 0.0142 0.0138 Saturn 94344-02-27 15:50 G 36179554.97 36179555.16 36179555.36 0.0258 0.0160 Saturn 94345-03-10 03:07 G 36179931.40 36179931.63 36179931.88 0.0260 0.0077

Jupiter 94351-09-06 06:43 G 36182302.57 36182302.78 36182303.00 0.0527 0.0209 Saturn 94358-08-30 15:07 G 36184852.90 36184853.13 36184853.36 0.0304 0.0082 Saturn 94359-09-14 14:53 G 36185233.06 36185233.12 36185233.18 0.0301 0.0290 Jupiter 94363-09-11 04:48 G 36186690.51 36186690.70 36186690.89 0.0527 0.0293 Neptune 94365-08-20 00:43 G 36187399.47 36187399.53 36187399.63 0.0089 0.0084 Neptune 94366-08-22 11:31 G 36187766.84 36187766.98 36187767.18 0.0089 0.0067 Neptune 94367-08-24 22:19 G 36188134.24 36188134.43 36188134.67 0.0089 0.0048 Neptune 94368-08-26 09:07 G 36188501.66 36188501.88 36188502.14 0.0089 0.0030 Neptune 94369-08-28 20:09 G 36188869.09 36188869.34 36188869.60 0.0089 0.0011 Neptune 94370-08-31 06:57 G 36189236.54 36189236.79 36189237.05 0.0089 0.0007 Neptune 94371-09-02 17:45 G 36189604.00 36189604.24 36189604.49 0.0089 0.0025 Pluto 94372-06-28 16:33 G 36189904.10 36189904.19 36189904.33 0.0063 0.0056 Neptune 94372-09-04 04:19 G 36189971.46 36189971.68 36189971.91 0.0089 0.0043 Pluto 94373-06-30 03:07 G 36190270.40 36190270.63 36190270.89 0.0063 0.0020 Neptune 94373-09-06 14:53 G 36190338.96 36190339.12 36190339.32 0.0089 0.0062 Saturn 94374-03-05 05:45 G 36190518.49 36190518.74 36190518.99 0.0259 0.0034 Neptune 94374-09-09 01:26 G 36190706.48 36190706.56 36190706.70 0.0089 0.0080 Saturn 94375-03-16 18:14 G 36190895.11 36190895.26 36190895.42 0.0262 0.0204 Uranus 94381-08-01 17:45 G 36193225.05 36193225.24 36193225.48 0.0135 0.0071 Uranus 94382-08-06 01:26 G 36193594.31 36193594.56 36193594.81 0.0135 0.0005 Uranus 94383-08-10 08:53 G 36193963.67 36193963.87 36193964.08 0.0136 0.0080 Saturn 94387-08-23 20:24 G 36195438.25 36195438.35 36195438.48 0.0304 0.0266 Saturn 94388-09-06 22:48 G 36195818.23 36195818.45 36195818.68 0.0302 0.0113 Jupiter 94393-03-07 23:02 G 36197461.32 36197461.46 36197461.62 0.0499 0.0385 Saturn 94403-02-28 10:19 G 36201105.74 36201105.93 36201106.15 0.0258 0.0143 Saturn 94404-03-10 21:50 G 36201482.18 36201482.41 36201482.64 0.0260 0.0093 Jupiter 94405-03-12 14:09 G 36201848.86 36201849.09 36201849.33 0.0499 0.0050 Jupiter 94417-03-17 05:31 G 36206236.69 36206236.73 36206236.79 0.0499 0.0488 Saturn 94417-08-31 07:55 G 36206403.59 36206403.83 36206404.07 0.0304 0.0063 Uranus 94422-01-29 12:14 G 36208015.92 36208016.01 36208016.13 0.0143 0.0130

Uranus 94423-02-03 13:26 G 36208385.82 36208386.06 36208386.32 0.0143 0.0039 Uranus 94424-02-08 14:09 G 36208755.85 36208756.09 36208756.33 0.0143 0.0052 Uranus 94425-02-12 14:09 G 36209126.09 36209126.09 36209126.12 0.0142 0.0142 94431-12-14 05:17 G 36211621.53 36211621.72 36211621.91 0.1582 0.0026 Mars Saturn 94432-02-23 14:24 G 36211693.05 36211693.10 36211693.18 0.0258 0.0248 Saturn 94433-03-06 00:29 G 36212069.27 36212069.52 36212069.77 0.0259 0.0017 Saturn 94434-03-17 12:29 G 36212445.90 36212446.02 36212446.16 0.0262 0.0221 Jupiter 94434-09-05 17:31 G 36212618.03 36212618.23 36212618.43 0.0527 0.0252 Saturn 94446-08-24 12:29 G 36216988.89 36216989.02 36216989.17 0.0304 0.0246 Jupiter 94446-09-10 18:57 G 36217006.09 36217006.29 36217006.49 0.0527 0.0266 Saturn 94447-09-08 14:38 G 36217368.90 36217369.11 36217369.34 0.0302 0.0131 Neptune 94449-02-21 00:00 G 36217900.42 36217900.50 36217900.63 0.0088 0.0080 Neptune 94450-02-23 12:29 G 36218267.86 36218268.02 36218268.23 0.0088 0.0063 Neptune 94451-02-26 01:26 G 36218635.34 36218635.56 36218635.80 0.0088 0.0044 Neptune 94452-02-28 14:09 G 36219002.85 36219003.09 36219003.35 0.0088 0.0025 Neptune 94453-03-02 02:53 G 36219370.37 36219370.62 36219370.89 0.0088 0.0008 Neptune 94454-03-04 15:21 G 36219737.89 36219738.14 36219738.41 0.0088 0.0012 Neptune 94455-03-07 04:19 G 36220105.43 36220105.68 36220105.92 0.0088 0.0030 Neptune 94456-03-08 16:19 G 36220472.98 36220473.18 36220473.42 0.0089 0.0049 Neptune 94457-03-11 05:02 G 36220840.55 36220840.71 36220840.89 0.0089 0.0067 Neptune 94458-03-13 17:31 G 36221208.17 36221208.23 36221208.31 0.0089 0.0085 Saturn 94462-03-01 05:17 G 36222656.51 36222656.72 36222656.95 0.0258 0.0124 Pluto 94462-12-28 05:45 G 36222958.66 36222958.74 36222958.85 0.0081 0.0076 Saturn 94463-03-12 16:19 G 36223032.97 36223033.18 36223033.42 0.0260 0.0111 Uranus 94465-08-02 03:36 G 36223906.43 36223906.65 36223906.87 0.0135 0.0066 Uranus 94466-08-06 11:02 G 36224275.71 36224275.96 36224276.21 0.0135 0.0009 Uranus 94467-08-10 18:43 G 36224645.09 36224645.28 36224645.48 0.0136 0.0085 Jupiter 94476-03-07 13:12 G 36227776.92 36227777.05 36227777.18 0.0499 0.0412 Saturn 94476-08-31 23:31 G 36227954.24 36227954.48 36227954.72 0.0304 0.0045 Jupiter 94488-03-12 04:05 G 36232164.44 36232164.67 36232164.91 0.0499 0.0025

Saturn 94491-02-24 09:21 G 36233243.80 36233243.89 36233244.02 0.0258 0.0230 Saturn 94492-03-06 19:26 G 36233620.06 36233620.31 36233620.56 0.0259 0.0004 Saturn 94493-03-18 07:55 G 36233996.73 36233996.83 36233996.93 0.0262 0.0238 Jupiter 94500-03-17 18:00 G 36236552.17 36236552.25 36236552.36 0.0499 0.0456 Saturn 94505-08-26 06:00 G 36238539.59 36238539.75 36238539.91 0.0304 0.0226 Uranus 94506-01-30 22:19 G 36238697.33 36238697.43 36238697.57 0.0143 0.0125 Saturn 94506-09-10 08:09 G 36238919.63 36238919.84 36238920.05 0.0302 0.0150 Uranus 94507-02-04 23:31 G 36239067.24 36239067.48 36239067.74 0.0143 0.0034 Uranus 94508-02-10 00:00 G 36239437.28 36239437.50 36239437.75 0.0142 0.0058 Jupiter 94517-09-06 09:21 G 36242933.70 36242933.89 36242934.09 0.0527 0.0275 Saturn 94521-03-03 01:26 G 36244207.33 36244207.56 36244207.78 0.0258 0.0105 Saturn 94522-03-14 12:29 G 36244583.81 36244584.02 36244584.24 0.0260 0.0130 Neptune 94529-08-20 11:31 G 36247299.97 36247299.98 36247300.02 0.0089 0.0089 Jupiter 94529-09-11 05:45 G 36247321.53 36247321.74 36247321.95 0.0526 0.0219 Neptune 94530-08-22 22:19 G 36247667.29 36247667.43 36247667.60 0.0089 0.0071 Neptune 94531-08-25 09:21 G 36248034.70 36248034.89 36248035.11 0.0089 0.0052 Neptune 94532-08-26 20:09 G 36248402.12 36248402.34 36248402.59 0.0089 0.0034 Neptune 94533-08-29 06:57 G 36248769.55 36248769.79 36248770.05 0.0089 0.0016 Neptune 94534-08-31 18:00 G 36249137.00 36249137.25 36249137.51 0.0089 0.0003 Neptune 94535-09-03 04:33 G 36249504.45 36249504.69 36249504.94 0.0089 0.0021 Saturn 94535-09-03 17:45 G 36249505.00 36249505.24 36249505.48 0.0304 0.0024 Neptune 94536-09-04 15:21 G 36249871.92 36249872.14 36249872.38 0.0089 0.0039 Neptune 94537-09-07 01:55 G 36250239.40 36250239.58 36250239.78 0.0089 0.0057 Neptune 94538-09-09 12:14 G 36250606.91 36250607.01 36250607.18 0.0089 0.0076 Uranus 94549-08-03 13:12 G 36254587.84 36254588.05 36254588.29 0.0135 0.0062 Saturn 94550-02-26 06:14 G 36254794.63 36254794.76 36254794.92 0.0258 0.0210 Uranus 94550-08-07 20:53 G 36254957.13 36254957.37 36254957.63 0.0136 0.0015 Saturn 94551-03-09 16:33 G 36255170.94 36255171.19 36255171.44 0.0259 0.0021 Uranus 94551-08-12 04:48 G 36255326.52 36255326.70 36255326.89 0.0136 0.0090 Saturn 94552-03-20 05:02 G 36255547.68 36255547.71 36255547.76 0.0262 0.0258

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Uranus 94633-08-04 22:33 G 36285269.22 36285269.44 36285269.67 0.0135 0.0057 Uranus 94634-08-09 06:14 G 36285638.52 36285638.76 36285639.01 0.0136 0.0019 Uranus 94635-08-13 13:55 G 36286007.92 36286008.08 36286008.27 0.0136 0.0095 94636-12-14 12:43 G 36286496.86 36286497.03 36286497.19 0.1581 0.0803 Mars Saturn 94639-03-07 00:00 G 36287309.27 36287309.50 36287309.75 0.0259 0.0061 Saturn 94640-03-17 12:00 G 36287685.83 36287686.00 36287686.19 0.0261 0.0175 Saturn 94653-09-06 19:41 G 36292607.08 36292607.32 36292607.56 0.0303 0.0032 Jupiter 94654-03-13 19:12 G 36292795.07 36292795.30 36292795.53 0.0499 0.0082 Jupiter 94666-03-18 09:21 G 36297182.72 36297182.89 36297183.06 0.0499 0.0350 Saturn 94668-03-01 08:24 G 36297896.67 36297896.85 36297897.05 0.0258 0.0164 Saturn 94669-03-12 19:41 G 36298273.08 36298273.32 36298273.56 0.0260 0.0069 Uranus 94674-02-01 21:50 G 36300060.26 36300060.41 36300060.57 0.0143 0.0112 Uranus 94675-02-06 22:48 G 36300430.21 36300430.45 36300430.72 0.0143 0.0021 Uranus 94676-02-11 23:17 G 36300800.26 36300800.47 36300800.71 0.0142 0.0072 Saturn 94682-08-31 10:33 G 36303192.73 36303192.94 36303193.16 0.0304 0.0138 Jupiter 94683-09-06 21:36 G 36303564.26 36303564.40 36303564.55 0.0527 0.0406 Saturn 94683-09-15 11:31 G 36303572.84 36303572.98 36303573.14 0.0301 0.0233 Neptune 94694-08-23 09:50 G 36307567.78 36307567.91 36307568.05 0.0089 0.0074 Neptune 94695-08-25 20:38 G 36307935.17 36307935.36 36307935.56 0.0089 0.0056 Jupiter 94695-09-11 21:07 G 36307952.15 36307952.38 36307952.61 0.0527 0.0102 Neptune 94696-08-27 07:12 G 36308302.59 36308302.80 36308303.05 0.0089 0.0038 Neptune 94697-08-29 18:14 G 36308670.02 36308670.26 36308670.52 0.0089 0.0020 Saturn 94698-03-08 04:33 G 36308860.44 36308860.69 36308860.94 0.0259 0.0034 Neptune 94698-09-01 05:02 G 36309037.46 36309037.71 36309037.97 0.0089 0.0002 Saturn 94699-03-19 17:02 G 36309237.06 36309237.21 36309237.37 0.0261 0.0201 Neptune 94699-09-03 15:50 G 36309404.92 36309405.16 36309405.42 0.0089 0.0017 Neptune 94700-09-06 02:24 G 36309772.37 36309772.60 36309772.84 0.0089 0.0035 Neptune 94701-09-08 13:12 G 36310139.85 36310140.05 36310140.26 0.0089 0.0053 Neptune 94702-09-11 00:00 G 36310507.35 36310507.50 36310507.65 0.0089 0.0071 Pluto 94709-01-01 19:26 G 36312812.10 36312812.31 36312812.56 0.0081 0.0037

Saturn 94711-08-26 03:36 G 36313778.65 36313778.65 36313778.66 0.0305 0.0304 Saturn 94712-09-09 06:00 G 36314158.51 36314158.75 36314158.99 0.0303 0.0070 94715-12-18 13:26 G 36315353.90 36315354.06 36315354.22 0.1581 0.0857 Mars Uranus 94716-08-02 00:14 G 36315581.46 36315581.51 36315581.61 0.0135 0.0129 Uranus 94717-08-06 07:55 G 36315950.60 36315950.83 36315951.06 0.0135 0.0053 Uranus 94718-08-10 15:36 G 36316319.91 36316320.15 36316320.40 0.0135 0.0022 Uranus 94719-08-14 23:02 G 36316689.30 36316689.46 36316689.65 0.0136 0.0099 Saturn 94727-03-04 14:53 G 36319447.91 36319448.12 36319448.33 0.0259 0.0136 Saturn 94728-03-15 02:24 G 36319824.37 36319824.60 36319824.83 0.0260 0.0098 Jupiter 94737-03-13 23:45 G 36323110.27 36323110.49 36323110.72 0.0498 0.0145 94739-06-19 22:33 G 36323938.24 36323938.44 36323938.64 0.1958 0.0141 Mars Saturn 94741-09-03 00:29 G 36324744.30 36324744.52 36324744.76 0.0303 0.0096 Saturn 94742-09-18 00:43 G 36325124.44 36325124.53 36325124.64 0.0301 0.0273 Jupiter 94749-03-18 08:38 G 36327497.66 36327497.86 36327498.06 0.0499 0.0265 Saturn 94756-02-28 00:57 G 36330035.46 36330035.54 36330035.65 0.0259 0.0237 Saturn 94757-03-10 12:14 G 36330411.76 36330412.01 36330412.26 0.0260 0.0006 Uranus 94758-02-03 06:29 G 36330741.61 36330741.77 36330741.94 0.0143 0.0108 Saturn 94758-03-22 01:12 G 36330788.45 36330788.55 36330788.68 0.0262 0.0231 Uranus 94759-02-08 07:55 G 36331111.58 36331111.83 36331112.09 0.0143 0.0016 Uranus 94760-02-13 08:24 G 36331481.64 36331481.85 36331482.08 0.0142 0.0076 Jupiter 94766-09-06 22:19 G 36333879.36 36333879.43 36333879.52 0.0527 0.0491 Saturn 94770-08-27 19:55 G 36335330.22 36335330.33 36335330.46 0.0304 0.0261 Saturn 94771-09-11 21:50 G 36335710.19 36335710.41 36335710.64 0.0302 0.0112 Neptune 94777-02-22 18:57 G 36337701.29 36337701.29 36337701.33 0.0088 0.0088 Neptune 94778-02-25 07:12 G 36338068.67 36338068.80 36338068.98 0.0088 0.0071 Jupiter 94778-09-11 18:29 G 36338267.04 36338267.27 36338267.50 0.0527 0.0007 Neptune 94779-02-27 19:55 G 36338436.14 36338436.33 36338436.56 0.0088 0.0052 Neptune 94780-03-01 08:53 G 36338803.63 36338803.87 36338804.11 0.0088 0.0034 Neptune 94781-03-03 21:21 G 36339171.14 36339171.39 36339171.66 0.0088 0.0016 Neptune 94782-03-06 10:05 G 36339538.66 36339538.92 36339539.18 0.0088 0.0003

Neptune 94783-03-08 22:33 G 36339906.20 36339906.44 36339906.70 0.0088 0.0022 Neptune 94784-03-10 11:17 G 36340273.75 36340273.97 36340274.21 0.0088 0.0040 Neptune 94785-03-12 23:31 G 36340641.31 36340641.48 36340641.70 0.0088 0.0059 Saturn 94786-03-05 23:45 G 36340999.27 36340999.49 36340999.72 0.0259 0.0107 Neptune 94786-03-15 12:14 G 36341008.91 36341009.01 36341009.16 0.0089 0.0077 Saturn 94787-03-17 12:00 G 36341375.79 36341376.00 36341376.22 0.0261 0.0128 Jupiter 94790-09-16 13:55 G 36342655.00 36342655.08 36342655.17 0.0527 0.0489 Uranus 94800-08-02 09:21 G 36346262.81 36346262.89 36346262.99 0.0135 0.0125 Saturn 94800-09-04 19:55 G 36346296.10 36346296.33 36346296.57 0.0303 0.0050 Uranus 94801-08-06 16:33 G 36346631.97 36346632.19 36346632.43 0.0135 0.0051 Uranus 94802-08-11 00:14 G 36347001.27 36347001.51 36347001.76 0.0135 0.0026 Uranus 94803-08-15 07:55 G 36347370.67 36347370.83 36347371.00 0.0136 0.0102 Saturn 94815-03-01 11:02 G 36351586.82 36351586.96 36351587.12 0.0259 0.0207 Saturn 94816-03-11 22:48 G 36351963.20 36351963.45 36351963.70 0.0260 0.0025 Saturn 94817-03-23 12:29 G 36352340.02 36352340.02 36352340.03 0.0262 0.0262 Jupiter 94820-03-12 21:21 G 36353425.19 36353425.39 36353425.61 0.0498 0.0236 Saturn 94829-08-29 18:14 G 36356882.09 36356882.26 36356882.43 0.0304 0.0212 Saturn 94830-09-13 19:12 G 36357262.10 36357262.30 36357262.51 0.0302 0.0160 Jupiter 94832-03-17 10:48 G 36357812.74 36357812.95 36357813.17 0.0499 0.0194 Uranus 94842-02-03 12:29 G 36361422.87 36361423.02 36361423.21 0.0143 0.0107 Uranus 94843-02-08 14:24 G 36361792.84 36361793.10 36361793.35 0.0143 0.0014 Uranus 94844-02-13 14:38 G 36362162.91 36362163.11 36362163.34 0.0142 0.0078 Saturn 94845-03-07 10:48 G 36362550.72 36362550.95 36362551.19 0.0259 0.0076 Saturn 94846-03-18 23:31 G 36362927.29 36362927.48 36362927.68 0.0261 0.0160 Neptune 94858-08-23 20:09 G 36367468.26 36367468.34 36367468.49 0.0089 0.0080 Neptune 94859-08-26 07:12 G 36367835.64 36367835.80 36367836.01 0.0089 0.0061 Saturn 94859-09-07 18:43 G 36367848.04 36367848.28 36367848.53 0.0303 0.0005 Neptune 94860-08-27 18:29 G 36368203.06 36368203.27 36368203.51 0.0089 0.0043 Neptune 94861-08-30 05:17 G 36368570.49 36368570.72 36368570.98 0.0089 0.0024 Jupiter 94861-09-10 15:21 G 36368581.92 36368582.14 36368582.37 0.0527 0.0103

Neptune 94862-09-01 16:33 G 36368937.94 36368938.19 36368938.45 0.0089 0.0006 Neptune 94863-09-04 03:07 G 36369305.39 36369305.63 36369305.89 0.0089 0.0013 Pluto 94864-07-05 07:41 G 36369610.63 36369610.82 36369611.07 0.0063 0.0032 Neptune 94864-09-05 13:55 G 36369672.85 36369673.08 36369673.33 0.0089 0.0031 Pluto 94865-07-06 18:29 G 36369977.10 36369977.27 36369977.47 0.0063 0.0044 Neptune 94865-09-08 00:57 G 36370040.33 36370040.54 36370040.75 0.0089 0.0049 Neptune 94866-09-10 11:31 G 36370407.82 36370407.98 36370408.15 0.0089 0.0067 Neptune 94867-09-12 22:05 G 36370775.36 36370775.42 36370775.50 0.0089 0.0085 Jupiter 94873-09-15 13:55 G 36372969.93 36372970.08 36372970.23 0.0527 0.0399 Saturn 94874-03-02 22:33 G 36373138.26 36373138.44 36373138.62 0.0259 0.0176 Saturn 94875-03-14 10:33 G 36373514.70 36373514.94 36373515.18 0.0260 0.0057 Uranus 94884-08-02 18:29 G 36376944.19 36376944.27 36376944.40 0.0135 0.0122 Uranus 94885-08-07 01:55 G 36377313.36 36377313.58 36377313.83 0.0135 0.0047 Uranus 94886-08-11 09:21 G 36377682.66 36377682.89 36377683.15 0.0135 0.0031 Uranus 94887-08-15 16:48 G 36378052.06 36378052.20 36378052.37 0.0136 0.0107 Saturn 94888-08-31 18:00 G 36378434.06 36378434.25 36378434.46 0.0304 0.0163 Saturn 94889-09-15 18:43 G 36378814.12 36378814.28 36378814.47 0.0302 0.0209 Jupiter 94903-03-13 22:33 G 36383740.26 36383740.44 36383740.63 0.0498 0.0309 Saturn 94904-03-09 22:19 G 36384102.19 36384102.43 36384102.68 0.0259 0.0046 Saturn 94905-03-21 11:31 G 36384478.82 36384478.98 36384479.16 0.0261 0.0191 Jupiter 94915-03-18 11:02 G 36388127.73 36388127.96 36388128.19 0.0498 0.0114 Saturn 94918-09-10 19:41 G 36389400.08 36389400.32 36389400.56 0.0302 0.0051 94920-12-17 20:53 G 36390229.18 36390229.37 36390229.56 0.1581 0.0054 Mars Uranus 94926-02-04 18:43 G 36392104.13 36392104.28 36392104.48 0.0143 0.0105 Uranus 94927-02-09 20:38 G 36392474.10 36392474.36 36392474.62 0.0143 0.0012 Uranus 94928-02-14 21:07 G 36392844.18 36392844.38 36392844.60 0.0142 0.0081 Saturn 94933-03-05 09:36 G 36394689.71 36394689.90 36394690.12 0.0259 0.0147 Saturn 94934-03-16 21:50 G 36395066.18 36395066.41 36395066.65 0.0261 0.0087 Neptune 94942-02-25 17:02 G 36397969.10 36397969.21 36397969.38 0.0088 0.0075 Neptune 94943-02-28 06:00 G 36398336.56 36398336.75 36398336.96 0.0088 0.0056 Neptune 94944-03-01 18:43 G 36398704.05 36398704.28 36398704.52 0.0088 0.0038 Jupiter 94944-09-10 11:45 G 36398896.78 36398896.99 36398897.21 0.0527 0.0203 Neptune 94945-03-04 06:57 G 36399071.54 36399071.79 36399072.05 0.0088 0.0020 Neptune 94946-03-06 19:41 G 36399439.06 36399439.32 36399439.59 0.0088 0.0002 Neptune 94947-03-09 08:09 G 36399806.59 36399806.84 36399807.11 0.0088 0.0018 Saturn 94947-09-04 18:00 G 36399986.03 36399986.25 36399986.48 0.0304 0.0113 Neptune 94948-03-10 20:38 G 36400174.13 36400174.36 36400174.61 0.0088 0.0036 Saturn 94948-09-18 18:14 G 36400366.15 36400366.26 36400366.40 0.0301 0.0256 Neptune 94949-03-13 08:53 G 36400541.69 36400541.87 36400542.10 0.0088 0.0055 Neptune 94950-03-15 21:36 G 36400909.27 36400909.40 36400909.57 0.0089 0.0073 94955-01-05 05:17 G 36402665.48 36402665.72 36402665.99 0.0081 0.0015 Pluto Jupiter 94956-09-15 08:53 G 36403284.68 36403284.87 36403285.06 0.0527 0.0290 Saturn 94962-02-28 21:36 G 36405277.34 36405277.40 36405277.49 0.0258 0.0247 Saturn 94963-03-12 09:21 G 36405653.64 36405653.89 36405654.14 0.0260 0.0016 Saturn 94964-03-22 22:19 G 36406030.31 36406030.43 36406030.58 0.0262 0.0221 Uranus 94968-08-04 03:36 G 36407625.55 36407625.65 36407625.78 0.0135 0.0118 Uranus 94969-08-08 11:02 G 36407994.73 36407994.96 36407995.20 0.0135 0.0043 Uranus 94970-08-12 18:29 G 36408364.03 36408364.27 36408364.51 0.0135 0.0034 Uranus 94971-08-17 01:41 G 36408733.45 36408733.57 36408733.73 0.0136 0.0111 Saturn 94976-08-28 16:19 G 36410572.09 36410572.18 36410572.29 0.0304 0.0274 Saturn 94977-09-12 18:14 G 36410952.03 36410952.26 36410952.49 0.0302 0.0099 Jupiter 94986-03-12 22:05 G 36414055.27 36414055.42 36414055.57 0.0498 0.0389 Saturn 94992-03-06 19:12 G 36416241.09 36416241.30 36416241.53 0.0259 0.0118 Saturn 94993-03-18 07:12 G 36416617.59 36416617.80 36416618.03 0.0261 0.0116 Jupiter 94998-03-17 10:19 G 36418442.70 36418442.93 36418443.17 0.0498 0.0032

## 96TH MILLENNIUM CE

#### This is a list of transits of Earth in the 96th millennium CE.

FROM MAX- C START MAX END SUNRAD DEPTH S

TRANSIT

TIME

Saturn 95006-09-07 15:50 G 36421537.93 36421538.16 36421538.40 0.0303 0.0067 Saturn 95007-09-22 15:50 G 36421918.16 36421918.16 36421918.18 0.0301 0.0300 Uranus 95010-02-06 03:21 G 36422785.47 36422785.64 36422785.84 0.0143 0.0101 Jupiter 95010-03-22 22:05 G 36422830.33 36422830.42 36422830.52 0.0499 0.0453 Uranus 95011-02-11 04:48 G 36423155.44 36423155.70 36423155.96 0.0143 0.0008 Uranus 95012-02-16 05:02 G 36423525.51 36423525.71 36423525.93 0.0142 0.0085 Saturn 95021-03-03 06:14 G 36426828.64 36426828.76 36426828.90 0.0258 0.0219 Saturn 95022-03-14 17:45 G 36427204.99 36427205.24 36427205.49 0.0260 0.0012 Neptune 95022-08-25 07:41 G 36427368.75 36427368.82 36427368.93 0.0089 0.0083 Saturn 95023-03-26 06:57 G 36427581.72 36427581.79 36427581.88 0.0262 0.0247 Mars 95023-06-20 18:00 G 36427668.21 36427668.25 36427668.30 0.1958 0.1901 Neptune 95023-08-27 18:29 G 36427736.12 36427736.27 36427736.47 0.0089 0.0065 Neptune 95024-08-29 05:17 G 36428103.52 36428103.72 36428103.96 0.0089 0.0047 Neptune 95025-08-31 16:33 G 36428470.95 36428471.19 36428471.43 0.0089 0.0028 Neptune 95026-09-03 03:07 G 36428838.39 36428838.63 36428838.89 0.0089 0.0010 Neptune 95027-09-05 14:09 G 36429205.84 36429206.09 36429206.35 0.0089 0.0009 Jupiter 95027-09-11 07:55 G 36429211.65 36429211.83 36429212.03 0.0527 0.0310 Neptune 95028-09-07 00:57 G 36429573.31 36429573.54 36429573.79 0.0089 0.0027 Neptune 95029-09-09 11:45 G 36429940.78 36429940.99 36429941.22 0.0089 0.0045 Neptune 95030-09-11 22:33 G 36430308.27 36430308.44 36430308.63 0.0089 0.0063 Neptune 95031-09-14 09:21 G 36430675.79 36430675.89 36430675.99 0.0089 0.0081 Saturn 95035-09-01 11:31 G 36432123.82 36432123.98 36432124.14 0.0304 0.0230

Saturn 95036-09-15 13:12 G 36432503.84 36432504.05 36432504.27 0.0302 0.0142 Jupiter 95039-09-16 05:31 G 36433599.51 36433599.73 36433599.95 0.0527 0.0187 Saturn 95051-03-10 02:09 G 36437792.37 36437792.59 36437792.84 0.0259 0.0093 Saturn 95052-03-20 14:09 G 36438168.89 36438169.09 36438169.30 0.0261 0.0141 Uranus 95052-08-05 13:12 G 36438306.93 36438307.05 36438307.20 0.0135 0.0115 Uranus 95053-08-09 20:24 G 36438676.12 36438676.35 36438676.60 0.0135 0.0038 Uranus 95054-08-14 03:50 G 36439045.43 36439045.66 36439045.91 0.0136 0.0039 Uranus 95055-08-18 11:17 G 36439414.86 36439414.97 36439415.12 0.0136 0.0116 Saturn 95065-09-09 07:55 G 36443089.59 36443089.83 36443090.07 0.0303 0.0026 Jupiter 95069-03-12 23:02 G 36444370.38 36444370.46 36444370.55 0.0498 0.0462 Saturn 95080-03-04 11:45 G 36448379.84 36448379.99 36448380.16 0.0258 0.0195 Saturn 95081-03-15 22:48 G 36448756.20 36448756.45 36448756.70 0.0259 0.0036 Jupiter 95081-03-17 13:12 G 36448757.81 36448758.05 36448758.28 0.0499 0.0036 Jupiter 95093-03-22 02:53 G 36453145.48 36453145.62 36453145.76 0.0499 0.0391 Uranus 95094-02-06 14:24 G 36453466.92 36453467.10 36453467.31 0.0143 0.0095 Saturn 95094-09-03 00:57 G 36453675.36 36453675.54 36453675.73 0.0304 0.0192 Uranus 95095-02-11 15:36 G 36453836.89 36453837.15 36453837.41 0.0143 0.0002 Saturn 95095-09-18 02:38 G 36454055.43 36454055.61 36454055.82 0.0302 0.0180 Uranus 95096-02-16 15:50 G 36454206.97 36454207.16 36454207.36 0.0142 0.0091 Neptune 95106-02-27 02:24 G 36457869.51 36457869.60 36457869.75 0.0088 0.0079 Neptune 95107-03-01 15:07 G 36458236.97 36458237.13 36458237.35 0.0088 0.0061 Neptune 95108-03-03 04:05 G 36458604.45 36458604.67 36458604.90 0.0088 0.0042 Neptune 95109-03-05 16:33 G 36458971.95 36458972.19 36458972.45 0.0088 0.0024 Neptune 95110-03-08 05:17 G 36459339.47 36459339.72 36459339.99 0.0088 0.0005 Saturn 95110-03-12 06:00 G 36459343.51 36459343.75 36459343.99 0.0259 0.0069 Pluto 95110-07-10 15:50 G 36459463.92 36459464.16 36459464.40 0.0063 0.0020 Jupiter 95110-09-11 09:50 G 36459526.76 36459526.91 36459527.07 0.0528 0.0389 Neptune 95111-03-10 17:45 G 36459706.99 36459707.24 36459707.50 0.0088 0.0013 Saturn 95111-03-23 17:31 G 36459720.04 36459720.23 36459720.43 0.0261 0.0164 Pluto 95111-07-12 01:26 G 36459830.48 36459830.56 36459830.72 0.0063 0.0057

Neptune 95112-03-12 06:14 G 36460074.53 36460074.76 36460075.01 0.0088 0.0032 Neptune 95113-03-14 18:43 G 36460442.08 36460442.28 36460442.51 0.0088 0.0050 Neptune 95114-03-17 07:12 G 36460809.66 36460809.80 36460809.99 0.0088 0.0069 Neptune 95115-03-19 19:41 G 36461177.29 36461177.32 36461177.40 0.0089 0.0087 Jupiter 95122-09-16 08:53 G 36463914.65 36463914.87 36463915.10 0.0527 0.0117 Saturn 95124-09-11 18:00 G 36464641.01 36464641.25 36464641.49 0.0303 0.0009 95125-12-19 04:33 G 36465104.53 36465104.69 36465104.86 0.1581 0.0761 Mars Uranus 95136-08-06 22:05 G 36468988.29 36468988.42 36468988.57 0.0135 0.0111 Uranus 95137-08-11 05:17 G 36469357.48 36469357.72 36469357.97 0.0135 0.0034 Uranus 95138-08-15 12:43 G 36469726.80 36469727.03 36469727.27 0.0136 0.0043 Saturn 95139-03-07 14:09 G 36469930.91 36469931.09 36469931.28 0.0258 0.0172 Uranus 95139-08-19 19:55 G 36470096.24 36470096.33 36470096.47 0.0136 0.0120 Saturn 95140-03-18 00:43 G 36470307.28 36470307.53 36470307.77 0.0259 0.0058 Saturn 95153-09-05 07:26 G 36475226.61 36475226.81 36475227.02 0.0304 0.0160 Saturn 95154-09-20 09:36 G 36475606.73 36475606.90 36475607.08 0.0302 0.0210 Jupiter 95164-03-17 20:24 G 36479073.12 36479073.35 36479073.59 0.0498 0.0084 Saturn 95169-03-13 06:14 G 36480894.51 36480894.76 36480895.00 0.0259 0.0048 Saturn 95170-03-24 17:31 G 36481271.05 36481271.23 36481271.40 0.0261 0.0183 Jupiter 95176-03-22 10:05 G 36483460.75 36483460.92 36483461.10 0.0499 0.0340 Uranus 95178-02-08 03:07 G 36484148.43 36484148.63 36484148.83 0.0143 0.0087 Uranus 95179-02-13 03:50 G 36484518.41 36484518.66 36484518.92 0.0143 0.0006 Uranus 95180-02-18 03:36 G 36484888.48 36484888.65 36484888.85 0.0142 0.0099 Saturn 95183-09-13 21:50 G 36486192.17 36486192.41 36486192.65 0.0303 0.0038 Neptune 95186-08-25 19:12 G 36487269.27 36487269.30 36487269.38 0.0089 0.0087 Neptune 95187-08-28 05:45 G 36487636.61 36487636.74 36487636.93 0.0089 0.0070 Neptune 95188-08-29 16:48 G 36488004.02 36488004.20 36488004.43 0.0089 0.0051 Neptune 95189-09-01 03:50 G 36488371.43 36488371.66 36488371.90 0.0089 0.0032 Neptune 95190-09-03 14:38 G 36488738.86 36488739.11 36488739.37 0.0089 0.0014 Neptune 95191-09-06 01:41 G 36489106.31 36489106.57 36489106.82 0.0089 0.0004 Neptune 95192-09-07 12:00 G 36489473.77 36489474.00 36489474.26 0.0089 0.0023

Neptune 95193-09-09 23:02 G 36489841.25 36489841.46 36489841.70 0.0089 0.0041 Jupiter 95193-09-10 18:57 G 36489842.16 36489842.29 36489842.42 0.0527 0.0437 Neptune 95194-09-12 09:50 G 36490208.73 36490208.91 36490209.11 0.0089 0.0059 Neptune 95195-09-14 20:38 G 36490576.25 36490576.36 36490576.50 0.0089 0.0077 Saturn 95198-03-08 13:12 G 36491481.86 36491482.05 36491482.26 0.0258 0.0152 Saturn 95199-03-19 23:17 G 36491858.23 36491858.47 36491858.70 0.0259 0.0077 95201-01-08 19:12 G 36492519.05 36492519.30 36492519.55 0.0081 0.0021 Pluto 95204-12-21 05:17 G 36493961.57 36493961.72 36493961.88 0.1581 0.0888 Mars Jupiter 95205-09-15 14:53 G 36494229.89 36494230.12 36494230.35 0.0527 0.0052 Saturn 95212-09-06 08:38 G 36496777.65 36496777.86 36496778.08 0.0305 0.0134 Saturn 95213-09-21 11:02 G 36497157.82 36497157.96 36497158.12 0.0302 0.0236 Uranus 95220-08-07 07:26 G 36499669.67 36499669.81 36499669.97 0.0135 0.0107 Uranus 95221-08-11 14:24 G 36500038.86 36500039.10 36500039.35 0.0135 0.0030 Uranus 95222-08-15 21:50 G 36500408.18 36500408.41 36500408.65 0.0136 0.0047 Uranus 95223-08-20 05:17 G 36500777.64 36500777.72 36500777.84 0.0136 0.0124 Saturn 95227-03-03 18:29 G 36502069.25 36502069.27 36502069.32 0.0258 0.0255 Saturn 95228-03-14 03:36 G 36502445.41 36502445.65 36502445.90 0.0259 0.0030 Saturn 95229-03-25 14:24 G 36502821.95 36502822.10 36502822.26 0.0261 0.0201 Saturn 95242-09-14 20:09 G 36507743.10 36507743.34 36507743.58 0.0303 0.0061 Jupiter 95247-03-18 02:38 G 36509388.39 36509388.61 36509388.84 0.0499 0.0140 Saturn 95257-03-09 09:36 G 36513032.70 36513032.90 36513033.12 0.0258 0.0134 Saturn 95258-03-20 19:12 G 36513409.08 36513409.30 36513409.54 0.0259 0.0094 Jupiter 95259-03-22 17:31 G 36513776.04 36513776.23 36513776.43 0.0499 0.0291 Uranus 95262-02-08 14:09 G 36514829.88 36514830.09 36514830.30 0.0143 0.0081 Uranus 95263-02-13 14:53 G 36515199.86 36515200.12 36515200.38 0.0143 0.0012 Uranus 95264-02-18 14:53 G 36515569.96 36515570.12 36515570.31 0.0142 0.0105 Neptune 95270-02-26 11:45 G 36517769.92 36517769.99 36517770.11 0.0088 0.0083 Neptune 95271-03-01 00:14 G 36518137.36 36518137.51 36518137.71 0.0088 0.0065 Saturn 95271-09-08 04:33 G 36518328.47 36518328.69 36518328.91 0.0305 0.0113 Neptune 95272-03-02 12:57 G 36518504.84 36518505.04 36518505.29 0.0088 0.0046 Saturn 95272-09-22 07:12 G 36518708.68 36518708.80 36518708.94 0.0302 0.0256 Neptune 95273-03-05 02:09 G 36518872.34 36518872.59 36518872.84 0.0088 0.0028 Neptune 95274-03-07 14:24 G 36519239.85 36519240.10 36519240.37 0.0088 0.0010 Neptune 95275-03-10 03:07 G 36519607.38 36519607.63 36519607.90 0.0088 0.0009 Neptune 95276-03-11 15:21 G 36519974.90 36519975.14 36519975.40 0.0088 0.0028 Jupiter 95276-09-10 01:55 G 36520157.51 36520157.58 36520157.66 0.0527 0.0497 Neptune 95277-03-14 04:05 G 36520342.46 36520342.67 36520342.90 0.0088 0.0046 Neptune 95278-03-16 16:05 G 36520710.02 36520710.17 36520710.38 0.0088 0.0065 Neptune 95279-03-19 04:33 G 36521077.63 36521077.69 36521077.82 0.0089 0.0083 Saturn 95286-03-04 14:24 G 36523620.02 36523620.10 36523620.21 0.0257 0.0237 Saturn 95287-03-15 23:02 G 36523996.21 36523996.46 36523996.71 0.0259 0.0013 Saturn 95288-03-26 09:21 G 36524372.76 36524372.89 36524373.04 0.0260 0.0217 Jupiter 95288-09-15 00:00 G 36524545.27 36524545.50 36524545.73 0.0527 0.0007 Saturn 95300-09-01 10:05 G 36528913.86 36528913.92 36528914.00 0.0305 0.0290 Jupiter 95300-09-21 00:43 G 36528933.49 36528933.53 36528933.59 0.0526 0.0514 Saturn 95301-09-16 14:38 G 36529293.88 36529294.11 36529294.34 0.0303 0.0081 Uranus 95304-08-08 15:50 G 36530351.00 36530351.16 36530351.32 0.0135 0.0104 Uranus 95305-08-12 22:48 G 36530720.20 36530720.45 36530720.69 0.0135 0.0027 Uranus 95306-08-17 06:00 G 36531089.52 36531089.75 36531089.99 0.0136 0.0050 Uranus 95307-08-21 13:12 G 36531458.98 36531459.05 36531459.16 0.0136 0.0127 Saturn 95316-03-11 05:02 G 36534583.49 36534583.71 36534583.93 0.0258 0.0116 Saturn 95317-03-22 14:09 G 36534959.88 36534960.09 36534960.32 0.0259 0.0111 Jupiter 95330-03-18 16:05 G 36539703.95 36539704.17 36539704.40 0.0499 0.0168 Saturn 95330-09-09 21:21 G 36539879.17 36539879.39 36539879.63 0.0305 0.0094 Mars 95330-12-19 12:29 G 36539979.98 36539980.02 36539980.06 0.1582 0.1547 Saturn 95331-09-25 00:43 G 36540259.43 36540259.53 36540259.63 0.0303 0.0274 Jupiter 95342-03-23 07:26 G 36544091.62 36544091.81 36544092.02 0.0499 0.0266 Saturn 95345-03-06 09:21 G 36545170.77 36545170.89 36545171.03 0.0257 0.0219 Uranus 95346-02-09 22:05 G 36545511.22 36545511.42 36545511.65 0.0143 0.0078 Saturn 95346-03-17 17:45 G 36545546.99 36545547.24 36545547.49 0.0258 0.0005

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Saturn 95700-03-27 22:19 G 36674853.22 36674853.43 36674853.64 0.0259 0.0138 Jupiter 95703-09-17 15:21 G 36676121.95 36676122.14 36676122.34 0.0527 0.0281 Saturn 95713-09-13 21:50 G 36679771.18 36679771.41 36679771.64 0.0304 0.0093 Saturn 95714-09-29 00:14 G 36680151.41 36680151.51 36680151.62 0.0302 0.0271 Jupiter 95715-09-22 13:40 G 36680509.87 36680510.07 36680510.29 0.0527 0.0218 Uranus 95724-08-13 14:24 G 36683757.92 36683758.10 36683758.31 0.0135 0.0085 Uranus 95725-08-17 22:04 G 36684127.17 36684127.42 36684127.67 0.0135 0.0007 Uranus 95726-08-22 05:16 G 36684496.52 36684496.72 36684496.95 0.0136 0.0072 Saturn 95728-03-11 23:16 G 36685064.30 36685064.47 36685064.64 0.0258 0.0186 Saturn 95729-03-23 09:21 G 36685440.65 36685440.89 36685441.14 0.0259 0.0039 Saturn 95742-09-07 17:45 G 36690357.12 36690357.24 36690357.39 0.0305 0.0255 Saturn 95743-09-22 21:07 G 36690737.16 36690737.38 36690737.61 0.0303 0.0112 Jupiter 95745-03-19 00:57 G 36691280.44 36691280.54 36691280.66 0.0498 0.0438 Jupiter 95757-03-23 14:38 G 36695667.87 36695668.11 36695668.35 0.0499 0.0016 Saturn 95758-03-18 21:07 G 36696028.14 36696028.38 36696028.63 0.0259 0.0060 Saturn 95759-03-30 08:09 G 36696404.66 36696404.84 36696405.04 0.0260 0.0167 Neptune 95763-03-03 01:55 G 36697838.48 36697838.58 36697838.72 0.0088 0.0078 Neptune 95764-03-04 14:38 G 36698205.93 36698206.11 36698206.32 0.0088 0.0059 Neptune 95765-03-07 02:52 G 36698573.41 36698573.62 36698573.87 0.0088 0.0041 Uranus 95766-02-14 20:52 G 36698918.15 36698918.37 36698918.63 0.0143 0.0055 Neptune 95766-03-09 15:36 G 36698940.91 36698941.15 36698941.42 0.0088 0.0023 Uranus 95767-02-19 22:04 G 36699288.19 36699288.42 36699288.68 0.0143 0.0041 Neptune 95767-03-12 04:33 G 36699308.43 36699308.69 36699308.95 0.0088 0.0004 Uranus 95768-02-24 22:48 G 36699658.39 36699658.45 36699658.55 0.0142 0.0135 Neptune 95768-03-13 17:02 G 36699675.96 36699676.21 36699676.48 0.0088 0.0014 Neptune 95769-03-16 05:45 G 36700043.51 36700043.74 36700043.99 0.0088 0.0033 Jupiter 95769-03-28 03:07 G 36700055.50 36700055.63 36700055.77 0.0499 0.0403 Neptune 95770-03-18 18:28 G 36700411.06 36700411.27 36700411.49 0.0088 0.0051 Neptune 95771-03-21 06:43 G 36700778.65 36700778.78 36700778.97 0.0088 0.0070 Neptune 95772-03-22 19:12 G 36701146.29 36701146.30 36701146.37 0.0088 0.0088

Saturn 95772-09-15 19:40 G 36701323.08 36701323.32 36701323.56 0.0304 0.0045 Jupiter 95786-09-16 14:52 G 36706436.96 36706437.12 36706437.29 0.0528 0.0370 Saturn 95787-03-14 09:21 G 36706615.70 36706615.89 36706616.09 0.0259 0.0158 Saturn 95788-03-24 19:55 G 36706992.09 36706992.33 36706992.57 0.0259 0.0068 Jupiter 95798-09-21 11:16 G 36710824.74 36710824.97 36710825.19 0.0527 0.0122 Saturn 95801-09-10 17:45 G 36711909.08 36711909.24 36711909.43 0.0304 0.0207 Saturn 95802-09-25 20:38 G 36712289.16 36712289.36 36712289.57 0.0303 0.0160 Uranus 95808-08-15 00:00 G 36714439.32 36714439.50 36714439.72 0.0135 0.0080 Uranus 95809-08-19 07:40 G 36714808.57 36714808.82 36714809.07 0.0135 0.0002 Uranus 95810-08-23 15:07 G 36715177.92 36715178.13 36715178.34 0.0135 0.0076 Saturn 95816-03-09 21:36 G 36717203.37 36717203.40 36717203.45 0.0258 0.0255 Saturn 95817-03-21 08:09 G 36717579.60 36717579.84 36717580.09 0.0259 0.0031 Saturn 95818-04-01 19:40 G 36717956.16 36717956.32 36717956.48 0.0260 0.0196 95819-12-24 03:21 G 36718587.59 36718587.64 36718587.68 0.1584 0.1536 Mars Saturn 95831-09-19 20:09 G 36722875.10 36722875.34 36722875.58 0.0304 0.0003 Jupiter 95840-03-23 12:28 G 36725982.79 36725983.02 36725983.25 0.0498 0.0102 Neptune 95843-08-31 00:28 G 36727238.47 36727238.52 36727238.59 0.0089 0.0087 Neptune 95844-09-01 11:16 G 36727605.82 36727605.97 36727606.14 0.0089 0.0069 Neptune 95845-09-03 22:04 G 36727973.23 36727973.42 36727973.65 0.0089 0.0051 Saturn 95846-03-16 20:24 G 36728167.13 36728167.35 36728167.56 0.0259 0.0129 Neptune 95846-09-06 08:52 G 36728340.65 36728340.87 36728341.12 0.0089 0.0032 Saturn 95847-03-28 06:57 G 36728543.57 36728543.79 36728544.03 0.0260 0.0097 Neptune 95847-09-08 20:09 G 36728708.09 36728708.34 36728708.59 0.0089 0.0013 Pluto 95848-07-20 05:02 G 36729023.46 36729023.71 36729023.97 0.0063 0.0008 Neptune 95848-09-10 06:57 G 36729075.53 36729075.79 36729076.04 0.0089 0.0005 Uranus 95849-02-11 07:12 G 36729229.80 36729229.80 36729229.83 0.0143 0.0143 Neptune 95849-09-12 17:31 G 36729442.99 36729443.23 36729443.48 0.0089 0.0023 Uranus 95850-02-16 09:07 G 36729599.64 36729599.88 36729600.13 0.0143 0.0048 Neptune 95850-09-15 03:50 G 36729810.45 36729810.66 36729810.90 0.0089 0.0042 Uranus 95851-02-21 10:19 G 36729969.70 36729969.93 36729970.18 0.0143 0.0048

Neptune 95851-09-17 14:24 G 36730177.93 36730178.10 36730178.31 0.0089 0.0060 Uranus 95852-02-26 11:16 G 36730339.96 36730339.97 36730340.01 0.0142 0.0142 Jupiter 95852-03-28 00:43 G 36730370.35 36730370.53 36730370.72 0.0498 0.0314 Neptune 95852-09-19 00:57 G 36730545.45 36730545.54 36730545.69 0.0089 0.0078 Saturn 95860-09-12 18:28 G 36733461.07 36733461.27 36733461.48 0.0304 0.0158 Saturn 95861-09-27 21:07 G 36733841.22 36733841.38 36733841.57 0.0303 0.0208 Jupiter 95869-09-16 10:48 G 36736751.86 36736751.95 36736752.06 0.0527 0.0472 Saturn 95875-03-12 08:38 G 36738754.75 36738754.86 36738754.99 0.0258 0.0226 Saturn 95876-03-22 19:12 G 36739131.05 36739131.30 36739131.55 0.0259 0.0002 Saturn 95877-04-03 06:14 G 36739507.65 36739507.76 36739507.90 0.0260 0.0225 Jupiter 95881-09-21 05:16 G 36741139.49 36741139.72 36741139.95 0.0527 0.0008 Saturn 95890-09-21 20:52 G 36744427.13 36744427.37 36744427.61 0.0304 0.0052 Uranus 95892-08-15 10:48 G 36745120.75 36745120.95 36745121.17 0.0135 0.0075 Uranus 95893-08-19 18:14 G 36745490.01 36745490.26 36745490.51 0.0135 0.0003 Jupiter 95893-09-26 02:09 G 36745527.53 36745527.59 36745527.67 0.0527 0.0498 Uranus 95894-08-24 01:12 G 36745859.36 36745859.55 36745859.76 0.0135 0.0081 Mars 95898-12-26 04:04 G 36747444.48 36747444.67 36747444.86 0.1583 0.0116 Saturn 95905-03-19 06:43 G 36749718.56 36749718.78 36749719.02 0.0259 0.0101 Saturn 95906-03-30 17:31 G 36750095.02 36750095.23 36750095.45 0.0260 0.0125 Saturn 95919-09-16 18:00 G 36755013.03 36755013.25 36755013.48 0.0304 0.0110 Saturn 95920-09-30 20:38 G 36755393.24 36755393.36 36755393.50 0.0303 0.0254 Jupiter 95923-03-24 11:45 G 36756297.77 36756297.99 36756298.21 0.0498 0.0182 Neptune 95927-03-04 09:07 G 36757738.82 36757738.88 36757739.00 0.0088 0.0083 Neptune 95928-03-05 21:36 G 36758106.24 36758106.40 36758106.60 0.0088 0.0064 Neptune 95929-03-08 10:04 G 36758473.72 36758473.92 36758474.17 0.0088 0.0047 Neptune 95930-03-10 23:02 G 36758841.22 36758841.46 36758841.71 0.0088 0.0028 Neptune 95931-03-13 11:31 G 36759208.73 36759208.98 36759209.25 0.0088 0.0010 Neptune 95932-03-15 00:14 G 36759576.25 36759576.51 36759576.77 0.0088 0.0009 Uranus 95933-02-12 16:04 G 36759911.13 36759911.17 36759911.24 0.0143 0.0139 Neptune 95933-03-17 12:28 G 36759943.79 36759944.02 36759944.28 0.0088 0.0028 Uranus 95934-02-17 18:28 G 36760281.02 36760281.27 36760281.51 0.0143 0.0043 Saturn 95934-03-14 18:28 G 36760306.13 36760306.27 36760306.44 0.0258 0.0199 Neptune 95934-03-20 01:40 G 36760311.35 36760311.57 36760311.79 0.0088 0.0046 Uranus 95935-02-22 19:40 G 36760651.09 36760651.32 36760651.57 0.0143 0.0052 Neptune 95935-03-22 13:40 G 36760678.92 36760679.07 36760679.28 0.0088 0.0065 Saturn 95935-03-26 04:48 G 36760682.46 36760682.70 36760682.95 0.0259 0.0026 Jupiter 95935-03-29 01:12 G 36760685.35 36760685.55 36760685.76 0.0499 0.0240 Neptune 95936-03-24 02:24 G 36761046.54 36761046.60 36761046.72 0.0088 0.0083 Saturn 95936-04-05 16:04 G 36761059.12 36761059.17 36761059.24 0.0260 0.0252 Pluto 95939-01-20 13:12 G 36762078.87 36762079.05 36762079.26 0.0081 0.0055 Saturn 95948-09-09 14:09 G 36765598.99 36765599.09 36765599.21 0.0305 0.0269 Saturn 95949-09-24 17:45 G 36765979.02 36765979.24 36765979.48 0.0304 0.0097 Saturn 95964-03-20 15:50 G 36771269.92 36771270.16 36771270.40 0.0259 0.0074 Jupiter 95964-09-21 03:21 G 36771454.42 36771454.64 36771454.87 0.0528 0.0087 Saturn 95965-04-01 02:09 G 36771646.39 36771646.59 36771646.79 0.0260 0.0151 Uranus 95976-08-16 20:52 G 36775802.17 36775802.37 36775802.60 0.0135 0.0071 Jupiter 95976-09-26 01:26 G 36775842.42 36775842.56 36775842.71 0.0527 0.0410 Uranus 95977-08-21 04:04 G 36776171.42 36776171.67 36776171.92 0.0135 0.0007 Uranus 95978-08-25 10:48 G 36776540.77 36776540.95 36776541.16 0.0135 0.0086 Saturn 95978-09-18 12:57 G 36776564.81 36776565.04 36776565.28 0.0304 0.0068 Saturn 95979-10-03 15:36 G 36776945.12 36776945.15 36776945.22 0.0302 0.0296 Saturn 95993-03-16 02:09 G 36781857.42 36781857.59 36781857.79 0.0258 0.0173 Saturn 95994-03-27 12:14 G 36782233.77 36782234.01 36782234.25 0.0259 0.0051

# 97TH MILLENNIUM CE

This is a list of transits of Earth in the 97th millennium CE.

FROM MAX- C START MAX END SUNRAD DEPTH S

TRANSIT

TIME

Jupiter 96006-03-23 15:07 G 36786612.93 36786613.13 36786613.34 0.0498 0.0248 96007-09-12 06:43 G 36787150.63 36787150.78 36787150.95 0.0305 0.0228 Neptune 96008-09-01 20:38 G 36787506.23 36787506.36 36787506.52 0.0089 0.0074 Saturn 96008-09-26 10:33 G 36787530.73 36787530.94 36787531.16 0.0304 0.0138 Neptune 96009-09-04 07:26 G 36787873.62 36787873.81 36787874.02 0.0089 0.0055 Neptune 96010-09-06 18:14 G 36788241.05 36788241.26 36788241.51 0.0089 0.0037 Neptune 96011-09-09 05:31 G 36788608.48 36788608.73 36788608.98 0.0089 0.0018 Neptune 96012-09-10 16:33 G 36788975.93 36788976.19 36788976.44 0.0089 0.0001 Neptune 96013-09-13 03:21 G 36789343.39 36789343.64 36789343.89 0.0089 0.0018 Neptune 96014-09-15 13:40 G 36789710.85 36789711.07 36789711.32 0.0089 0.0037 Neptune 96015-09-18 00:28 G 36790078.34 36790078.52 36790078.73 0.0089 0.0055 Neptune 96016-09-19 11:16 G 36790445.84 36790445.97 36790446.12 0.0089 0.0073 Uranus 96017-02-12 23:45 G 36790592.43 36790592.49 36790592.59 0.0143 0.0136 Uranus 96018-02-18 02:09 G 36790962.35 36790962.59 36790962.84 0.0143 0.0040 Jupiter 96018-03-28 04:33 G 36791000.47 36791000.69 36791000.91 0.0498 0.0176 Uranus 96019-02-23 03:36 G 36791332.42 36791332.65 36791332.89 0.0143 0.0056 Saturn 96023-03-22 21:36 G 36792821.16 36792821.40 36792821.65 0.0258 0.0049 Saturn 96024-04-02 07:26 G 36793197.64 36793197.81 36793198.00 0.0260 0.0175 Saturn 96037-09-20 01:55 G 36798116.34 36798116.58 36798116.82 0.0304 0.0030 Jupiter 96047-09-21 07:26 G 36801769.59 36801769.81 36801770.03 0.0527 0.0156 96052-03-17 06:57 G 36803408.59 36803408.79 36803409.00 0.0258 0.0149 Saturn Saturn 96053-03-28 16:19 G 36803784.95 36803785.18 36803785.42 0.0259 0.0074 Jupiter 96059-09-26 02:38 G 36806157.44 36806157.61 36806157.80 0.0527 0.0327 Uranus 96060-08-17 08:24 G 36806483.65 36806483.85 36806484.08 0.0135 0.0065 Uranus 96061-08-21 15:36 G 36806852.90 36806853.15 36806853.40 0.0135 0.0013 Uranus 96062-08-25 22:04 G 36807222.25 36807222.42 36807222.62 0.0135 0.0092

Saturn 96066-09-13 16:19 G 36808702.00 36808702.18 36808702.37 0.0305 0.0194 Saturn 96067-09-28 20:24 G 36809082.16 36809082.35 36809082.56 0.0304 0.0171 Saturn 96081-03-12 15:07 G 36813996.08 36813996.13 36813996.21 0.0258 0.0247 Saturn 96082-03-24 00:14 G 36814372.26 36814372.51 36814372.75 0.0258 0.0027 Saturn 96083-04-04 09:36 G 36814748.74 36814748.90 36814749.06 0.0260 0.0196 Jupiter 96089-03-22 21:36 G 36816928.21 36816928.40 36816928.59 0.0498 0.0300 Neptune 96091-03-03 16:04 G 36817639.16 36817639.17 36817639.23 0.0088 0.0087 Neptune 96092-03-05 04:33 G 36818006.55 36818006.69 36818006.87 0.0088 0.0069 Neptune 96093-03-07 17:02 G 36818374.02 36818374.21 36818374.44 0.0088 0.0051 Neptune 96094-03-10 06:00 G 36818741.51 36818741.75 36818741.99 0.0088 0.0033 Pluto 96094-07-23 08:09 G 36818876.59 36818876.84 36818877.10 0.0063 0.0008 Neptune 96095-03-12 18:28 G 36819109.01 36819109.27 36819109.53 0.0088 0.0014 Neptune 96096-03-14 06:43 G 36819476.52 36819476.78 36819477.05 0.0088 0.0004 Saturn 96096-09-21 09:07 G 36819667.64 36819667.88 36819668.13 0.0304 0.0007 Neptune 96097-03-16 19:12 G 36819844.06 36819844.30 36819844.56 0.0088 0.0022 Neptune 96098-03-19 07:40 G 36820211.60 36820211.82 36820212.07 0.0088 0.0041 Neptune 96099-03-21 20:38 G 36820579.16 36820579.36 36820579.55 0.0088 0.0059 Neptune 96100-03-24 08:38 G 36820946.76 36820946.86 36820947.01 0.0088 0.0078 Uranus 96101-02-14 08:24 G 36821273.77 36821273.85 36821273.97 0.0143 0.0132 Jupiter 96101-03-28 07:55 G 36821315.60 36821315.83 36821316.06 0.0499 0.0110 Uranus 96102-02-19 10:33 G 36821643.70 36821643.94 36821644.20 0.0143 0.0037 Uranus 96103-02-24 12:00 G 36822013.78 36822014.00 36822014.25 0.0143 0.0060 96103-12-27 10:33 G 36822319.77 36822319.94 36822320.11 0.1585 0.0709 Mars Saturn 96111-03-20 08:24 G 36824959.64 36824959.85 36824960.07 0.0257 0.0127 Saturn 96112-03-30 17:16 G 36825335.99 36825336.22 36825336.45 0.0258 0.0095 Saturn 96125-09-15 19:12 G 36830253.11 36830253.30 36830253.51 0.0305 0.0167 Saturn 96126-09-30 23:31 G 36830633.31 36830633.48 36830633.68 0.0304 0.0199 Jupiter 96130-09-21 10:48 G 36832084.74 36832084.95 36832085.16 0.0527 0.0231 Saturn 96140-03-14 14:52 G 36835547.02 36835547.12 36835547.25 0.0257 0.0227 Saturn 96141-03-25 23:31 G 36835923.23 36835923.48 36835923.73 0.0258 0.0008

Saturn 96142-04-06 08:38 G 36836299.73 36836299.86 36836300.00 0.0259 0.0215 Jupiter 96142-09-26 08:24 G 36836472.65 36836472.85 36836473.05 0.0527 0.0263 Uranus 96144-08-18 19:26 G 36837165.09 36837165.31 36837165.54 0.0135 0.0059 Uranus 96145-08-23 02:09 G 36837534.35 36837534.59 36837534.85 0.0135 0.0019 Uranus 96146-08-27 08:52 G 36837903.71 36837903.87 36837904.06 0.0135 0.0097 Saturn 96155-09-24 09:21 G 36841218.65 36841218.89 36841219.13 0.0304 0.0028 Saturn 96170-03-21 06:28 G 36846510.55 36846510.77 36846511.00 0.0257 0.0108 Saturn 96171-04-01 14:38 G 36846886.89 36846887.11 36846887.34 0.0258 0.0113 Jupiter 96172-03-23 03:07 G 36847243.47 36847243.63 36847243.80 0.0499 0.0357 Neptune 96172-09-02 05:31 G 36847406.62 36847406.73 36847406.85 0.0089 0.0079 Neptune 96173-09-04 16:19 G 36847774.00 36847774.18 36847774.37 0.0089 0.0061 Neptune 96174-09-07 02:52 G 36848141.41 36848141.62 36848141.86 0.0089 0.0042 Neptune 96175-09-09 13:40 G 36848508.84 36848509.07 36848509.33 0.0089 0.0024 Neptune 96176-09-11 00:57 G 36848876.28 36848876.54 36848876.79 0.0089 0.0005 Neptune 96177-09-13 11:31 G 36849243.73 36849243.98 36849244.24 0.0089 0.0013 Neptune 96178-09-15 22:04 G 36849611.20 36849611.42 36849611.68 0.0089 0.0032 Neptune 96179-09-18 08:52 G 36849978.68 36849978.87 36849979.10 0.0089 0.0050 Neptune 96180-09-19 19:55 G 36850346.18 36850346.33 36850346.50 0.0089 0.0068 Neptune 96181-09-22 06:28 G 36850713.73 36850713.77 36850713.85 0.0089 0.0086 96182-12-29 12:00 G 36851176.85 36851177.00 36851177.15 0.1584 0.0945 Mars Jupiter 96184-03-27 18:57 G 36851631.05 36851631.29 36851631.52 0.0499 0.0074 Saturn 96184-09-16 17:02 G 36851804.01 36851804.21 36851804.43 0.0305 0.0144 Pluto 96185-01-22 16:48 G 36851932.05 36851932.20 36851932.41 0.0081 0.0059 Uranus 96185-02-14 20:09 G 36851955.23 36851955.34 36851955.47 0.0143 0.0126 Saturn 96185-10-01 21:50 G 36852184.26 36852184.41 36852184.59 0.0304 0.0221 Uranus 96186-02-19 22:04 G 36852325.17 36852325.42 36852325.68 0.0143 0.0029 Uranus 96187-02-24 23:16 G 36852695.25 36852695.47 36852695.70 0.0143 0.0067 Saturn 96199-03-16 12:00 G 36857097.86 36857098.00 36857098.15 0.0257 0.0208 Saturn 96200-03-27 19:55 G 36857474.08 36857474.33 36857474.58 0.0258 0.0011 Saturn 96201-04-08 04:48 G 36857850.60 36857850.70 36857850.81 0.0259 0.0232

Jupiter 96213-09-21 22:04 G 36862400.23 36862400.42 36862400.62 0.0527 0.0270 Saturn 96214-09-26 04:33 G 36862769.46 36862769.69 36862769.93 0.0304 0.0049 Jupiter 96225-09-26 22:33 G 36866788.24 36866788.44 36866788.65 0.0527 0.0234 Uranus 96227-08-17 01:12 G 36867477.49 36867477.55 36867477.62 0.0135 0.0130 Uranus 96228-08-20 07:40 G 36867846.59 36867846.82 36867847.05 0.0135 0.0053 Saturn 96229-03-23 02:09 G 36868061.36 36868061.59 36868061.83 0.0257 0.0090 Uranus 96229-08-24 14:38 G 36868215.86 36868216.11 36868216.35 0.0135 0.0026 Saturn 96230-04-03 10:04 G 36868437.71 36868437.92 36868438.14 0.0258 0.0130 Uranus 96230-08-28 21:21 G 36868585.23 36868585.39 36868585.55 0.0135 0.0104 Saturn 96243-09-19 10:19 G 36873354.72 36873354.93 36873355.16 0.0305 0.0125 Saturn 96244-10-03 15:21 G 36873735.00 36873735.14 36873735.30 0.0304 0.0239 Jupiter 96255-03-24 16:48 G 36877559.06 36877559.20 36877559.36 0.0498 0.0382 Neptune 96256-03-06 10:48 G 36877906.82 36877906.95 36877907.09 0.0088 0.0075 Neptune 96257-03-08 23:16 G 36878274.28 36878274.47 36878274.68 0.0088 0.0056 Neptune 96258-03-11 11:45 G 36878641.77 36878641.99 36878642.24 0.0088 0.0039 Saturn 96258-03-18 06:28 G 36878648.62 36878648.77 36878648.95 0.0257 0.0192 Neptune 96259-03-14 00:14 G 36879009.26 36879009.51 36879009.77 0.0088 0.0020 Saturn 96259-03-29 14:24 G 36879024.86 36879025.10 36879025.35 0.0258 0.0028 Neptune 96260-03-15 12:57 G 36879376.78 36879377.04 36879377.31 0.0088 0.0002 Saturn 96260-04-08 22:48 G 36879401.39 36879401.45 36879401.54 0.0259 0.0247 Neptune 96261-03-18 01:12 G 36879744.31 36879744.55 36879744.82 0.0088 0.0018 Neptune 96262-03-20 13:40 G 36880111.85 36880112.07 36880112.33 0.0088 0.0036 Neptune 96263-03-23 02:09 G 36880479.40 36880479.59 36880479.81 0.0088 0.0054 Neptune 96264-03-24 14:52 G 36880846.98 36880847.12 36880847.28 0.0088 0.0072 Jupiter 96267-03-29 07:40 G 36881946.59 36881946.82 36881947.06 0.0499 0.0043 Uranus 96269-02-16 10:19 G 36882636.79 36882636.93 36882637.09 0.0143 0.0117 Uranus 96270-02-21 12:14 G 36883006.76 36883007.01 36883007.27 0.0143 0.0020 Uranus 96271-02-26 13:26 G 36883376.84 36883377.06 36883377.28 0.0143 0.0076 Saturn 96272-09-11 15:50 G 36883940.11 36883940.16 36883940.22 0.0305 0.0296 Saturn 96273-09-26 21:07 G 36884320.15 36884320.38 36884320.62 0.0304 0.0067

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Saturn 96347-03-26 14:24 G 36911162.86 36911163.10 36911163.35 0.0257 0.0057 Saturn 96348-04-05 22:19 G 36911539.25 36911539.43 36911539.64 0.0258 0.0163 Jupiter 96350-03-29 15:21 G 36912261.90 36912262.14 36912262.38 0.0499 0.0008 Uranus 96353-02-18 00:28 G 36913318.36 36913318.52 36913318.70 0.0143 0.0108 Uranus 96354-02-23 02:38 G 36913688.35 36913688.61 36913688.87 0.0143 0.0011 Uranus 96355-02-28 03:21 G 36914058.45 36914058.64 36914058.87 0.0143 0.0086 Saturn 96361-09-21 17:45 G 36916456.01 36916456.24 36916456.47 0.0305 0.0089 Jupiter 96362-04-03 07:26 G 36916649.70 36916649.81 36916649.94 0.0499 0.0425 Saturn 96362-10-06 23:02 G 36916836.36 36916836.46 36916836.57 0.0304 0.0272 Saturn 96376-03-20 19:40 G 36921750.13 36921750.32 36921750.52 0.0257 0.0157 Saturn 96377-04-01 03:21 G 36922126.40 36922126.64 36922126.89 0.0258 0.0061 Jupiter 96379-09-22 20:24 G 36923031.19 36923031.35 36923031.53 0.0527 0.0355 Mars 96387-12-30 18:28 G 36926052.08 36926052.27 36926052.46 0.1587 0.0133 Saturn 96390-09-15 00:43 G 36927041.41 36927041.53 36927041.66 0.0305 0.0259 Jupiter 96391-09-27 21:21 G 36927419.16 36927419.39 36927419.61 0.0527 0.0149 Saturn 96391-09-30 06:00 G 36927421.52 36927421.75 36927421.98 0.0304 0.0103 Uranus 96395-08-19 01:26 G 36928840.46 36928840.56 36928840.70 0.0135 0.0118 Uranus 96396-08-22 07:40 G 36929209.59 36929209.82 36929210.07 0.0135 0.0040 Uranus 96397-08-26 14:24 G 36929578.87 36929579.10 36929579.35 0.0135 0.0038 Uranus 96398-08-30 21:07 G 36929948.27 36929948.38 36929948.52 0.0135 0.0117 Saturn 96405-03-16 01:55 G 36932337.57 36932337.58 36932337.62 0.0257 0.0256 Saturn 96406-03-27 10:04 G 36932713.68 36932713.92 36932714.17 0.0257 0.0039 Saturn 96407-04-07 18:14 G 36933090.09 36933090.26 36933090.44 0.0258 0.0180 Neptune 96420-03-06 15:50 G 36937807.07 36937807.16 36937807.29 0.0088 0.0080 Saturn 96420-09-22 12:00 G 36938006.77 36938007.00 36938007.24 0.0305 0.0069 Neptune 96421-03-09 04:33 G 36938174.52 36938174.69 36938174.89 0.0088 0.0062 Jupiter 96421-03-24 13:12 G 36938189.97 36938190.05 36938190.14 0.0499 0.0463 Saturn 96421-10-07 17:16 G 36938387.16 36938387.22 36938387.29 0.0304 0.0291 Neptune 96422-03-11 16:48 G 36938541.99 36938542.20 36938542.45 0.0088 0.0044 Neptune 96423-03-14 05:45 G 36938909.50 36938909.74 36938910.00 0.0088 0.0026

Neptune 96424-03-15 18:14 G 36939277.00 36939277.26 36939277.53 0.0088 0.0007 Neptune 96425-03-18 06:43 G 36939644.53 36939644.78 36939645.05 0.0088 0.0012 Neptune 96426-03-20 19:12 G 36940012.06 36940012.30 36940012.55 0.0088 0.0030 Neptune 96427-03-23 07:12 G 36940379.60 36940379.80 36940380.04 0.0088 0.0048 Neptune 96428-03-24 19:40 G 36940747.17 36940747.32 36940747.52 0.0088 0.0067 Neptune 96429-03-27 08:09 G 36941114.79 36941114.84 36941114.94 0.0088 0.0085 Pluto 96431-01-26 16:33 G 36941785.00 36941785.19 36941785.42 0.0081 0.0047 Jupiter 96433-03-29 05:02 G 36942577.47 36942577.71 36942577.94 0.0499 0.0034 Saturn 96435-03-22 15:50 G 36943300.96 36943301.16 36943301.38 0.0257 0.0139 Saturn 96436-04-02 00:00 G 36943677.27 36943677.50 36943677.74 0.0258 0.0080 Uranus 96437-02-18 13:12 G 36943999.89 36944000.05 36944000.25 0.0143 0.0101 Uranus 96438-02-23 15:21 G 36944369.89 36944370.14 36944370.40 0.0143 0.0004 Uranus 96439-02-28 16:48 G 36944740.01 36944740.20 36944740.40 0.0143 0.0093 Jupiter 96445-04-02 19:12 G 36946965.16 36946965.30 36946965.45 0.0499 0.0389 Saturn 96449-09-15 20:52 G 36948592.23 36948592.37 36948592.53 0.0305 0.0237 Saturn 96450-10-01 02:09 G 36948972.37 36948972.59 36948972.81 0.0304 0.0125 Jupiter 96462-09-22 10:48 G 36953346.80 36953346.95 36953347.11 0.0528 0.0385 Saturn 96464-03-16 23:31 G 36953888.40 36953888.48 36953888.59 0.0258 0.0237 Saturn 96465-03-28 08:09 G 36954264.59 36954264.84 36954265.09 0.0258 0.0020 Saturn 96466-04-08 16:04 G 36954641.03 36954641.17 36954641.34 0.0258 0.0200 Jupiter 96474-09-27 07:40 G 36957734.59 36957734.82 36957735.04 0.0527 0.0104 Uranus 96479-08-19 13:26 G 36959521.94 36959522.06 36959522.22 0.0135 0.0112 Saturn 96479-09-24 11:16 G 36959557.73 36959557.97 36959558.21 0.0305 0.0044 Uranus 96480-08-22 19:55 G 36959891.09 36959891.33 36959891.57 0.0135 0.0034 Uranus 96481-08-27 02:24 G 36960260.36 36960260.60 36960260.84 0.0135 0.0044 Uranus 96482-08-31 08:38 G 36960629.78 36960629.86 36960629.98 0.0135 0.0123 Saturn 96494-03-23 15:07 G 36964851.91 36964852.13 36964852.35 0.0257 0.0119 Saturn 96495-04-03 23:45 G 36965228.26 36965228.49 36965228.72 0.0258 0.0100 Neptune 96501-09-06 07:26 G 36967574.67 36967574.81 36967574.97 0.0089 0.0072 Neptune 96502-09-08 18:28 G 36967942.08 36967942.27 36967942.48 0.0089 0.0053

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Saturn 96583-04-01 13:12 G 36997366.80 36997367.05 36997367.30 0.0258 0.0026 Neptune 96584-03-06 20:52 G 36997707.34 36997707.37 36997707.45 0.0088 0.0086 Saturn 96584-04-11 22:19 G 36997743.36 36997743.43 36997743.52 0.0259 0.0245 Neptune 96585-03-09 09:07 G 36998074.74 36998074.88 36998075.07 0.0088 0.0068 Neptune 96586-03-11 21:50 G 36998442.22 36998442.41 36998442.65 0.0088 0.0050 Pluto 96586-07-30 10:19 G 36998582.69 36998582.93 36998583.18 0.0063 0.0019 Neptune 96587-03-14 10:48 G 36998809.71 36998809.95 36998810.20 0.0088 0.0031 Pluto 96587-07-31 20:38 G 36998949.26 36998949.36 36998949.50 0.0064 0.0056 Neptune 96588-03-15 23:16 G 36999177.22 36999177.47 36999177.74 0.0088 0.0013 Neptune 96589-03-18 12:00 G 36999544.74 36999545.00 36999545.26 0.0088 0.0005 Neptune 96590-03-21 00:14 G 36999912.27 36999912.51 36999912.77 0.0088 0.0024 Neptune 96591-03-23 12:43 G 37000279.82 37000280.03 37000280.27 0.0088 0.0042 Neptune 96592-03-25 01:12 G 37000647.37 37000647.55 37000647.75 0.0088 0.0061 96592-12-30 01:26 G 37000927.39 37000927.56 37000927.74 0.1590 0.0677 Mars Neptune 96593-03-27 13:40 G 37001014.96 37001015.07 37001015.20 0.0088 0.0079 Saturn 96597-09-28 03:50 G 37002660.41 37002660.66 37002660.90 0.0305 0.0023 Jupiter 96599-03-29 15:21 G 37003207.91 37003208.14 37003208.36 0.0498 0.0152 96601-07-04 07:12 G 37004034.64 37004034.80 37004034.96 0.1951 0.1140 Mars Uranus 96605-02-21 07:55 G 37005362.63 37005362.83 37005363.03 0.0144 0.0092 Uranus 96606-02-26 09:50 G 37005732.66 37005732.91 37005733.17 0.0143 0.0007 Uranus 96607-03-03 11:31 G 37006102.82 37006102.98 37006103.17 0.0143 0.0103 Jupiter 96611-04-04 05:16 G 37007595.53 37007595.72 37007595.92 0.0499 0.0269 Saturn 96612-03-27 23:45 G 37007954.25 37007954.49 37007954.73 0.0258 0.0071 Saturn 96613-04-08 08:52 G 37008330.67 37008330.87 37008331.08 0.0259 0.0149 Saturn 96626-09-22 21:50 G 37013246.19 37013246.41 37013246.63 0.0305 0.0137 Saturn 96627-10-08 02:09 G 37013626.42 37013626.59 37013626.75 0.0304 0.0223 Jupiter 96640-09-27 14:09 G 37018364.86 37018365.09 37018365.32 0.0528 0.0046 Saturn 96641-03-23 11:02 G 37018541.78 37018541.96 37018542.15 0.0258 0.0168 Saturn 96642-04-03 20:38 G 37018918.12 37018918.36 37018918.61 0.0259 0.0052 Uranus 96647-08-22 15:36 G 37020884.99 37020885.15 37020885.33 0.0135 0.0098

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Jupiter 96723-09-28 11:16 G 37048679.75 37048679.97 37048680.19 0.0527 0.0143 Saturn 96729-03-21 08:09 G 37050680.75 37050680.84 37050680.95 0.0258 0.0236 Saturn 96730-04-01 18:43 G 37051057.03 37051057.28 37051057.53 0.0258 0.0017 Saturn 96731-04-13 04:48 G 37051433.55 37051433.70 37051433.85 0.0259 0.0203 Uranus 96731-08-24 05:02 G 37051566.54 37051566.71 37051566.91 0.0135 0.0091 Uranus 96732-08-27 11:16 G 37051935.73 37051935.97 37051936.23 0.0135 0.0013 Uranus 96733-08-31 18:14 G 37052305.04 37052305.26 37052305.47 0.0135 0.0066 Jupiter 96735-10-03 05:16 G 37053067.55 37053067.72 37053067.90 0.0527 0.0332 Saturn 96744-09-27 17:45 G 37056350.01 37056350.24 37056350.48 0.0304 0.0046 Neptune 96749-03-10 13:55 G 37057974.97 37057975.08 37057975.25 0.0088 0.0074 Neptune 96750-03-13 02:52 G 37058342.42 37058342.62 37058342.82 0.0088 0.0055 Neptune 96751-03-15 15:07 G 37058709.90 37058710.13 37058710.38 0.0088 0.0037 Neptune 96752-03-17 03:36 G 37059077.41 37059077.65 37059077.92 0.0088 0.0019 Neptune 96753-03-19 16:19 G 37059444.92 37059445.18 37059445.44 0.0088 0.0001 Neptune 96754-03-22 04:33 G 37059812.45 37059812.69 37059812.96 0.0088 0.0018 Neptune 96755-03-24 17:02 G 37060179.99 37060180.21 37060180.47 0.0088 0.0036 Neptune 96756-03-26 05:45 G 37060547.55 37060547.74 37060547.95 0.0088 0.0055 Neptune 96757-03-28 18:14 G 37060915.12 37060915.26 37060915.41 0.0088 0.0073 Saturn 96759-03-28 07:26 G 37061644.59 37061644.81 37061645.04 0.0259 0.0113 Saturn 96760-04-07 17:31 G 37062021.00 37062021.23 37062021.46 0.0259 0.0107 Jupiter 96765-03-29 15:50 G 37063837.98 37063838.16 37063838.35 0.0498 0.0302 Uranus 96773-02-23 06:00 G 37066725.56 37066725.75 37066725.99 0.0144 0.0080 Saturn 96773-09-21 16:33 G 37066936.01 37066936.19 37066936.37 0.0304 0.0203 Uranus 96774-02-28 08:38 G 37067095.60 37067095.86 37067096.12 0.0143 0.0019 Saturn 96774-10-06 20:09 G 37067316.13 37067316.34 37067316.55 0.0304 0.0156 Uranus 96775-03-05 10:19 G 37067465.80 37067465.93 37067466.09 0.0143 0.0117 Jupiter 96777-04-03 03:36 G 37068225.42 37068225.65 37068225.88 0.0498 0.0110 Saturn 96788-03-22 19:26 G 37072232.17 37072232.31 37072232.46 0.0258 0.0208 Saturn 96789-04-03 05:45 G 37072608.49 37072608.74 37072608.99 0.0258 0.0012 Saturn 96790-04-14 15:50 G 37072985.06 37072985.16 37072985.28 0.0259 0.0231

96797-12-31 07:40 G 37075802.76 37075802.82 37075802.88 0.1593 0.1511 Mars Saturn 96803-09-30 18:43 G 37077902.03 37077902.28 37077902.52 0.0304 0.0005 Jupiter 96806-09-27 05:31 G 37078994.53 37078994.73 37078994.93 0.0528 0.0255 Uranus 96815-08-24 18:43 G 37082248.09 37082248.28 37082248.49 0.0135 0.0083 Uranus 96816-08-28 01:12 G 37082617.30 37082617.55 37082617.80 0.0135 0.0005 Uranus 96817-09-01 07:40 G 37082986.63 37082986.82 37082987.04 0.0135 0.0075 Saturn 96818-03-29 18:14 G 37083196.03 37083196.26 37083196.50 0.0259 0.0085 Jupiter 96818-10-02 02:09 G 37083382.39 37083382.59 37083382.80 0.0528 0.0234 Saturn 96819-04-10 04:04 G 37083572.47 37083572.67 37083572.89 0.0259 0.0135 Neptune 96829-09-06 19:12 G 37087375.24 37087375.30 37087375.40 0.0089 0.0085 Neptune 96830-09-09 06:14 G 37087742.62 37087742.76 37087742.96 0.0089 0.0067 Neptune 96831-09-11 17:31 G 37088110.03 37088110.23 37088110.46 0.0089 0.0048 Pluto 96832-08-02 08:38 G 37088435.67 37088435.86 37088436.11 0.0063 0.0033 Neptune 96832-09-13 04:19 G 37088477.46 37088477.68 37088477.94 0.0089 0.0030 Saturn 96832-09-23 16:19 G 37088487.98 37088488.18 37088488.39 0.0304 0.0156 Pluto 96833-08-03 19:55 G 37088802.15 37088802.33 37088802.53 0.0064 0.0043 Neptune 96833-09-15 15:36 G 37088844.91 37088845.15 37088845.41 0.0089 0.0011 Saturn 96833-10-08 20:09 G 37088868.16 37088868.34 37088868.52 0.0304 0.0202 Neptune 96834-09-18 02:24 G 37089212.35 37089212.60 37089212.86 0.0089 0.0009 Neptune 96835-09-20 13:26 G 37089579.82 37089580.06 37089580.30 0.0089 0.0027 Neptune 96836-09-21 23:45 G 37089947.29 37089947.49 37089947.73 0.0089 0.0046 Neptune 96837-09-24 10:48 G 37090314.78 37090314.95 37090315.14 0.0089 0.0063 Neptune 96838-09-26 21:36 G 37090682.31 37090682.40 37090682.51 0.0089 0.0082 Saturn 96847-03-25 05:45 G 37093783.57 37093783.74 37093783.93 0.0258 0.0181 Jupiter 96848-03-28 15:07 G 37094152.98 37094153.13 37094153.28 0.0498 0.0381 Saturn 96848-04-04 15:50 G 37094159.92 37094160.16 37094160.41 0.0258 0.0038 Saturn 96849-04-16 01:55 G 37094536.56 37094536.58 37094536.62 0.0259 0.0257 Uranus 96857-02-23 20:09 G 37097407.13 37097407.34 37097407.57 0.0144 0.0071 Uranus 96858-02-28 22:33 G 37097777.20 37097777.44 37097777.70 0.0143 0.0029 Uranus 96859-03-06 00:28 G 37098147.42 37098147.52 37098147.66 0.0143 0.0127

Jupiter 96860-04-02 04:33 G 37098540.45 37098540.69 37098540.92 0.0498 0.0035 Saturn 96862-10-02 17:31 G 37099454.00 37099454.23 37099454.47 0.0304 0.0048 Jupiter 96872-04-06 17:02 G 37102928.11 37102928.21 37102928.31 0.0498 0.0448 96877-01-02 09:21 G 37104659.70 37104659.89 37104660.08 0.1591 0.0165 Mars Saturn 96877-03-31 03:50 G 37104747.42 37104747.66 37104747.90 0.0258 0.0058 Saturn 96878-04-11 13:12 G 37105123.87 37105124.05 37105124.26 0.0259 0.0161 Jupiter 96889-09-26 03:36 G 37109309.48 37109309.65 37109309.82 0.0528 0.0345 Saturn 96891-09-26 13:40 G 37110039.85 37110040.07 37110040.29 0.0304 0.0112 Saturn 96892-10-10 17:31 G 37110420.10 37110420.23 37110420.38 0.0303 0.0245 Uranus 96899-08-25 08:52 G 37112929.68 37112929.87 37112930.09 0.0135 0.0076 Uranus 96900-08-29 15:36 G 37113298.90 37113299.15 37113299.40 0.0135 0.0004 Uranus 96901-09-02 21:50 G 37113668.23 37113668.41 37113668.62 0.0135 0.0083 Jupiter 96901-10-02 01:40 G 37113697.35 37113697.57 37113697.80 0.0527 0.0146 Saturn 96906-03-27 14:38 G 37115334.92 37115335.11 37115335.32 0.0258 0.0155 Saturn 96907-04-08 00:14 G 37115711.28 37115711.51 37115711.76 0.0258 0.0064 Neptune 96913-03-10 19:12 G 37117875.21 37117875.30 37117875.43 0.0088 0.0079 Neptune 96914-03-13 07:40 G 37118242.65 37118242.82 37118243.02 0.0088 0.0061 Neptune 96915-03-15 20:09 G 37118610.12 37118610.34 37118610.58 0.0088 0.0043 Neptune 96916-03-17 08:09 G 37118977.60 37118977.84 37118978.11 0.0088 0.0025 Neptune 96917-03-19 20:52 G 37119345.11 37119345.37 37119345.64 0.0088 0.0007 Neptune 96918-03-22 09:07 G 37119712.63 37119712.88 37119713.15 0.0088 0.0013 Neptune 96919-03-24 21:50 G 37120080.17 37120080.41 37120080.66 0.0088 0.0030 Neptune 96920-03-26 10:19 G 37120447.72 37120447.93 37120448.15 0.0088 0.0049 Saturn 96920-09-20 07:55 G 37120625.73 37120625.83 37120625.96 0.0305 0.0268 Neptune 96921-03-28 22:19 G 37120815.29 37120815.43 37120815.63 0.0088 0.0068 Saturn 96921-10-05 12:14 G 37121005.78 37121006.01 37121006.24 0.0304 0.0090 Neptune 96922-03-31 10:48 G 37121182.91 37121182.95 37121183.05 0.0088 0.0086 Pluto 96923-02-02 12:57 G 37121490.79 37121491.04 37121491.31 0.0081 0.0012 Jupiter 96931-03-29 17:45 G 37124468.14 37124468.24 37124468.35 0.0498 0.0445 Saturn 96935-03-23 01:26 G 37125922.50 37125922.56 37125922.62 0.0258 0.0250

Saturn 96936-04-02 10:48 G 37126298.70 37126298.95 37126299.20 0.0258 0.0033 Saturn 96937-04-13 19:55 G 37126675.17 37126675.33 37126675.51 0.0259 0.0185 Uranus 96941-02-25 12:00 G 37128088.77 37128089.00 37128089.24 0.0144 0.0061 Uranus 96942-03-02 14:24 G 37128458.86 37128459.10 37128459.36 0.0143 0.0039 Uranus 96943-03-07 16:04 G 37128829.13 37128829.17 37128829.27 0.0143 0.0138 Jupiter 96943-04-03 06:57 G 37128855.55 37128855.79 37128856.03 0.0498 0.0032 Saturn 96950-09-29 05:16 G 37131591.49 37131591.72 37131591.96 0.0305 0.0072 Saturn 96951-10-14 09:36 G 37131971.82 37131971.90 37131971.99 0.0303 0.0284 Jupiter 96955-04-07 17:16 G 37133243.06 37133243.22 37133243.38 0.0499 0.0373 Saturn 96965-03-28 20:52 G 37136886.16 37136886.37 37136886.59 0.0258 0.0130 Saturn 96966-04-09 06:00 G 37137262.51 37137262.75 37137262.98 0.0258 0.0088 Jupiter 96972-09-26 04:19 G 37139624.55 37139624.68 37139624.81 0.0527 0.0430 Saturn 96979-09-22 20:38 G 37142177.22 37142177.36 37142177.53 0.0305 0.0232 Saturn 96980-10-07 01:26 G 37142557.34 37142557.56 37142557.78 0.0305 0.0126 Uranus 96983-08-26 22:48 G 37143611.25 37143611.45 37143611.68 0.0134 0.0068 Uranus 96984-08-30 05:16 G 37143980.48 37143980.72 37143980.98 0.0135 0.0012 Jupiter 96984-10-01 00:43 G 37144012.30 37144012.53 37144012.76 0.0527 0.0054 Uranus 96985-09-03 11:31 G 37144349.81 37144349.98 37144350.18 0.0135 0.0091 Saturn 96994-03-24 05:45 G 37147473.64 37147473.74 37147473.88 0.0258 0.0226 Neptune 96994-09-09 11:31 G 37147642.84 37147642.98 37147643.14 0.0089 0.0073 Saturn 96995-04-04 15:07 G 37147849.88 37147850.13 37147850.38 0.0258 0.0010 Neptune 96995-09-11 22:19 G 37148010.25 37148010.43 37148010.66 0.0089 0.0055 Saturn 96996-04-14 23:45 G 37148226.35 37148226.49 37148226.64 0.0259 0.0207 Neptune 96996-09-13 09:50 G 37148377.69 37148377.91 37148378.15 0.0089 0.0036 Neptune 96997-09-15 20:38 G 37148745.12 37148745.36 37148745.62 0.0089 0.0017 Neptune 96998-09-18 07:55 G 37149112.58 37149112.83 37149113.08 0.0089 0.0002 Neptune 96999-09-20 18:28 G 37149480.03 37149480.27 37149480.53 0.0089 0.0021 Neptune 97000-09-23 05:16 G 37149847.51 37149847.72 37149847.96 0.0089 0.0039

## 98TH MILLENNIUM CE

## This is a list of transits of Earth in the 98th millennium CE.

FROM MAX- C START MAX END SUNRAD DEPTH S
TRANSIT

TIME

Neptune 97001-09-25 16:04 G 37150214.99 37150215.17 37150215.38 0.0089 0.0057 Neptune 97002-09-28 02:52 G 37150582.50 37150582.62 37150582.76 0.0089 0.0075 Saturn 97009-10-01 15:07 G 37153142.89 37153143.13 37153143.37 0.0305 0.0038 Saturn 97024-03-30 23:45 G 37158437.27 37158437.49 37158437.72 0.0257 0.0107 Uranus 97025-02-26 23:02 G 37158770.24 37158770.46 37158770.71 0.0144 0.0055 Saturn 97025-04-11 08:09 G 37158813.62 37158813.84 37158814.07 0.0258 0.0109 Uranus 97026-03-04 01:40 G 37159140.34 37159140.57 37159140.83 0.0143 0.0046 Jupiter 97026-04-03 09:21 G 37159170.66 37159170.89 37159171.13 0.0498 0.0101 Jupiter 97038-04-08 00:28 G 37163558.35 37163558.52 37163558.71 0.0499 0.0322 Saturn 97038-09-25 02:38 G 37163728.43 37163728.61 37163728.79 0.0305 0.0202 Saturn 97039-10-10 07:40 G 37164108.62 37164108.82 37164109.03 0.0305 0.0156 Saturn 97053-03-26 07:40 G 37169024.68 37169024.82 37169024.98 0.0258 0.0204 Saturn 97054-04-06 16:19 G 37169400.93 37169401.18 37169401.43 0.0258 0.0011 Saturn 97055-04-18 00:14 G 37169777.40 37169777.51 37169777.64 0.0259 0.0227 Jupiter 97055-09-27 07:26 G 37169939.75 37169939.81 37169939.88 0.0528 0.0503 Uranus 97067-08-28 12:43 G 37174292.82 37174293.03 37174293.27 0.0134 0.0061 Jupiter 97067-10-02 07:40 G 37174327.59 37174327.82 37174328.05 0.0527 0.0007 Uranus 97068-08-31 19:12 G 37174662.06 37174662.30 37174662.55 0.0135 0.0019 Saturn 97068-10-02 18:28 G 37174694.03 37174694.27 37174694.52 0.0305 0.0011 Uranus 97069-09-05 01:12 G 37175031.39 37175031.55 37175031.74 0.0135 0.0098

Neptune 97077-03-11 00:00 G 37177775.46 37177775.50 37177775.59 0.0088 0.0085 Neptune 97078-03-13 12:28 G 37178142.87 37178143.02 37178143.21 0.0088 0.0067 Pluto 97078-08-06 05:02 G 37178288.58 37178288.71 37178288.88 0.0063 0.0051 Neptune 97079-03-16 00:28 G 37178510.33 37178510.52 37178510.76 0.0088 0.0049 Pluto 97079-08-07 15:21 G 37178654.93 37178655.14 37178655.40 0.0063 0.0024 Jupiter 97079-10-07 07:40 G 37178715.74 37178715.82 37178715.90 0.0527 0.0493 Neptune 97080-03-17 13:12 G 37178877.82 37178878.05 37178878.31 0.0088 0.0031 Neptune 97081-03-20 01:40 G 37179245.31 37179245.57 37179245.83 0.0088 0.0012 97082-01-03 15:07 G 37179534.96 37179535.13 37179535.31 0.1595 0.0674 Mars Neptune 97082-03-22 14:09 G 37179612.83 37179613.09 37179613.35 0.0088 0.0006 Neptune 97083-03-25 02:24 G 37179980.36 37179980.60 37179980.86 0.0088 0.0024 Saturn 97083-04-02 00:00 G 37179988.27 37179988.50 37179988.74 0.0257 0.0086 Neptune 97084-03-26 14:52 G 37180347.90 37180348.12 37180348.35 0.0088 0.0043 Saturn 97084-04-12 07:55 G 37180364.62 37180364.83 37180365.05 0.0258 0.0129 Neptune 97085-03-29 03:07 G 37180715.46 37180715.63 37180715.84 0.0088 0.0061 Neptune 97086-03-31 15:36 G 37181083.06 37181083.15 37181083.29 0.0088 0.0079 Saturn 97097-09-26 02:52 G 37185279.43 37185279.62 37185279.83 0.0305 0.0176 Saturn 97098-10-11 08:24 G 37185659.66 37185659.85 37185660.05 0.0305 0.0182 Uranus 97109-02-28 10:04 G 37189451.68 37189451.92 37189452.16 0.0144 0.0049 Jupiter 97109-04-03 20:24 G 37189486.12 37189486.35 37189486.58 0.0498 0.0136 Uranus 97110-03-05 12:28 G 37189821.79 37189822.02 37189822.27 0.0144 0.0051 Saturn 97112-03-28 06:43 G 37190575.60 37190575.78 37190575.95 0.0257 0.0184 Saturn 97113-04-08 14:38 G 37190951.86 37190952.11 37190952.36 0.0258 0.0031 Saturn 97114-04-19 22:19 G 37191328.36 37191328.43 37191328.51 0.0259 0.0245 Jupiter 97121-04-08 10:48 G 37193873.76 37193873.95 37193874.14 0.0498 0.0283 Saturn 97127-10-05 16:04 G 37196244.93 37196245.17 37196245.41 0.0305 0.0013 Saturn 97142-04-03 21:36 G 37201539.16 37201539.40 37201539.65 0.0257 0.0067 Saturn 97143-04-15 05:16 G 37201915.51 37201915.72 37201915.92 0.0258 0.0147 Uranus 97150-08-25 21:21 G 37204605.34 37204605.39 37204605.44 0.0134 0.0131 Jupiter 97150-10-02 18:14 G 37204643.03 37204643.26 37204643.49 0.0527 0.0049

Uranus 97151-08-30 03:07 G 37204974.41 37204974.63 37204974.87 0.0134 0.0052 Uranus 97152-09-02 09:07 G 37205343.64 37205343.88 37205344.13 0.0134 0.0027 Uranus 97153-09-06 15:07 G 37205712.99 37205713.13 37205713.29 0.0135 0.0106 Saturn 97156-09-27 22:04 G 37206830.22 37206830.42 37206830.64 0.0306 0.0156 Saturn 97157-10-13 04:04 G 37207210.49 37207210.67 37207210.85 0.0305 0.0202 Neptune 97158-09-10 16:19 G 37207543.09 37207543.18 37207543.33 0.0089 0.0080 Neptune 97159-09-13 03:50 G 37207910.49 37207910.66 37207910.86 0.0089 0.0061 Neptune 97160-09-14 14:38 G 37208277.90 37208278.11 37208278.35 0.0089 0.0043 97161-01-06 16:33 G 37208392.04 37208392.19 37208392.34 0.1593 0.0996 Mars Neptune 97161-09-17 02:09 G 37208645.35 37208645.59 37208645.84 0.0089 0.0023 Neptune 97162-09-19 13:12 G 37209012.80 37209013.05 37209013.30 0.0089 0.0005 Jupiter 97162-10-07 15:07 G 37209031.01 37209031.13 37209031.26 0.0527 0.0436 Neptune 97163-09-22 00:00 G 37209380.26 37209380.50 37209380.77 0.0089 0.0015 Neptune 97164-09-23 11:02 G 37209747.73 37209747.96 37209748.21 0.0089 0.0032 Neptune 97165-09-25 21:36 G 37210115.21 37210115.40 37210115.63 0.0089 0.0051 Neptune 97166-09-28 08:24 G 37210482.71 37210482.85 37210483.03 0.0089 0.0070 Neptune 97167-09-30 19:40 G 37210850.28 37210850.32 37210850.37 0.0089 0.0088 Pluto 97169-02-05 06:14 G 37211343.52 37211343.76 37211344.02 0.0081 0.0022 Saturn 97171-03-30 03:07 G 37212126.44 37212126.63 37212126.82 0.0257 0.0165 Saturn 97172-04-09 10:33 G 37212502.70 37212502.94 37212503.19 0.0257 0.0049 Saturn 97186-10-06 10:33 G 37217795.70 37217795.94 37217796.19 0.0305 0.0034 Jupiter 97192-04-03 02:52 G 37219801.40 37219801.62 37219801.84 0.0498 0.0191 Uranus 97193-02-28 17:02 G 37220132.98 37220133.21 37220133.47 0.0144 0.0047 Uranus 97194-03-05 19:55 G 37220503.09 37220503.33 37220503.57 0.0144 0.0054 Saturn 97201-04-04 17:16 G 37223089.98 37223090.22 37223090.47 0.0257 0.0050 Saturn 97202-04-16 00:28 G 37223466.34 37223466.52 37223466.72 0.0258 0.0165 Jupiter 97204-04-07 17:45 G 37224189.03 37224189.24 37224189.45 0.0499 0.0231 Saturn 97215-09-29 14:24 G 37228380.89 37228381.10 37228381.32 0.0306 0.0138 Saturn 97216-10-13 20:38 G 37228761.19 37228761.36 37228761.53 0.0305 0.0219 Saturn 97230-03-30 22:19 G 37233677.23 37233677.43 37233677.64 0.0257 0.0148

Saturn 97231-04-11 05:45 G 37234053.50 37234053.74 37234053.98 0.0257 0.0065 Jupiter 97233-10-02 03:36 G 37234958.42 37234958.65 37234958.87 0.0527 0.0098 Uranus 97234-08-26 10:33 G 37235286.86 37235286.94 37235287.06 0.0134 0.0123 Uranus 97235-08-30 16:48 G 37235655.97 37235656.20 37235656.44 0.0134 0.0045 Uranus 97236-09-02 22:48 G 37236025.21 37236025.45 37236025.69 0.0135 0.0035 Uranus 97237-09-07 04:19 G 37236394.57 37236394.68 37236394.84 0.0135 0.0114 Neptune 97242-03-13 17:31 G 37238043.11 37238043.23 37238043.41 0.0088 0.0073 Neptune 97243-03-16 06:28 G 37238410.57 37238410.77 37238410.98 0.0088 0.0054 Neptune 97244-03-17 18:28 G 37238778.04 37238778.27 37238778.52 0.0088 0.0036 Saturn 97244-09-21 21:07 G 37238966.37 37238966.38 37238966.42 0.0305 0.0303 Neptune 97245-03-20 06:57 G 37239145.54 37239145.79 37239146.05 0.0088 0.0018 Saturn 97245-10-07 02:24 G 37239346.36 37239346.60 37239346.84 0.0305 0.0052 Jupiter 97245-10-07 04:04 G 37239346.53 37239346.67 37239346.82 0.0527 0.0402 \* Neptune 97246-03-22 19:11 G 37239513.04 37239513.30 37239513.56 0.0088 0.0001 Neptune 97247-03-25 07:26 G 37239880.55 37239880.81 37239881.07 0.0088 0.0018 Neptune 97248-03-26 19:26 G 37240248.09 37240248.31 37240248.56 0.0088 0.0037 Mars 97248-07-09 20:09 G 37240353.15 37240353.34 37240353.54 0.1945 0.0491 Neptune 97249-03-29 07:55 G 37240615.64 37240615.83 37240616.05 0.0088 0.0055 Neptune 97250-03-31 20:24 G 37240983.22 37240983.35 37240983.51 0.0088 0.0073 Saturn 97259-03-26 03:50 G 37244264.61 37244264.66 37244264.75 0.0258 0.0246 Saturn 97260-04-05 12:14 G 37244640.77 37244641.01 37244641.26 0.0257 0.0033 Saturn 97261-04-16 19:26 G 37245017.14 37245017.31 37245017.49 0.0258 0.0181 Saturn 97274-09-30 06:43 G 37249931.56 37249931.78 37249932.01 0.0306 0.0119 Jupiter 97275-04-03 16:19 G 37250116.97 37250117.18 37250117.40 0.0498 0.0217 Saturn 97275-10-15 12:43 G 37250311.89 37250312.03 37250312.19 0.0305 0.0237 Uranus 97276-02-25 01:11 G 37250444.51 37250444.55 37250444.62 0.0144 0.0140 Uranus 97277-03-01 04:19 G 37250814.44 37250814.68 37250814.93 0.0144 0.0040 Uranus 97278-03-06 06:28 G 37251184.55 37251184.77 37251185.02 0.0144 0.0061 97287-01-03 20:52 G 37254410.32 37254410.37 37254410.43 0.1600 0.1516 Mars Jupiter 97287-04-08 08:24 G 37254504.64 37254504.85 37254505.07 0.0499 0.0209

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Saturn 97421-09-27 08:09 G 37303618.70 37303618.84 37303619.00 0.0304 0.0240 Saturn 97422-10-12 12:57 G 37303998.82 37303999.04 37303999.27 0.0305 0.0114 Saturn 97436-03-30 17:45 G 37308917.09 37308917.24 37308917.42 0.0258 0.0194 Saturn 97437-04-11 02:52 G 37309293.37 37309293.62 37309293.87 0.0258 0.0021 Saturn 97438-04-22 10:33 G 37309669.86 37309669.94 37309670.06 0.0258 0.0235 Jupiter 97441-04-04 10:04 G 37310747.74 37310747.92 37310748.11 0.0498 0.0306 Uranus 97444-02-28 04:33 G 37311807.57 37311807.69 37311807.84 0.0144 0.0123 Uranus 97445-03-04 07:11 G 37312177.56 37312177.80 37312178.06 0.0144 0.0023 Uranus 97446-03-09 09:07 G 37312547.68 37312547.88 37312548.11 0.0144 0.0078 Saturn 97451-10-05 23:02 G 37314584.23 37314584.46 37314584.71 0.0305 0.0053 Saturn 97452-10-20 04:04 G 37314964.64 37314964.67 37314964.72 0.0304 0.0300 Jupiter 97453-04-09 00:43 G 37315135.31 37315135.53 37315135.77 0.0498 0.0116 Saturn 97466-04-06 10:04 G 37319880.69 37319880.92 37319881.17 0.0258 0.0077 Saturn 97467-04-17 18:57 G 37320257.08 37320257.29 37320257.50 0.0258 0.0138 Saturn 97480-09-28 13:55 G 37325169.91 37325170.08 37325170.26 0.0304 0.0211 Saturn 97481-10-13 18:28 G 37325550.06 37325550.27 37325550.48 0.0304 0.0143 Jupiter 97482-10-03 09:50 G 37325904.70 37325904.91 37325905.12 0.0528 0.0236 Uranus 97486-08-30 03:35 G 37327331.49 37327331.65 37327331.82 0.0134 0.0101 Uranus 97487-09-03 09:21 G 37327700.65 37327700.89 37327701.14 0.0135 0.0022 Neptune 97487-09-13 15:07 G 37327711.00 37327711.13 37327711.29 0.0089 0.0074 Uranus 97488-09-06 15:21 G 37328069.92 37328070.14 37328070.37 0.0135 0.0058 Neptune 97488-09-15 01:40 G 37328078.39 37328078.57 37328078.79 0.0089 0.0056 Neptune 97489-09-17 12:57 G 37328445.82 37328446.04 37328446.28 0.0089 0.0037 Neptune 97490-09-20 00:00 G 37328813.26 37328813.50 37328813.76 0.0089 0.0018 Neptune 97491-09-22 11:02 G 37329180.71 37329180.96 37329181.22 0.0089 0.0001 Neptune 97492-09-23 21:50 G 37329548.17 37329548.41 37329548.67 0.0089 0.0020 Neptune 97493-09-26 08:38 G 37329915.65 37329915.86 37329916.10 0.0089 0.0038 Neptune 97494-09-28 19:26 G 37330283.14 37330283.31 37330283.53 0.0089 0.0057 Jupiter 97494-10-08 08:38 G 37330292.67 37330292.86 37330293.07 0.0528 0.0258 Saturn 97495-04-01 19:26 G 37330468.13 37330468.31 37330468.50 0.0258 0.0173

Neptune 97495-10-01 06:28 G 37330650.66 37330650.77 37330650.93 0.0089 0.0075 Saturn 97496-04-12 05:02 G 37330844.46 37330844.71 37330844.95 0.0258 0.0042 Saturn 97497-04-23 13:40 G 37331221.03 37331221.07 37331221.10 0.0259 0.0255 Saturn 97510-10-08 07:40 G 37336135.58 37336135.82 37336136.06 0.0305 0.0021 Jupiter 97524-04-04 17:31 G 37341063.06 37341063.23 37341063.39 0.0498 0.0353 Saturn 97525-04-08 13:40 G 37341431.83 37341432.07 37341432.31 0.0258 0.0054 Saturn 97526-04-19 22:33 G 37341808.25 37341808.44 37341808.64 0.0258 0.0160 Uranus 97528-02-29 17:31 G 37342489.08 37342489.23 37342489.38 0.0144 0.0115 Uranus 97529-03-05 19:55 G 37342859.08 37342859.33 37342859.59 0.0144 0.0015 Uranus 97530-03-10 21:35 G 37343229.21 37343229.40 37343229.62 0.0144 0.0086 97532-07-11 18:57 G 37344083.13 37344083.29 37344083.44 0.1939 0.1183 Mars Jupiter 97536-04-09 06:57 G 37345450.56 37345450.79 37345451.03 0.0498 0.0061 Saturn 97539-10-02 01:26 G 37346721.37 37346721.56 37346721.76 0.0304 0.0176 Saturn 97540-10-16 05:31 G 37347101.54 37347101.73 37347101.94 0.0304 0.0177 Jupiter 97548-04-13 17:16 G 37349838.14 37349838.22 37349838.31 0.0498 0.0462 Saturn 97554-04-04 00:28 G 37352019.32 37352019.52 37352019.72 0.0259 0.0150 Saturn 97555-04-15 10:04 G 37352395.69 37352395.92 37352396.17 0.0258 0.0066 Jupiter 97565-10-03 12:28 G 37356219.84 37356220.02 37356220.21 0.0528 0.0307 Saturn 97569-10-09 23:16 G 37357687.22 37357687.47 37357687.71 0.0305 0.0018 Neptune 97570-03-15 04:33 G 37357843.64 37357843.69 37357843.79 0.0088 0.0084 Uranus 97570-08-31 16:19 G 37358013.02 37358013.18 37358013.37 0.0134 0.0094 97571-01-08 03:07 G 37358142.46 37358142.63 37358142.81 0.1602 0.0709 Mars Neptune 97571-03-17 17:16 G 37358211.06 37358211.22 37358211.41 0.0088 0.0066 Pluto 97571-08-13 23:45 G 37358360.30 37358360.49 37358360.71 0.0063 0.0038 Uranus 97571-09-04 22:19 G 37358382.18 37358382.43 37358382.68 0.0135 0.0015 Neptune 97572-03-19 05:31 G 37358578.53 37358578.73 37358578.97 0.0088 0.0048 Pluto 97572-08-14 10:19 G 37358726.73 37358726.93 37358727.15 0.0064 0.0037 Uranus 97572-09-08 04:19 G 37358751.47 37358751.68 37358751.91 0.0135 0.0065 Neptune 97573-03-21 18:14 G 37358946.02 37358946.26 37358946.51 0.0088 0.0029 Neptune 97574-03-24 06:28 G 37359313.52 37359313.77 37359314.04 0.0088 0.0011

Neptune 97575-03-26 18:57 G 37359681.03 37359681.29 37359681.55 0.0088 0.0007 Neptune 97576-03-28 07:11 G 37360048.56 37360048.80 37360049.06 0.0088 0.0026 Neptune 97577-03-30 19:11 G 37360416.09 37360416.30 37360416.54 0.0088 0.0044 Jupiter 97577-10-08 09:07 G 37360607.67 37360607.88 37360608.10 0.0527 0.0174 Neptune 97578-04-02 07:40 G 37360783.65 37360783.82 37360784.01 0.0088 0.0062 Neptune 97579-04-04 19:55 G 37361151.24 37361151.33 37361151.45 0.0088 0.0081 Saturn 97583-03-30 09:21 G 37362606.83 37362606.89 37362606.98 0.0259 0.0246 Saturn 97584-04-09 20:24 G 37362983.11 37362983.35 37362983.60 0.0258 0.0030 Saturn 97585-04-21 06:00 G 37363359.58 37363359.75 37363359.92 0.0258 0.0185 Saturn 97598-10-03 19:11 G 37368273.10 37368273.30 37368273.53 0.0304 0.0137 Saturn 97599-10-18 23:16 G 37368653.31 37368653.47 37368653.65 0.0304 0.0217 Jupiter 97607-04-04 17:45 G 37371378.13 37371378.24 37371378.38 0.0497 0.0425 Uranus 97612-03-01 04:33 G 37373170.55 37373170.69 37373170.88 0.0144 0.0110 Uranus 97613-03-06 07:26 G 37373540.56 37373540.81 37373541.07 0.0144 0.0009 Saturn 97613-04-05 08:24 G 37373570.64 37373570.85 37373571.07 0.0259 0.0125 Uranus 97614-03-11 09:35 G 37373910.71 37373910.90 37373911.11 0.0144 0.0092 Saturn 97614-04-16 18:14 G 37373947.03 37373947.26 37373947.50 0.0259 0.0091 Jupiter 97619-04-09 06:43 G 37375765.54 37375765.78 37375766.02 0.0497 0.0016 Saturn 97627-09-27 16:19 G 37378859.12 37378859.18 37378859.26 0.0304 0.0290 Saturn 97628-10-11 19:11 G 37379239.07 37379239.30 37379239.54 0.0304 0.0061 Jupiter 97631-04-13 19:11 G 37380153.16 37380153.30 37380153.44 0.0498 0.0395 Saturn 97642-03-31 18:57 G 37384158.17 37384158.29 37384158.43 0.0259 0.0220 Saturn 97643-04-12 06:00 G 37384534.50 37384534.75 37384535.00 0.0258 0.0004 Saturn 97644-04-22 15:35 G 37384911.01 37384911.15 37384911.30 0.0259 0.0211 Jupiter 97648-10-02 08:09 G 37386534.70 37386534.84 37386534.99 0.0528 0.0411 97650-01-10 04:19 G 37386999.53 37386999.68 37386999.84 0.1600 0.0964 Mars Neptune 97651-09-13 21:21 G 37387611.29 37387611.39 37387611.51 0.0089 0.0080 Neptune 97652-09-15 08:09 G 37387978.67 37387978.84 37387979.04 0.0089 0.0062 Neptune 97653-09-17 19:26 G 37388346.10 37388346.31 37388346.54 0.0089 0.0043 Uranus 97654-09-01 05:31 G 37388694.55 37388694.73 37388694.93 0.0134 0.0088

Neptune 97654-09-20 06:14 G 37388713.53 37388713.76 37388714.02 0.0089 0.0024 Uranus 97655-09-05 11:31 G 37389063.73 37389063.98 37389064.23 0.0134 0.0008 Neptune 97655-09-22 17:31 G 37389080.98 37389081.23 37389081.48 0.0089 0.0005 Uranus 97656-09-08 17:16 G 37389433.02 37389433.22 37389433.44 0.0135 0.0072 Neptune 97656-09-24 04:19 G 37389448.43 37389448.68 37389448.93 0.0089 0.0013 Neptune 97657-09-26 14:52 G 37389815.90 37389816.12 37389816.38 0.0089 0.0033 Saturn 97657-10-05 18:00 G 37389825.02 37389825.25 37389825.48 0.0304 0.0091 Neptune 97658-09-29 02:09 G 37390183.39 37390183.59 37390183.81 0.0089 0.0051 Saturn 97658-10-20 22:04 G 37390205.30 37390205.42 37390205.54 0.0304 0.0260 Neptune 97659-10-01 12:43 G 37390550.89 37390551.03 37390551.21 0.0089 0.0069 Neptune 97660-10-03 00:00 G 37390918.47 37390918.50 37390918.56 0.0089 0.0087 Jupiter 97660-10-07 05:02 G 37390922.48 37390922.71 37390922.94 0.0528 0.0069 Pluto 97662-02-12 06:14 G 37391415.51 37391415.76 37391416.02 0.0081 0.0014 Saturn 97672-04-06 18:57 G 37395122.06 37395122.29 37395122.52 0.0259 0.0098 Saturn 97673-04-18 04:33 G 37395498.48 37395498.69 37395498.92 0.0259 0.0118 Saturn 97686-09-29 16:48 G 37400411.06 37400411.20 37400411.35 0.0304 0.0244 Saturn 97687-10-14 19:40 G 37400791.10 37400791.32 37400791.55 0.0304 0.0107 Uranus 97696-03-01 12:43 G 37403851.86 37403852.03 37403852.20 0.0144 0.0106 Uranus 97697-03-06 15:21 G 37404221.88 37404222.14 37404222.39 0.0144 0.0006 Uranus 97698-03-11 17:02 G 37404592.03 37404592.21 37404592.42 0.0143 0.0095 Saturn 97701-04-03 06:00 G 37405709.60 37405709.75 37405709.93 0.0259 0.0193 Jupiter 97702-04-09 06:28 G 37406080.54 37406080.77 37406081.01 0.0498 0.0091 Saturn 97702-04-14 17:02 G 37406085.96 37406086.21 37406086.46 0.0258 0.0023 Saturn 97703-04-26 02:24 G 37406462.52 37406462.60 37406462.71 0.0259 0.0238 Jupiter 97714-04-13 19:26 G 37410468.14 37410468.31 37410468.50 0.0498 0.0320 Saturn 97716-10-08 18:14 G 37411377.02 37411377.26 37411377.50 0.0304 0.0045 Saturn 97731-04-10 06:14 G 37416673.53 37416673.76 37416674.01 0.0259 0.0070 Jupiter 97731-10-03 03:50 G 37416849.61 37416849.66 37416849.72 0.0529 0.0512 Saturn 97732-04-20 16:04 G 37417049.97 37417050.17 37417050.38 0.0259 0.0145 Neptune 97735-03-18 00:00 G 37418111.35 37418111.50 37418111.65 0.0088 0.0071

Neptune 97736-03-19 12:00 G 37418478.80 37418479.00 37418479.22 0.0088 0.0053 Neptune 97737-03-22 00:28 G 37418846.29 37418846.52 37418846.77 0.0088 0.0035 Neptune 97738-03-24 12:43 G 37419213.79 37419214.03 37419214.30 0.0088 0.0017 Uranus 97738-09-02 18:14 G 37419376.06 37419376.26 37419376.46 0.0134 0.0081 Neptune 97739-03-27 01:40 G 37419581.31 37419581.57 37419581.83 0.0088 0.0002 Uranus 97739-09-07 00:00 G 37419745.25 37419745.50 37419745.75 0.0134 0.0003 Neptune 97740-03-28 13:55 G 37419948.83 37419949.08 37419949.34 0.0088 0.0020 Uranus 97740-09-10 05:45 G 37420114.55 37420114.74 37420114.96 0.0135 0.0079 Neptune 97741-03-31 01:55 G 37420316.36 37420316.58 37420316.83 0.0088 0.0039 Neptune 97742-04-02 14:09 G 37420683.91 37420684.09 37420684.31 0.0088 0.0057 Neptune 97743-04-05 02:38 G 37421051.49 37421051.61 37421051.76 0.0088 0.0076 Jupiter 97743-10-08 01:55 G 37421237.35 37421237.58 37421237.81 0.0528 0.0026 Saturn 97745-10-02 17:02 G 37421963.04 37421963.21 37421963.40 0.0304 0.0198 Saturn 97746-10-17 20:24 G 37422343.15 37422343.35 37422343.57 0.0304 0.0153 Jupiter 97755-10-12 23:02 G 37425625.36 37425625.46 37425625.58 0.0527 0.0458 Saturn 97760-04-04 17:45 G 37427261.06 37427261.24 37427261.44 0.0258 0.0164 Saturn 97761-04-16 04:04 G 37427637.43 37427637.67 37427637.92 0.0258 0.0051 Saturn 97775-10-11 18:43 G 37432929.03 37432929.28 37432929.52 0.0304 0.0004 Uranus 97780-03-02 20:38 G 37434533.20 37434533.36 37434533.55 0.0144 0.0103 Uranus 97781-03-07 23:16 G 37434903.22 37434903.47 37434903.73 0.0144 0.0003 Uranus 97782-03-13 01:40 G 37435273.39 37435273.57 37435273.76 0.0143 0.0099 Jupiter 97785-04-08 06:43 G 37436395.56 37436395.78 37436396.01 0.0497 0.0164 Saturn 97789-03-31 05:45 G 37437848.73 37437848.74 37437848.79 0.0259 0.0258 Saturn 97790-04-11 17:16 G 37438224.97 37438225.22 37438225.46 0.0259 0.0043 Saturn 97791-04-23 02:52 G 37438601.44 37438601.62 37438601.81 0.0259 0.0171 Jupiter 97797-04-12 19:11 G 37440783.10 37440783.30 37440783.51 0.0498 0.0244 Saturn 97804-10-05 15:21 G 37443514.94 37443515.14 37443515.35 0.0304 0.0153 Saturn 97805-10-20 19:11 G 37443895.12 37443895.30 37443895.49 0.0304 0.0197 Neptune 97815-09-15 04:48 G 37447511.63 37447511.70 37447511.77 0.0089 0.0086 Neptune 97816-09-16 15:21 G 37447879.00 37447879.14 37447879.33 0.0089 0.0068 Neptune 97817-09-19 02:38 G 37448246.41 37448246.61 37448246.83 0.0089 0.0049 Pluto 97818-08-17 22:48 G 37448579.19 37448579.45 37448579.71 0.0063 0.0004 Neptune 97818-09-21 13:26 G 37448613.84 37448614.06 37448614.32 0.0089 0.0031 Saturn 97819-04-08 04:33 G 37448812.47 37448812.69 37448812.90 0.0258 0.0137 Neptune 97819-09-24 00:28 G 37448981.27 37448981.52 37448981.78 0.0089 0.0011 Saturn 97820-04-18 14:09 G 37449188.86 37449189.09 37449189.33 0.0258 0.0078 Neptune 97820-09-25 11:31 G 37449348.73 37449348.98 37449349.24 0.0089 0.0008 Neptune 97821-09-27 22:04 G 37449716.19 37449716.42 37449716.68 0.0089 0.0027 Uranus 97822-09-04 06:14 G 37450057.56 37450057.76 37450057.97 0.0134 0.0075 Neptune 97822-09-30 09:07 G 37450083.67 37450083.88 37450084.11 0.0089 0.0045 Uranus 97823-09-08 12:14 G 37450426.76 37450427.01 37450427.26 0.0135 0.0006 Neptune 97823-10-02 19:40 G 37450451.16 37450451.32 37450451.52 0.0089 0.0063 Uranus 97824-09-11 18:14 G 37450796.09 37450796.26 37450796.47 0.0135 0.0086 Neptune 97824-10-04 06:57 G 37450818.70 37450818.79 37450818.90 0.0089 0.0082 Jupiter 97826-10-07 22:33 G 37451552.22 37451552.44 37451552.66 0.0528 0.0126 Saturn 97833-09-29 11:45 G 37454100.99 37454100.99 37454101.02 0.0304 0.0303 Saturn 97834-10-14 14:52 G 37454480.88 37454481.12 37454481.36 0.0305 0.0044 Jupiter 97838-10-12 18:28 G 37455940.11 37455940.27 37455940.45 0.0528 0.0351 Saturn 97848-04-02 15:35 G 37459400.04 37459400.15 37459400.26 0.0259 0.0230 Saturn 97849-04-14 01:55 G 37459776.34 37459776.58 37459776.83 0.0258 0.0017 Saturn 97850-04-25 11:16 G 37460152.81 37460152.97 37460153.13 0.0259 0.0196 97855-01-11 09:07 G 37461874.69 37461874.88 37461875.07 0.1605 0.0096 Mars Saturn 97863-10-08 09:50 G 37465066.69 37465066.91 37465067.14 0.0304 0.0112 Uranus 97864-03-04 06:00 G 37465214.57 37465214.75 37465214.94 0.0144 0.0098 Saturn 97864-10-22 14:09 G 37465446.95 37465447.09 37465447.25 0.0304 0.0239 Uranus 97865-03-09 08:24 G 37465584.59 37465584.85 37465585.11 0.0144 0.0003 Uranus 97866-03-14 10:33 G 37465954.77 37465954.94 37465955.12 0.0143 0.0104 Jupiter 97868-04-08 05:31 G 37466710.53 37466710.73 37466710.94 0.0498 0.0245 Saturn 97878-04-09 12:14 G 37470363.79 37470364.01 37470364.24 0.0258 0.0111 Saturn 97879-04-20 21:35 G 37470740.18 37470740.40 37470740.63 0.0258 0.0102

Jupiter 97880-04-12 18:57 G 37471098.07 37471098.29 37471098.51 0.0498 0.0167 Saturn 97892-10-01 02:38 G 37475652.50 37475652.61 37475652.73 0.0304 0.0266 Saturn 97893-10-16 06:00 G 37476032.53 37476032.75 37476032.99 0.0305 0.0083 Neptune 97899-03-18 05:45 G 37478011.65 37478011.74 37478011.90 0.0088 0.0077 Neptune 97900-03-20 18:14 G 37478379.09 37478379.26 37478379.48 0.0088 0.0059 Neptune 97901-03-23 06:57 G 37478746.56 37478746.79 37478747.03 0.0088 0.0040 Neptune 97902-03-25 19:26 G 37479114.06 37479114.31 37479114.57 0.0088 0.0022 Neptune 97903-03-28 07:55 G 37479481.57 37479481.83 37479482.10 0.0088 0.0004 Neptune 97904-03-29 20:09 G 37479849.09 37479849.34 37479849.61 0.0088 0.0015 Neptune 97905-04-01 08:52 G 37480216.63 37480216.87 37480217.11 0.0088 0.0033 Neptune 97906-04-03 20:52 G 37480584.18 37480584.37 37480584.60 0.0088 0.0052 Uranus 97906-09-05 17:45 G 37480739.04 37480739.24 37480739.47 0.0135 0.0069 Saturn 97907-04-05 22:19 G 37480951.28 37480951.43 37480951.58 0.0258 0.0205 Neptune 97907-04-06 09:35 G 37480951.75 37480951.90 37480952.07 0.0088 0.0070 Uranus 97907-09-10 00:14 G 37481108.26 37481108.51 37481108.76 0.0135 0.0012 Pluto 97908-02-16 06:28 G 37481267.70 37481267.77 37481267.90 0.0081 0.0075 Saturn 97908-04-16 08:09 G 37481327.59 37481327.84 37481328.09 0.0258 0.0009 Uranus 97908-09-13 06:14 G 37481477.60 37481477.76 37481477.96 0.0135 0.0093 Saturn 97909-04-27 16:19 G 37481704.07 37481704.18 37481704.33 0.0258 0.0220 Jupiter 97909-10-07 21:21 G 37481867.19 37481867.39 37481867.61 0.0528 0.0217 Jupiter 97921-10-12 20:38 G 37486255.17 37486255.36 37486255.56 0.0528 0.0275 Saturn 97922-10-10 21:35 G 37486618.17 37486618.40 37486618.64 0.0304 0.0077 Saturn 97923-10-26 02:24 G 37486998.50 37486998.60 37486998.71 0.0304 0.0273 Saturn 97937-04-11 17:02 G 37491914.98 37491915.21 37491915.45 0.0258 0.0087 Saturn 97938-04-23 01:40 G 37492291.36 37492291.57 37492291.80 0.0258 0.0125 Uranus 97948-03-05 18:28 G 37495896.09 37495896.27 37495896.49 0.0144 0.0091 Uranus 97949-03-10 21:07 G 37496266.12 37496266.38 37496266.64 0.0143 0.0011 Uranus 97950-03-15 23:16 G 37496636.31 37496636.47 37496636.63 0.0143 0.0112 Jupiter 97951-04-09 11:16 G 37497025.79 37497025.97 37497026.16 0.0498 0.0300 Saturn 97951-10-04 11:02 G 37497203.81 37497203.96 37497204.11 0.0305 0.0234

Saturn 97952-10-18 15:07 G 37497583.91 37497584.13 37497584.36 0.0305 0.0115 Jupiter 97963-04-14 02:24 G 37501413.37 37501413.60 37501413.83 0.0498 0.0119 Saturn 97966-04-07 01:11 G 37502502.39 37502502.55 37502502.74 0.0258 0.0182 Saturn 97967-04-18 10:33 G 37502878.69 37502878.94 37502879.19 0.0258 0.0030 Saturn 97968-04-28 18:28 G 37503255.19 37503255.27 37503255.37 0.0258 0.0240 Neptune 97980-09-16 23:02 G 37507779.34 37507779.46 37507779.63 0.0089 0.0074 Neptune 97981-09-19 10:33 G 37508146.75 37508146.94 37508147.15 0.0089 0.0055 Saturn 97981-10-12 03:35 G 37508169.41 37508169.65 37508169.89 0.0304 0.0046 Neptune 97982-09-21 21:21 G 37508514.17 37508514.39 37508514.64 0.0089 0.0036 Saturn 97982-10-27 08:24 G 37508549.84 37508549.85 37508549.88 0.0304 0.0302 Neptune 97983-09-24 08:38 G 37508881.62 37508881.86 37508882.12 0.0089 0.0017 Neptune 97984-09-25 19:40 G 37509249.07 37509249.32 37509249.58 0.0089 0.0002 Neptune 97985-09-28 06:28 G 37509616.53 37509616.77 37509617.03 0.0089 0.0021 Neptune 97986-09-30 17:02 G 37509984.00 37509984.21 37509984.46 0.0089 0.0040 Neptune 97987-10-03 04:19 G 37510351.49 37510351.68 37510351.88 0.0089 0.0058 Neptune 97988-10-04 14:38 G 37510719.01 37510719.11 37510719.27 0.0089 0.0077 Uranus 97990-09-06 05:45 G 37511420.53 37511420.74 37511420.97 0.0135 0.0062 Uranus 97991-09-10 12:14 G 37511789.77 37511790.01 37511790.26 0.0135 0.0019 Uranus 97992-09-13 18:57 G 37512159.12 37512159.29 37512159.46 0.0135 0.0099 Jupiter 97992-10-07 06:57 G 37512182.59 37512182.79 37512182.99 0.0528 0.0264 Saturn 97996-04-12 18:28 G 37513466.03 37513466.27 37513466.51 0.0258 0.0066 Saturn 97997-04-24 02:24 G 37513842.41 37513842.60 37513842.82 0.0258 0.0146

## 99TH MILLENNIUM CE

This is a list of transits of Earth in the 99th millennium CE.

FROM MAX- C START MAX END SUNRAD DEPTH S

TRANSIT

TIME

Jupiter 98004-10-12 03:21 G 37516570.44 37516570.64 37516570.86 0.0527 0.0215 Saturn 98010-10-05 12:43 G 37518754.86 37518755.03 37518755.21 0.0305 0.0208 Saturn 98011-10-20 17:31 G 37519135.02 37519135.23 37519135.45 0.0305 0.0141 Saturn 98025-04-08 00:43 G 37524053.35 37524053.53 37524053.74 0.0258 0.0162 Saturn 98026-04-19 09:35 G 37524429.66 37524429.90 37524430.15 0.0258 0.0050 Saturn 98027-04-30 17:31 G 37524806.22 37524806.23 37524806.24 0.0258 0.0258 Uranus 98032-03-06 08:09 G 37526577.63 37526577.84 37526578.05 0.0143 0.0082 Uranus 98033-03-11 10:19 G 37526947.68 37526947.93 37526948.19 0.0143 0.0019 Uranus 98034-03-16 12:00 G 37527317.88 37527318.00 37527318.16 0.0143 0.0121 Jupiter 98034-04-08 20:52 G 37527341.20 37527341.37 37527341.55 0.0498 0.0340 Saturn 98040-10-13 03:21 G 37529720.40 37529720.64 37529720.88 0.0305 0.0021 Jupiter 98046-04-13 06:28 G 37531728.53 37531728.77 37531729.01 0.0498 0.0056 Saturn 98054-04-03 07:26 G 37534640.79 37534640.81 37534640.84 0.0258 0.0257 Saturn 98055-04-14 16:48 G 37535016.96 37535017.20 37535017.45 0.0257 0.0047 Saturn 98056-04-25 00:14 G 37535393.33 37535393.51 37535393.71 0.0257 0.0164 Jupiter 98058-04-17 21:07 G 37536116.31 37536116.38 37536116.46 0.0498 0.0470 Mars 98060-01-11 12:14 G 37536749.85 37536750.01 37536750.17 0.1611 0.0827 Neptune 98063-03-18 13:40 G 37537912.00 37537912.07 37537912.19 0.0088 0.0082 Neptune 98064-03-20 01:40 G 37538279.41 37538279.57 37538279.77 0.0088 0.0064 Pluto 98064-08-19 07:26 G 37538431.68 37538431.81 37538431.94 0.0063 0.0054 Neptune 98065-03-22 14:09 G 37538646.89 37538647.09 37538647.33 0.0088 0.0046 Pluto 98065-08-20 17:45 G 37538798.01 37538798.24 37538798.50 0.0064 0.0021 Neptune 98066-03-25 02:38 G 37539014.37 37539014.61 37539014.87 0.0088 0.0027 Neptune 98067-03-27 15:07 G 37539381.87 37539382.13 37539382.39 0.0088 0.0009 Neptune 98068-03-29 03:21 G 37539749.39 37539749.64 37539749.91 0.0088 0.0010 Neptune 98069-03-31 15:50 G 37540116.92 37540117.16 37540117.42 0.0088 0.0028 Saturn 98069-10-06 10:04 G 37540305.73 37540305.92 37540306.11 0.0305 0.0186

Neptune 98070-04-03 04:04 G 37540484.47 37540484.67 37540484.91 0.0088 0.0047 Saturn 98070-10-21 15:07 G 37540685.93 37540686.13 37540686.33 0.0305 0.0163 Neptune 98071-04-05 16:33 G 37540852.03 37540852.19 37540852.38 0.0088 0.0065 Neptune 98072-04-07 05:16 G 37541219.65 37541219.72 37541219.81 0.0088 0.0084 Uranus 98074-09-06 17:16 G 37542102.00 37542102.22 37542102.46 0.0135 0.0057 Uranus 98075-09-10 23:45 G 37542471.25 37542471.49 37542471.74 0.0135 0.0025 Jupiter 98075-10-07 13:55 G 37542497.90 37542498.08 37542498.26 0.0528 0.0322 Uranus 98076-09-14 06:00 G 37542840.62 37542840.75 37542840.93 0.0135 0.0106 Saturn 98084-04-08 21:50 G 37545604.21 37545604.41 37545604.62 0.0258 0.0144 Saturn 98085-04-20 06:14 G 37545980.53 37545980.76 37545981.01 0.0257 0.0068 Jupiter 98087-10-12 10:19 G 37546885.72 37546885.93 37546886.16 0.0528 0.0157 Saturn 98099-10-14 22:33 G 37551271.19 37551271.44 37551271.68 0.0305 0.0006 Saturn 98113-04-05 03:35 G 37556191.57 37556191.65 37556191.75 0.0258 0.0239 Saturn 98114-04-16 12:57 G 37556567.79 37556568.04 37556568.29 0.0257 0.0029 Saturn 98115-04-27 20:09 G 37556944.17 37556944.34 37556944.52 0.0257 0.0180 Uranus 98116-03-07 20:38 G 37557259.14 37557259.36 37557259.58 0.0143 0.0075 Uranus 98117-03-12 22:48 G 37557629.20 37557629.45 37557629.71 0.0143 0.0027 Jupiter 98117-04-09 02:52 G 37557656.49 37557656.62 37557656.77 0.0498 0.0395 Uranus 98118-03-18 00:57 G 37557999.43 37557999.54 37557999.66 0.0143 0.0128 Saturn 98128-10-08 02:52 G 37561856.43 37561856.62 37561856.83 0.0305 0.0168 Jupiter 98129-04-13 19:11 G 37562044.06 37562044.30 37562044.53 0.0498 0.0027 Saturn 98129-10-23 08:09 G 37562236.65 37562236.84 37562237.04 0.0305 0.0182 98139-01-14 14:52 G 37565606.96 37565607.12 37565607.28 0.1608 0.0895 Mars Jupiter 98141-04-18 11:02 G 37566431.86 37566431.96 37566432.07 0.0498 0.0445 Saturn 98143-04-11 17:02 G 37567155.01 37567155.21 37567155.44 0.0258 0.0127 Saturn 98144-04-22 01:26 G 37567531.33 37567531.56 37567531.80 0.0257 0.0084 Neptune 98144-09-17 07:11 G 37567679.72 37567679.80 37567679.95 0.0089 0.0080 Neptune 98145-09-19 18:28 G 37568047.10 37568047.27 37568047.48 0.0089 0.0061 Neptune 98146-09-22 06:00 G 37568414.53 37568414.75 37568414.98 0.0089 0.0042 Neptune 98147-09-24 17:16 G 37568781.97 37568782.22 37568782.47 0.0089 0.0023

Neptune 98148-09-26 04:19 G 37569149.43 37569149.68 37569149.93 0.0089 0.0004 Neptune 98149-09-28 14:52 G 37569516.88 37569517.12 37569517.38 0.0089 0.0016 Neptune 98150-10-01 01:55 G 37569884.35 37569884.58 37569884.82 0.0089 0.0034 Neptune 98151-10-03 12:43 G 37570251.84 37570252.03 37570252.25 0.0089 0.0052 Neptune 98152-10-04 23:45 G 37570619.34 37570619.49 37570619.65 0.0089 0.0071 Neptune 98153-10-07 10:33 G 37570986.94 37570986.94 37570986.95 0.0089 0.0089 Pluto 98155-02-19 10:48 G 37571486.70 37571486.95 37571487.22 0.0081 0.0016 Uranus 98157-09-03 22:19 G 37572414.40 37572414.43 37572414.50 0.0134 0.0132 Uranus 98158-09-08 05:02 G 37572783.48 37572783.71 37572783.95 0.0135 0.0051 Jupiter 98158-10-08 01:40 G 37572813.41 37572813.57 37572813.74 0.0528 0.0361 Saturn 98158-10-16 15:21 G 37572821.90 37572822.14 37572822.38 0.0305 0.0018 Uranus 98159-09-12 11:16 G 37573152.74 37573152.97 37573153.22 0.0135 0.0031 Uranus 98160-09-15 18:00 G 37573522.11 37573522.25 37573522.39 0.0135 0.0111 Jupiter 98170-10-13 02:38 G 37577201.39 37577201.61 37577201.84 0.0528 0.0136 Saturn 98172-04-05 22:48 G 37577742.33 37577742.45 37577742.57 0.0258 0.0223 Saturn 98173-04-17 07:40 G 37578118.58 37578118.82 37578119.07 0.0257 0.0014 Saturn 98174-04-28 15:07 G 37578494.97 37578495.13 37578495.29 0.0257 0.0196 98179-07-18 08:52 G 37580401.67 37580401.87 37580402.06 0.1931 0.0536 Mars Saturn 98187-10-09 18:57 G 37583407.09 37583407.29 37583407.51 0.0305 0.0151 Saturn 98188-10-24 00:14 G 37583787.33 37583787.51 37583787.70 0.0305 0.0198 Uranus 98200-03-09 05:45 G 37587940.53 37587940.74 37587940.98 0.0143 0.0071 Jupiter 98200-04-09 17:31 G 37587972.11 37587972.23 37587972.36 0.0498 0.0415 Uranus 98201-03-14 08:09 G 37588310.60 37588310.84 37588311.10 0.0143 0.0032 Uranus 98202-03-19 10:19 G 37588680.84 37588680.93 37588681.03 0.0143 0.0133 Saturn 98202-04-13 11:45 G 37588705.78 37588705.99 37588706.23 0.0258 0.0111 Saturn 98203-04-24 19:55 G 37589082.11 37589082.33 37589082.57 0.0257 0.0100 Jupiter 98212-04-14 08:38 G 37592359.62 37592359.86 37592360.10 0.0498 0.0002 Saturn 98217-10-18 06:57 G 37594372.55 37594372.79 37594373.03 0.0305 0.0035 Jupiter 98224-04-18 18:28 G 37596747.12 37596747.27 37596747.41 0.0498 0.0394 Neptune 98227-03-19 21:07 G 37597812.37 37597812.38 37597812.44 0.0088 0.0087

Neptune 98228-03-21 09:35 G 37598179.76 37598179.90 37598180.08 0.0088 0.0069 Neptune 98229-03-23 21:50 G 37598547.22 37598547.41 37598547.64 0.0088 0.0051 Neptune 98230-03-26 10:19 G 37598914.70 37598914.93 37598915.19 0.0088 0.0032 Neptune 98231-03-28 22:48 G 37599282.20 37599282.45 37599282.71 0.0088 0.0014 Saturn 98231-04-08 17:31 G 37599293.09 37599293.23 37599293.38 0.0258 0.0207 Neptune 98232-03-30 11:02 G 37599649.71 37599649.96 37599650.23 0.0088 0.0005 Saturn 98232-04-19 02:38 G 37599669.36 37599669.61 37599669.86 0.0258 0.0005 Neptune 98233-04-01 23:31 G 37600017.24 37600017.48 37600017.74 0.0088 0.0023 Saturn 98233-04-30 10:04 G 37600045.79 37600045.92 37600046.07 0.0257 0.0212 Neptune 98234-04-04 11:45 G 37600384.78 37600384.99 37600385.24 0.0088 0.0042 Neptune 98235-04-07 00:14 G 37600752.34 37600752.51 37600752.72 0.0088 0.0060 Neptune 98236-04-08 12:57 G 37601119.93 37601120.04 37601120.17 0.0088 0.0079 Uranus 98241-09-05 09:07 G 37603095.82 37603095.88 37603095.99 0.0134 0.0127 Jupiter 98241-10-08 15:35 G 37603129.00 37603129.15 37603129.31 0.0528 0.0388 Uranus 98242-09-09 15:50 G 37603464.93 37603465.16 37603465.40 0.0135 0.0046 Uranus 98243-09-13 22:04 G 37603834.19 37603834.42 37603834.67 0.0135 0.0036 Uranus 98244-09-17 04:19 G 37604203.57 37604203.68 37604203.82 0.0135 0.0117 Saturn 98246-10-11 11:45 G 37604957.77 37604957.99 37604958.21 0.0305 0.0133 Saturn 98247-10-26 16:48 G 37605338.04 37605338.20 37605338.38 0.0305 0.0215 Jupiter 98253-10-13 13:11 G 37607516.82 37607517.05 37607517.27 0.0528 0.0092 Saturn 98261-04-14 07:11 G 37610256.57 37610256.80 37610257.03 0.0258 0.0094 Saturn 98262-04-25 15:21 G 37610632.92 37610633.14 37610633.36 0.0257 0.0116 Saturn 98275-10-04 21:35 G 37615543.34 37615543.40 37615543.48 0.0304 0.0291 Saturn 98276-10-19 00:57 G 37615923.31 37615923.54 37615923.78 0.0305 0.0054 Jupiter 98283-04-10 00:57 G 37618287.47 37618287.54 37618287.64 0.0497 0.0463 Uranus 98284-03-09 13:11 G 37618621.83 37618622.05 37618622.28 0.0143 0.0068 Uranus 98285-03-14 15:21 G 37618991.90 37618992.14 37618992.40 0.0143 0.0034 Uranus 98286-03-19 17:02 G 37619362.15 37619362.21 37619362.31 0.0143 0.0136 Saturn 98290-04-09 13:11 G 37620843.89 37620844.05 37620844.22 0.0259 0.0190 Saturn 98291-04-20 22:33 G 37621220.20 37621220.44 37621220.69 0.0258 0.0021

Saturn 98292-05-01 06:14 G 37621596.65 37621596.76 37621596.88 0.0258 0.0228 Jupiter 98295-04-14 15:35 G 37622674.92 37622675.15 37622675.39 0.0498 0.0052 Saturn 98305-10-13 06:57 G 37626508.57 37626508.79 37626509.01 0.0305 0.0114 Saturn 98306-10-28 11:45 G 37626888.84 37626888.99 37626889.15 0.0305 0.0234 Jupiter 98307-04-20 06:57 G 37627062.63 37627062.79 37627062.95 0.0498 0.0365 Neptune 98308-09-18 16:48 G 37627580.14 37627580.20 37627580.30 0.0089 0.0085 Neptune 98309-09-21 04:19 G 37627947.51 37627947.68 37627947.85 0.0089 0.0066 Neptune 98310-09-23 14:52 G 37628314.93 37628315.12 37628315.36 0.0089 0.0048 Pluto 98311-08-25 00:14 G 37628650.31 37628650.51 37628650.74 0.0063 0.0035 Neptune 98311-09-26 02:09 G 37628682.37 37628682.59 37628682.85 0.0089 0.0029 Pluto 98312-08-25 11:16 G 37629016.78 37629016.97 37629017.18 0.0064 0.0040 Neptune 98312-09-27 13:26 G 37629049.82 37629050.06 37629050.32 0.0089 0.0010 Neptune 98313-09-30 00:28 G 37629417.27 37629417.52 37629417.78 0.0089 0.0010 Neptune 98314-10-02 11:31 G 37629784.75 37629784.98 37629785.23 0.0089 0.0029 Neptune 98315-10-04 22:04 G 37630152.23 37630152.42 37630152.66 0.0089 0.0048 Neptune 98316-10-06 08:52 G 37630519.73 37630519.87 37630520.07 0.0089 0.0066 Neptune 98317-10-08 19:40 G 37630887.26 37630887.32 37630887.43 0.0089 0.0085 Saturn 98320-04-16 03:50 G 37631807.42 37631807.66 37631807.90 0.0258 0.0077 Saturn 98321-04-27 12:14 G 37632183.81 37632184.01 37632184.23 0.0258 0.0133 Jupiter 98324-10-08 23:02 G 37633444.34 37633444.46 37633444.58 0.0528 0.0445 Uranus 98325-09-06 20:09 G 37633777.25 37633777.34 37633777.46 0.0135 0.0122 Uranus 98326-09-11 02:38 G 37634146.38 37634146.61 37634146.86 0.0135 0.0041 Uranus 98327-09-15 09:07 G 37634515.64 37634515.88 37634516.12 0.0135 0.0041 Uranus 98328-09-18 15:07 G 37634885.04 37634885.13 37634885.25 0.0135 0.0122 Saturn 98334-10-06 18:57 G 37637094.19 37637094.29 37637094.40 0.0304 0.0270 Saturn 98335-10-21 22:19 G 37637474.20 37637474.43 37637474.67 0.0305 0.0075 Jupiter 98336-10-13 22:33 G 37637832.21 37637832.44 37637832.67 0.0528 0.0043 Mars 98344-01-15 17:45 G 37640482.05 37640482.24 37640482.43 0.1615 0.0044 Saturn 98349-04-11 10:48 G 37642394.78 37642394.95 37642395.15 0.0259 0.0174 Saturn 98350-04-22 20:38 G 37642771.12 37642771.36 37642771.61 0.0258 0.0038

Saturn 98351-05-04 04:19 G 37643147.62 37643147.68 37643147.77 0.0258 0.0246 Saturn 98364-10-14 07:40 G 37648059.59 37648059.82 37648060.05 0.0304 0.0090 Saturn 98365-10-29 12:14 G 37648439.88 37648440.01 37648440.14 0.0305 0.0257 Jupiter 98366-04-10 11:45 G 37648602.98 37648602.99 37648603.00 0.0498 0.0497 Uranus 98368-03-10 20:09 G 37649303.11 37649303.34 37649303.57 0.0143 0.0065 Uranus 98369-03-15 21:50 G 37649673.17 37649673.41 37649673.67 0.0143 0.0037 Uranus 98370-03-20 23:31 G 37650043.43 37650043.48 37650043.56 0.0143 0.0139 Jupiter 98378-04-15 02:52 G 37652990.39 37652990.62 37652990.85 0.0498 0.0085 Saturn 98379-04-18 02:52 G 37653358.38 37653358.62 37653358.86 0.0258 0.0058 Saturn 98380-04-28 12:00 G 37653734.80 37653735.00 37653735.20 0.0258 0.0152 Jupiter 98390-04-19 16:48 G 37657378.03 37657378.20 37657378.38 0.0498 0.0325 Neptune 98392-03-21 17:45 G 37658080.13 37658080.24 37658080.41 0.0088 0.0074 Neptune 98393-03-24 06:43 G 37658447.58 37658447.78 37658447.98 0.0088 0.0055 Saturn 98393-10-07 21:35 G 37658645.27 37658645.40 37658645.55 0.0303 0.0245 Neptune 98394-03-26 18:43 G 37658815.05 37658815.28 37658815.53 0.0088 0.0037 Saturn 98394-10-23 00:43 G 37659025.31 37659025.53 37659025.76 0.0304 0.0101 Neptune 98395-03-29 06:57 G 37659182.54 37659182.79 37659183.05 0.0088 0.0019 Neptune 98396-03-30 19:26 G 37659550.05 37659550.31 37659550.58 0.0088 0.0001 Neptune 98397-04-02 07:40 G 37659917.57 37659917.82 37659918.08 0.0088 0.0018 Neptune 98398-04-04 19:40 G 37660285.10 37660285.32 37660285.58 0.0088 0.0037 Neptune 98399-04-07 08:09 G 37660652.65 37660652.84 37660653.06 0.0088 0.0055 Neptune 98400-04-08 20:52 G 37661020.24 37661020.37 37661020.52 0.0088 0.0074 Pluto 98402-02-23 09:07 G 37661705.64 37661705.88 37661706.14 0.0081 0.0025 Jupiter 98407-10-09 08:09 G 37663759.76 37663759.84 37663759.92 0.0529 0.0492 Saturn 98408-04-12 11:16 G 37663945.78 37663945.97 37663946.18 0.0259 0.0155 Saturn 98409-04-23 21:21 G 37664322.15 37664322.39 37664322.64 0.0258 0.0058 Uranus 98409-09-07 05:45 G 37664458.63 37664458.74 37664458.88 0.0135 0.0117 Uranus 98410-09-11 12:14 G 37664827.78 37664828.01 37664828.26 0.0135 0.0036 Uranus 98411-09-15 18:28 G 37665197.05 37665197.27 37665197.52 0.0135 0.0046 Uranus 98412-09-19 00:57 G 37665566.47 37665566.54 37665566.63 0.0135 0.0127

Jupiter 98419-10-14 06:14 G 37668147.53 37668147.76 37668147.99 0.0528 0.0007 Saturn 98423-10-16 13:26 G 37669610.82 37669611.06 37669611.29 0.0304 0.0062 Saturn 98424-10-30 17:16 G 37669991.15 37669991.22 37669991.32 0.0305 0.0284 Jupiter 98431-10-19 03:21 G 37672535.54 37672535.64 37672535.74 0.0528 0.0470 Saturn 98437-04-07 16:48 G 37674533.16 37674533.20 37674533.28 0.0259 0.0252 Saturn 98438-04-19 04:48 G 37674909.46 37674909.70 37674909.95 0.0258 0.0039 Saturn 98439-04-30 14:09 G 37675285.92 37675286.09 37675286.28 0.0258 0.0172 Uranus 98452-03-11 04:48 G 37679984.48 37679984.70 37679984.95 0.0143 0.0061 Saturn 98452-10-09 06:57 G 37680196.63 37680196.79 37680196.97 0.0303 0.0214 Uranus 98453-03-16 06:43 G 37680354.54 37680354.78 37680355.03 0.0143 0.0042 Saturn 98453-10-24 10:04 G 37680576.70 37680576.92 37680577.14 0.0304 0.0132 Uranus 98454-03-21 08:09 G 37680724.83 37680724.84 37680724.87 0.0143 0.0143 Jupiter 98461-04-14 06:28 G 37683305.54 37683305.77 37683306.00 0.0497 0.0144 98463-07-19 11:02 G 37684131.79 37684131.96 37684132.14 0.1923 0.0850 Mars Saturn 98467-04-14 14:24 G 37685496.90 37685497.10 37685497.33 0.0259 0.0135 Saturn 98468-04-25 01:11 G 37685873.31 37685873.55 37685873.79 0.0258 0.0079 Jupiter 98473-04-18 19:26 G 37687693.11 37687693.31 37687693.52 0.0497 0.0260 Neptune 98473-09-20 13:26 G 37687847.93 37687848.06 37687848.24 0.0089 0.0072 Neptune 98474-09-23 00:43 G 37688215.34 37688215.53 37688215.75 0.0089 0.0053 Neptune 98475-09-25 12:00 G 37688582.77 37688583.00 37688583.24 0.0089 0.0034 Neptune 98476-09-26 23:02 G 37688950.21 37688950.46 37688950.71 0.0089 0.0015 Neptune 98477-09-29 10:04 G 37689317.67 37689317.92 37689318.18 0.0089 0.0005 Neptune 98478-10-01 21:07 G 37689685.14 37689685.38 37689685.63 0.0089 0.0023 Neptune 98479-10-04 07:55 G 37690052.63 37690052.83 37690053.07 0.0089 0.0042 Neptune 98480-10-05 19:11 G 37690420.12 37690420.30 37690420.49 0.0089 0.0061 Neptune 98481-10-08 05:45 G 37690787.65 37690787.74 37690787.88 0.0089 0.0080 Saturn 98482-10-18 01:55 G 37691162.34 37691162.58 37691162.82 0.0304 0.0027 Uranus 98493-09-07 15:21 G 37695140.03 37695140.14 37695140.30 0.0135 0.0113 Uranus 98494-09-11 22:19 G 37695509.19 37695509.43 37695509.67 0.0135 0.0031 Uranus 98495-09-16 04:19 G 37695878.46 37695878.68 37695878.92 0.0135 0.0051

Saturn 98496-04-08 21:50 G 37696084.31 37696084.41 37696084.54 0.0259 0.0230 Uranus 98496-09-19 10:48 G 37696247.91 37696247.95 37696248.01 0.0135 0.0132 Saturn 98497-04-20 10:04 G 37696460.67 37696460.92 37696461.17 0.0258 0.0016 Saturn 98498-05-01 19:40 G 37696837.16 37696837.32 37696837.49 0.0258 0.0194 Jupiter 98502-10-14 05:31 G 37698462.51 37698462.73 37698462.96 0.0528 0.0096 Saturn 98511-10-12 22:04 G 37701748.23 37701748.42 37701748.62 0.0303 0.0177 Saturn 98512-10-27 00:43 G 37702128.33 37702128.53 37702128.74 0.0304 0.0168 Jupiter 98514-10-19 03:07 G 37702850.47 37702850.63 37702850.79 0.0528 0.0383 Saturn 98526-04-16 21:07 G 37707048.15 37707048.38 37707048.60 0.0259 0.0111 Saturn 98527-04-28 07:40 G 37707424.60 37707424.82 37707425.06 0.0259 0.0102 Uranus 98536-03-12 16:19 G 37710665.95 37710666.18 37710666.43 0.0143 0.0054 Uranus 98537-03-17 17:45 G 37711036.00 37711036.24 37711036.49 0.0143 0.0048 Saturn 98541-10-20 20:24 G 37712714.11 37712714.35 37712714.59 0.0304 0.0013 Jupiter 98544-04-14 09:07 G 37713620.66 37713620.88 37713621.09 0.0497 0.0209 Mars 98549-01-14 20:09 G 37715357.19 37715357.34 37715357.49 0.1621 0.0984 Saturn 98555-04-12 05:45 G 37717635.60 37717635.74 37717635.90 0.0260 0.0206 Neptune 98556-03-22 02:24 G 37717980.51 37717980.60 37717980.74 0.0088 0.0079 Jupiter 98556-04-18 22:19 G 37718008.21 37718008.43 37718008.64 0.0498 0.0197 Saturn 98556-04-22 18:00 G 37718012.00 37718012.25 37718012.50 0.0259 0.0008 Neptune 98557-03-24 15:21 G 37718347.96 37718348.14 37718348.33 0.0088 0.0060 Saturn 98557-05-04 03:50 G 37718388.53 37718388.66 37718388.80 0.0258 0.0218 Neptune 98558-03-27 03:21 G 37718715.42 37718715.64 37718715.88 0.0088 0.0042 Pluto 98558-08-27 13:11 G 37718868.83 37718869.05 37718869.29 0.0063 0.0027 Neptune 98559-03-29 15:50 G 37719082.92 37719083.16 37719083.43 0.0088 0.0024 Pluto 98559-08-28 23:31 G 37719235.34 37719235.48 37719235.67 0.0064 0.0048 Neptune 98560-03-31 04:33 G 37719450.43 37719450.69 37719450.95 0.0088 0.0005 Neptune 98561-04-02 16:33 G 37719817.94 37719818.19 37719818.46 0.0088 0.0014 Neptune 98562-04-05 04:48 G 37720185.47 37720185.70 37720185.96 0.0088 0.0032 Neptune 98563-04-07 17:31 G 37720553.02 37720553.23 37720553.44 0.0088 0.0050 Neptune 98564-04-09 05:16 G 37720920.59 37720920.72 37720920.91 0.0088 0.0069

Neptune 98565-04-11 18:00 G 37721288.23 37721288.25 37721288.30 0.0088 0.0087 Saturn 98570-10-14 18:43 G 37723300.07 37723300.28 37723300.50 0.0303 0.0136 Saturn 98571-10-29 21:21 G 37723680.22 37723680.39 37723680.57 0.0304 0.0208 Uranus 98577-09-09 00:28 G 37725821.40 37725821.52 37725821.69 0.0135 0.0109 Uranus 98578-09-13 07:26 G 37726190.56 37726190.81 37726191.06 0.0135 0.0027 Uranus 98579-09-17 13:40 G 37726559.85 37726560.07 37726560.31 0.0135 0.0055 Saturn 98585-04-18 06:14 G 37728599.52 37728599.76 37728599.99 0.0259 0.0086 Jupiter 98585-10-13 03:35 G 37728777.44 37728777.65 37728777.87 0.0529 0.0187 Saturn 98586-04-29 16:48 G 37728975.99 37728976.20 37728976.43 0.0259 0.0127 Jupiter 98597-10-18 01:26 G 37733165.37 37733165.56 37733165.75 0.0528 0.0297 Saturn 98599-10-08 17:45 G 37733886.17 37733886.24 37733886.33 0.0302 0.0284 Saturn 98600-10-23 18:43 G 37734266.04 37734266.28 37734266.52 0.0304 0.0056 Saturn 98614-04-14 15:50 G 37739186.99 37739187.16 37739187.35 0.0259 0.0180 Saturn 98615-04-26 04:04 G 37739563.42 37739563.67 37739563.91 0.0259 0.0034 Saturn 98616-05-06 13:40 G 37739940.00 37739940.07 37739940.17 0.0258 0.0244 Uranus 98620-03-14 04:04 G 37741347.43 37741347.67 37741347.92 0.0143 0.0047 Uranus 98621-03-19 05:31 G 37741717.50 37741717.73 37741717.98 0.0143 0.0055 Jupiter 98627-04-15 10:04 G 37743935.72 37743935.92 37743936.11 0.0497 0.0280 Mars 98628-01-18 23:31 G 37744214.31 37744214.48 37744214.64 0.1618 0.0794 Saturn 98629-10-17 18:00 G 37744852.02 37744852.25 37744852.48 0.0304 0.0092 Saturn 98630-11-01 20:52 G 37745232.24 37745232.37 37745232.51 0.0304 0.0252 Neptune 98637-09-22 00:43 G 37747748.40 37747748.53 37747748.67 0.0090 0.0076 Neptune 98638-09-24 11:16 G 37748115.80 37748115.97 37748116.19 0.0089 0.0058 Jupiter 98639-04-19 22:19 G 37748323.20 37748323.43 37748323.66 0.0497 0.0124 Neptune 98639-09-26 22:19 G 37748483.21 37748483.43 37748483.67 0.0089 0.0039 Neptune 98640-09-28 09:35 G 37748850.65 37748850.90 37748851.15 0.0089 0.0020 Neptune 98641-09-30 20:38 G 37749218.10 37749218.36 37749218.61 0.0089 0.0001 Neptune 98642-10-03 07:11 G 37749585.57 37749585.80 37749586.06 0.0089 0.0019 Neptune 98643-10-05 18:00 G 37749953.04 37749953.25 37749953.50 0.0089 0.0038 Saturn 98644-04-20 16:48 G 37750150.96 37750151.20 37750151.45 0.0259 0.0059

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Neptune 98725-04-04 01:26 G 37779718.31 37779718.56 37779718.83 0.0088 0.0009 Neptune 98726-04-06 13:55 G 37780085.84 37780086.08 37780086.33 0.0088 0.0027 Neptune 98727-04-09 01:55 G 37780453.38 37780453.58 37780453.82 0.0088 0.0047 Neptune 98728-04-10 14:38 G 37780820.94 37780821.11 37780821.30 0.0088 0.0064 Neptune 98729-04-13 02:24 G 37781188.55 37781188.60 37781188.72 0.0088 0.0083 Saturn 98732-04-18 14:24 G 37782289.88 37782290.10 37782290.32 0.0259 0.0124 Saturn 98733-04-30 01:26 G 37782666.33 37782666.56 37782666.80 0.0258 0.0087 Jupiter 98734-04-24 08:38 G 37783025.76 37783025.86 37783025.97 0.0498 0.0444 Uranus 98745-09-11 19:55 G 37787184.17 37787184.33 37787184.50 0.0135 0.0101 Uranus 98746-09-16 02:09 G 37787553.34 37787553.59 37787553.84 0.0135 0.0019 Uranus 98747-09-20 08:24 G 37787922.64 37787922.85 37787923.09 0.0135 0.0063 Saturn 98747-10-23 16:19 G 37787955.94 37787956.18 37787956.42 0.0304 0.0003 Jupiter 98751-10-13 20:24 G 37789407.19 37789407.35 37789407.51 0.0528 0.0384 Saturn 98761-04-14 01:40 G 37792877.45 37792877.57 37792877.72 0.0260 0.0217 Saturn 98762-04-25 13:55 G 37793253.83 37793254.08 37793254.33 0.0259 0.0005 Saturn 98763-05-06 23:31 G 37793630.34 37793630.48 37793630.64 0.0259 0.0205 Jupiter 98763-10-18 16:04 G 37793794.94 37793795.17 37793795.39 0.0529 0.0088 Saturn 98776-10-16 13:26 G 37798541.86 37798542.06 37798542.28 0.0303 0.0152 Saturn 98777-10-31 16:04 G 37798921.99 37798922.17 37798922.37 0.0304 0.0190 Uranus 98787-03-11 20:38 G 37802340.33 37802340.36 37802340.42 0.0143 0.0140 Uranus 98788-03-15 22:33 G 37802710.20 37802710.44 37802710.70 0.0143 0.0038 Uranus 98789-03-21 00:00 G 37803080.28 37803080.50 37803080.74 0.0143 0.0064 Saturn 98791-04-21 00:14 G 37803841.28 37803841.51 37803841.74 0.0259 0.0097 Saturn 98792-05-01 10:33 G 37804217.72 37804217.94 37804218.17 0.0258 0.0113 Jupiter 98793-04-14 07:55 G 37804565.73 37804565.83 37804565.95 0.0497 0.0435 Neptune 98801-09-22 10:48 G 37807648.87 37807648.95 37807649.08 0.0089 0.0082 Neptune 98802-09-24 21:50 G 37808016.25 37808016.41 37808016.61 0.0089 0.0063 Neptune 98803-09-27 09:07 G 37808383.67 37808383.88 37808384.12 0.0089 0.0044 Neptune 98804-09-28 20:09 G 37808751.11 37808751.34 37808751.59 0.0089 0.0025 Jupiter 98805-04-18 22:04 G 37808953.19 37808953.42 37808953.66 0.0498 0.0029

98805-08-31 00:14 G 37809087.29 37809087.51 37809087.76 0.0063 0.0025 Pluto Neptune 98805-10-01 07:26 G 37809118.56 37809118.81 37809119.06 0.0089 0.0006 Saturn 98805-10-10 08:09 G 37809127.82 37809127.84 37809127.88 0.0303 0.0300 Pluto 98806-09-01 11:16 G 37809453.81 37809453.97 37809454.13 0.0064 0.0050 Neptune 98806-10-03 18:00 G 37809486.01 37809486.25 37809486.52 0.0089 0.0014 Saturn 98806-10-25 09:35 G 37809507.66 37809507.90 37809508.14 0.0304 0.0037 Neptune 98807-10-06 04:48 G 37809853.48 37809853.70 37809853.96 0.0089 0.0033 Neptune 98808-10-07 16:04 G 37810220.97 37810221.17 37810221.38 0.0089 0.0051 Neptune 98809-10-10 02:52 G 37810588.48 37810588.62 37810588.79 0.0089 0.0070 Neptune 98810-10-12 13:40 G 37810956.06 37810956.07 37810956.13 0.0089 0.0088 Jupiter 98817-04-23 12:14 G 37813340.87 37813341.01 37813341.17 0.0497 0.0383 Saturn 98820-04-15 10:33 G 37814428.78 37814428.94 37814429.11 0.0259 0.0190 Saturn 98821-04-26 21:50 G 37814805.16 37814805.41 37814805.66 0.0258 0.0021 Saturn 98822-05-08 06:57 G 37815181.69 37815181.79 37815181.92 0.0258 0.0229 Uranus 98829-09-12 05:02 G 37817865.56 37817865.71 37817865.91 0.0135 0.0098 Uranus 98830-09-16 11:45 G 37818234.75 37818234.99 37818235.25 0.0135 0.0016 Uranus 98831-09-20 18:14 G 37818604.05 37818604.26 37818604.48 0.0135 0.0067 98833-01-18 00:28 G 37819089.33 37819089.52 37819089.71 0.1625 0.0199 Mars Jupiter 98834-10-12 20:24 G 37819722.25 37819722.35 37819722.46 0.0529 0.0468 Saturn 98835-10-19 04:04 G 37820093.45 37820093.67 37820093.90 0.0304 0.0114 Saturn 98836-11-02 07:40 G 37820473.66 37820473.82 37820473.98 0.0304 0.0228 Jupiter 98846-10-17 20:24 G 37824110.12 37824110.35 37824110.58 0.0528 0.0021 Saturn 98850-04-22 07:26 G 37825392.57 37825392.81 37825393.05 0.0258 0.0072 Saturn 98851-05-03 17:02 G 37825769.01 37825769.21 37825769.43 0.0258 0.0137 Jupiter 98858-10-22 16:33 G 37828498.11 37828498.19 37828498.27 0.0528 0.0491 Saturn 98864-10-11 19:40 G 37830679.22 37830679.32 37830679.45 0.0303 0.0266 Saturn 98865-10-26 21:50 G 37831059.18 37831059.41 37831059.65 0.0305 0.0073 Uranus 98871-03-12 02:52 G 37833021.57 37833021.62 37833021.70 0.0143 0.0139 Uranus 98872-03-16 05:02 G 37833391.46 37833391.71 37833391.96 0.0143 0.0036 Uranus 98873-03-21 06:28 G 37833761.55 37833761.77 37833762.01 0.0143 0.0066

Jupiter 98876-04-13 14:09 G 37834881.05 37834881.09 37834881.14 0.0497 0.0485 Saturn 98879-04-17 16:04 G 37835979.99 37835980.17 37835980.37 0.0259 0.0165 Saturn 98880-04-28 02:52 G 37836356.38 37836356.62 37836356.87 0.0258 0.0045 Saturn 98881-05-09 11:16 G 37836732.93 37836732.97 37836733.04 0.0258 0.0251 Neptune 98885-03-25 09:07 G 37838148.74 37838148.88 37838149.05 0.0088 0.0070 Neptune 98886-03-27 21:21 G 37838516.20 37838516.39 37838516.62 0.0088 0.0052 Neptune 98887-03-30 10:04 G 37838883.69 37838883.92 37838884.17 0.0088 0.0033 Neptune 98888-03-31 22:19 G 37839251.19 37839251.43 37839251.70 0.0088 0.0015 Jupiter 98888-04-18 04:04 G 37839268.44 37839268.67 37839268.90 0.0497 0.0081 Neptune 98889-04-03 11:02 G 37839618.70 37839618.96 37839619.22 0.0088 0.0004 Neptune 98890-04-05 23:16 G 37839986.23 37839986.47 37839986.74 0.0088 0.0023 Neptune 98891-04-08 11:45 G 37840353.77 37840353.99 37840354.23 0.0088 0.0041 Neptune 98892-04-09 23:45 G 37840721.32 37840721.49 37840721.70 0.0088 0.0060 Neptune 98893-04-12 12:14 G 37841088.91 37841089.01 37841089.14 0.0088 0.0078 Saturn 98894-10-20 12:28 G 37841644.79 37841645.02 37841645.25 0.0304 0.0082 Saturn 98895-11-04 16:04 G 37842025.06 37842025.17 37842025.31 0.0304 0.0261 Pluto 98896-03-01 13:26 G 37842142.90 37842143.06 37842143.28 0.0080 0.0055 Jupiter 98900-04-23 13:11 G 37843655.86 37843656.05 37843656.23 0.0498 0.0309 Saturn 98908-04-12 23:45 G 37846567.47 37846567.49 37846567.52 0.0260 0.0258 Saturn 98909-04-24 11:31 G 37846943.73 37846943.98 37846944.22 0.0258 0.0048 Saturn 98910-05-05 20:09 G 37847320.16 37847320.34 37847320.55 0.0258 0.0160 98912-01-22 04:33 G 37847946.67 37847946.69 37847946.72 0.1622 0.1600 Mars Uranus 98913-09-13 13:55 G 37848546.92 37848547.08 37848547.28 0.0135 0.0094 Uranus 98914-09-17 20:38 G 37848916.11 37848916.36 37848916.61 0.0135 0.0012 Uranus 98915-09-22 03:07 G 37849285.43 37849285.63 37849285.85 0.0135 0.0071 Jupiter 98917-10-13 02:38 G 37850037.61 37850037.61 37850037.62 0.0528 0.0527 Saturn 98923-10-15 00:14 G 37852230.37 37852230.51 37852230.66 0.0304 0.0237 Saturn 98924-10-29 02:52 G 37852610.40 37852610.62 37852610.85 0.0305 0.0102 Jupiter 98929-10-17 23:16 G 37854425.25 37854425.47 37854425.70 0.0528 0.0056 Saturn 98938-04-19 18:14 G 37857531.07 37857531.26 37857531.48 0.0259 0.0143

Saturn 98939-05-01 04:48 G 37857907.45 37857907.70 37857907.94 0.0258 0.0066 Jupiter 98941-10-22 19:11 G 37858813.16 37858813.30 37858813.44 0.0528 0.0416 Saturn 98953-10-22 15:35 G 37863195.91 37863196.15 37863196.39 0.0304 0.0054 Saturn 98954-11-06 19:26 G 37863576.25 37863576.31 37863576.41 0.0304 0.0288 Uranus 98955-03-13 09:35 G 37863702.84 37863702.90 37863702.99 0.0143 0.0137 Uranus 98956-03-17 11:16 G 37864072.73 37864072.97 37864073.23 0.0143 0.0034 Uranus 98957-03-22 12:57 G 37864442.82 37864443.04 37864443.28 0.0143 0.0069 Neptune 98965-09-22 21:35 G 37867549.36 37867549.40 37867549.49 0.0090 0.0087 Neptune 98966-09-25 08:52 G 37867916.73 37867916.87 37867917.06 0.0089 0.0068 Saturn 98967-04-15 00:57 G 37868118.45 37868118.54 37868118.64 0.0259 0.0236 Neptune 98967-09-27 19:55 G 37868284.14 37868284.33 37868284.56 0.0089 0.0049 Saturn 98968-04-25 11:59 G 37868494.76 37868495.00 37868495.25 0.0258 0.0028 Neptune 98968-09-29 07:11 G 37868651.57 37868651.80 37868652.05 0.0089 0.0030 Saturn 98969-05-06 20:23 G 37868871.18 37868871.35 37868871.54 0.0258 0.0180 Neptune 98969-10-01 18:14 G 37869019.01 37869019.26 37869019.52 0.0089 0.0011 Neptune 98970-10-04 05:02 G 37869386.46 37869386.71 37869386.97 0.0089 0.0009 Jupiter 98971-04-19 07:40 G 37869583.59 37869583.82 37869584.04 0.0497 0.0145 Neptune 98971-10-06 15:50 G 37869753.93 37869754.16 37869754.41 0.0089 0.0027 Neptune 98972-10-08 02:38 G 37870121.41 37870121.61 37870121.84 0.0089 0.0046 Neptune 98973-10-10 13:40 G 37870488.90 37870489.07 37870489.25 0.0089 0.0065 Neptune 98974-10-13 00:14 G 37870856.44 37870856.51 37870856.62 0.0089 0.0084 Saturn 98982-10-15 23:31 G 37873781.31 37873781.48 37873781.65 0.0304 0.0214 Jupiter 98983-04-23 22:47 G 37873971.26 37873971.45 37873971.65 0.0498 0.0269 Saturn 98983-10-31 02:09 G 37874161.38 37874161.59 37874161.82 0.0305 0.0126 Saturn 98997-04-20 17:16 G 37879082.02 37879082.22 37879082.45 0.0258 0.0124 Uranus 98997-09-13 23:16 G 37879228.28 37879228.47 37879228.66 0.0135 0.0090 Saturn 98998-05-02 03:21 G 37879458.41 37879458.64 37879458.88 0.0258 0.0085 Uranus 98998-09-18 05:45 G 37879597.49 37879597.74 37879597.99 0.0135 0.0008 Uranus 98999-09-22 12:43 G 37879966.82 37879967.03 37879967.24 0.0135 0.0075

# 100TH MILLENNIUM CE

### This is a list of transits of Earth in the 100th millennium CE.

FROM MAX- C START MAX END SUNRAD DEPTH S

TRANSIT

TIME

Jupiter 99012-10-18 08:09 G 37884740.61 37884740.84 37884741.07 0.0528 0.0106 99012-10-24 12:28 G 37884746.78 37884747.02 37884747.26 0.0304 0.0033 Jupiter 99024-10-23 09:07 G 37889128.73 37889128.88 37889129.04 0.0528 0.0386 99026-04-16 22:47 G 37889669.33 37889669.45 37889669.60 0.0259 0.0218 Saturn 99027-04-28 09:50 G 37890045.66 37890045.91 37890046.16 0.0258 0.0009 Saturn 99028-05-08 17:59 G 37890422.10 37890422.25 37890422.41 0.0257 0.0197 99038-01-19 00:57 G 37893964.41 37893964.54 37893964.66 0.1633 0.1231 Mars Uranus 99039-03-14 18:57 G 37894384.20 37894384.29 37894384.40 0.0143 0.0132 Uranus 99040-03-18 20:52 G 37894754.12 37894754.37 37894754.62 0.0143 0.0029 Uranus 99041-03-23 22:19 G 37895124.21 37895124.43 37895124.65 0.0143 0.0073 99041-10-17 18:43 G 37895332.10 37895332.28 37895332.46 0.0304 0.0194 Saturn 99042-11-01 21:50 G 37895712.20 37895712.41 37895712.62 0.0305 0.0146 Neptune 99049-03-26 18:14 G 37898049.15 37898049.26 37898049.42 0.0088 0.0075 Neptune 99050-03-29 06:57 G 37898416.60 37898416.79 37898417.00 0.0088 0.0056 Neptune 99051-03-31 19:11 G 37898784.08 37898784.30 37898784.55 0.0088 0.0038 Neptune 99052-04-02 07:40 G 37899151.57 37899151.82 37899152.08 0.0088 0.0019 99052-09-03 05:59 G 37899305.55 37899305.75 37899305.97 0.0063 0.0036 Neptune 99053-04-04 20:23 G 37899519.09 37899519.35 37899519.61 0.0088 0.0001 99053-09-04 16:04 G 37899672.00 37899672.17 37899672.40 0.0064 0.0039 Neptune 99054-04-07 08:38 G 37899886.61 37899886.86 37899887.13 0.0088 0.0018 Jupiter 99054-04-19 20:52 G 37899899.14 37899899.37 37899899.59 0.0498 0.0171 Neptune 99055-04-09 20:52 G 37900254.15 37900254.37 37900254.63 0.0088 0.0037 Neptune 99056-04-11 09:35 G 37900621.70 37900621.90 37900622.11 0.0088 0.0055 Saturn 99056-04-22 13:55 G 37900632.86 37900633.08 37900633.31 0.0258 0.0106 Neptune 99057-04-13 21:50 G 37900989.29 37900989.41 37900989.57 0.0088 0.0074 Saturn 99057-05-03 23:16 G 37901009.25 37901009.47 37901009.71 0.0258 0.0103 Jupiter 99066-04-24 11:16 G 37904286.77 37904286.97 37904287.18 0.0498 0.0238 Saturn 99071-10-26 06:14 G 37906297.52 37906297.76 37906298.00 0.0304 0.0014 Uranus 99081-09-15 07:11 G 37909909.63 37909909.80 37909910.01 0.0135 0.0087 Uranus 99082-09-19 14:09 G 37910278.84 37910279.09 37910279.34 0.0135 0.0005 Uranus 99083-09-23 21:07 G 37910648.19 37910648.38 37910648.59 0.0135 0.0079 Saturn 99085-04-17 18:43 G 37911220.13 37911220.28 37911220.44 0.0259 0.0202 Saturn 99086-04-29 05:31 G 37911596.49 37911596.73 37911596.98 0.0258 0.0009 Saturn 99087-05-10 13:26 G 37911972.93 37911973.06 37911973.21 0.0257 0.0213 Jupiter 99095-10-18 21:50 G 37915056.19 37915056.41 37915056.63 0.0528 0.0134 Saturn 99100-10-19 10:47 G 37916882.76 37916882.95 37916883.15 0.0304 0.0178 Saturn 99101-11-03 13:40 G 37917262.88 37917263.07 37917263.29 0.0305 0.0163 Jupiter 99107-10-24 19:26 G 37919444.13 37919444.31 37919444.48 0.0528 0.0341 Mars 99110-07-27 09:50 G 37920450.77 37920450.91 37920451.06 0.1914 0.1303 Saturn 99115-04-25 08:38 G 37922183.63 37922183.86 37922184.09 0.0258 0.0090 Saturn 99116-05-05 17:59 G 37922560.03 37922560.25 37922560.47 0.0258 0.0118 99117-01-22 04:33 G 37922821.52 37922821.69 37922821.87 0.1629 0.0588 Mars Uranus 99123-03-16 06:28 G 37925065.66 37925065.77 37925065.90 0.0143 0.0125 Uranus 99124-03-20 08:09 G 37925435.59 37925435.84 37925436.10 0.0143 0.0023 Uranus 99125-03-25 09:35 G 37925805.70 37925805.90 37925806.13 0.0143 0.0080 Neptune 99130-09-26 19:40 G 37927817.19 37927817.32 37927817.49 0.0089 0.0073 Saturn 99130-10-27 22:19 G 37927848.19 37927848.43 37927848.68 0.0304 0.0007 Neptune 99131-09-29 07:11 G 37928184.61 37928184.80 37928185.02 0.0089 0.0054 Neptune 99132-09-30 18:14 G 37928552.04 37928552.26 37928552.51 0.0089 0.0035 Neptune 99133-10-03 05:31 G 37928919.48 37928919.73 37928919.98 0.0089 0.0015

Neptune 99134-10-05 16:33 G 37929286.94 37929287.19 37929287.45 0.0089 0.0004 Neptune 99135-10-08 03:21 G 37929654.40 37929654.64 37929654.90 0.0089 0.0023 Neptune 99136-10-09 14:09 G 37930021.88 37930022.09 37930022.33 0.0089 0.0042 Jupiter 99137-04-20 04:19 G 37930214.47 37930214.68 37930214.90 0.0497 0.0217 Neptune 99137-10-12 00:43 G 37930389.37 37930389.53 37930389.74 0.0089 0.0061 Neptune 99138-10-14 11:31 G 37930756.89 37930756.98 37930757.13 0.0089 0.0080 Pluto 99143-03-06 18:43 G 37932361.07 37932361.28 37932361.53 0.0080 0.0039 Saturn 99144-04-19 13:11 G 37932770.89 37932771.05 37932771.23 0.0259 0.0187 Saturn 99145-05-01 00:14 G 37933147.26 37933147.51 37933147.76 0.0258 0.0022 Saturn 99146-05-12 08:09 G 37933523.73 37933523.84 37933523.96 0.0258 0.0228 Jupiter 99149-04-24 19:11 G 37934602.08 37934602.30 37934602.52 0.0497 0.0191 Saturn 99159-10-21 03:21 G 37938433.44 37938433.64 37938433.85 0.0304 0.0161 Saturn 99160-11-04 06:14 G 37938813.57 37938813.76 37938813.96 0.0305 0.0179 Uranus 99165-09-16 16:47 G 37940591.01 37940591.20 37940591.40 0.0135 0.0083 Uranus 99166-09-20 23:45 G 37940960.24 37940960.49 37940960.74 0.0135 0.0001 Uranus 99167-09-25 06:28 G 37941329.59 37941329.77 37941329.98 0.0135 0.0083 Saturn 99174-04-26 02:52 G 37943734.38 37943734.62 37943734.86 0.0258 0.0075 Saturn 99175-05-07 12:28 G 37944110.81 37944111.02 37944111.23 0.0258 0.0133 Jupiter 99178-10-19 06:28 G 37945371.56 37945371.77 37945371.99 0.0528 0.0185 Saturn 99189-10-28 15:07 G 37949398.89 37949399.13 37949399.37 0.0304 0.0020 Jupiter 99190-10-24 06:28 G 37949759.58 37949759.77 37949759.96 0.0528 0.0300 Saturn 99203-04-21 07:55 G 37954321.65 37954321.83 37954322.02 0.0260 0.0172 Saturn 99204-05-01 18:43 G 37954698.04 37954698.28 37954698.53 0.0258 0.0038 Saturn 99205-05-13 02:52 G 37955074.55 37955074.62 37955074.72 0.0258 0.0243 Uranus 99207-03-16 18:28 G 37955747.13 37955747.27 37955747.42 0.0143 0.0118 Uranus 99208-03-20 20:09 G 37956117.09 37956117.34 37956117.61 0.0143 0.0017 Uranus 99209-03-25 21:50 G 37956487.21 37956487.41 37956487.62 0.0143 0.0087 Neptune 99213-03-27 04:33 G 37957949.60 37957949.69 37957949.82 0.0088 0.0079 Neptune 99214-03-29 16:33 G 37958317.03 37958317.19 37958317.40 0.0088 0.0061 Neptune 99215-04-01 05:02 G 37958684.49 37958684.71 37958684.95 0.0088 0.0042

Neptune 99216-04-02 17:16 G 37959051.98 37959052.22 37959052.48 0.0088 0.0024 Neptune 99217-04-05 05:45 G 37959419.48 37959419.74 37959420.01 0.0088 0.0005 Neptune 99218-04-07 18:14 G 37959787.00 37959787.26 37959787.52 0.0088 0.0013 Saturn 99218-10-21 21:21 G 37959984.18 37959984.39 37959984.61 0.0303 0.0144 Neptune 99219-04-10 06:28 G 37960154.53 37960154.77 37960155.02 0.0088 0.0032 Saturn 99219-11-06 00:14 G 37960364.33 37960364.51 37960364.70 0.0305 0.0196 Neptune 99220-04-11 18:43 G 37960522.08 37960522.28 37960522.51 0.0088 0.0051 Jupiter 99220-04-19 17:02 G 37960530.01 37960530.21 37960530.42 0.0497 0.0244 Neptune 99221-04-14 07:26 G 37960889.66 37960889.81 37960889.98 0.0069 Neptune 99222-04-16 19:55 G 37961257.33 37961257.33 37961257.36 0.0088 0.0088 Jupiter 99232-04-24 08:38 G 37964917.64 37964917.86 37964918.08 0.0498 0.0167 Saturn 99233-04-26 22:19 G 37965285.19 37965285.43 37965285.67 0.0259 0.0060 Saturn 99234-05-08 07:40 G 37965661.63 37965661.82 37965662.04 0.0258 0.0149 Saturn 99247-10-15 10:33 G 37970569.89 37970569.94 37970569.99 0.0302 0.0294 Saturn 99248-10-29 10:47 G 37970949.71 37970949.95 37970950.19 0.0304 0.0039 Uranus 99249-09-17 01:26 G 37971272.37 37971272.56 37971272.78 0.0135 0.0080 Uranus 99250-09-21 08:23 G 37971641.60 37971641.85 37971642.11 0.0135 0.0004 Uranus 99251-09-25 15:07 G 37972010.95 37972011.13 37972011.33 0.0135 0.0087 Jupiter 99261-10-18 19:26 G 37975687.10 37975687.31 37975687.52 0.0529 0.0215 Saturn 99262-04-22 03:50 G 37975872.47 37975872.66 37975872.86 0.0260 0.0157 Saturn 99263-05-03 15:07 G 37976248.89 37976249.13 37976249.38 0.0258 0.0054 Jupiter 99273-10-23 18:14 G 37980075.06 37980075.26 37980075.46 0.0529 0.0266 Saturn 99277-10-22 19:11 G 37981535.09 37981535.30 37981535.53 0.0303 0.0124 Saturn 99278-11-06 21:50 G 37981915.25 37981915.41 37981915.58 0.0305 0.0216 Uranus 99291-03-17 05:02 G 37986428.56 37986428.71 37986428.87 0.0143 0.0113 Saturn 99291-04-17 05:45 G 37986459.70 37986459.74 37986459.79 0.0260 0.0255 Uranus 99292-03-21 06:43 G 37986798.53 37986798.78 37986799.04 0.0143 0.0010 Saturn 99292-04-27 19:26 G 37986836.06 37986836.31 37986836.56 0.0259 0.0043 Uranus 99293-03-26 08:09 G 37987168.66 37987168.84 37987169.05 0.0143 0.0093 Saturn 99293-05-09 05:16 G 37987212.54 37987212.72 37987212.92 0.0258 0.0165

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Saturn 99425-11-05 05:02 G 38035603.49 38035603.71 38035603.94 0.0304 0.0122 Jupiter 99427-10-20 03:07 G 38036317.46 38036317.63 38036317.80 0.0529 0.0351 Saturn 99439-04-28 08:52 G 38040525.65 38040525.87 38040526.11 0.0260 0.0099 Jupiter 99439-10-25 00:28 G 38040705.30 38040705.52 38040705.74 0.0529 0.0125 Saturn 99440-05-08 21:07 G 38040902.16 38040902.38 38040902.61 0.0259 0.0112 Saturn 99454-10-30 00:28 G 38046189.28 38046189.52 38046189.76 0.0303 0.0030 Neptune 99458-09-27 17:31 G 38047618.16 38047618.23 38047618.35 0.0090 0.0083 Uranus 99459-03-19 19:26 G 38047791.16 38047791.31 38047791.49 0.0143 0.0109 Neptune 99459-09-30 04:47 G 38047985.54 38047985.70 38047985.89 0.0090 0.0064 Uranus 99460-03-23 21:21 G 38048161.13 38048161.39 38048161.65 0.0143 0.0005 Neptune 99460-10-01 16:04 G 38048352.96 38048353.17 38048353.40 0.0089 0.0045 Uranus 99461-03-28 22:33 G 38048531.27 38048531.44 38048531.64 0.0143 0.0099 Neptune 99461-10-04 03:07 G 38048720.40 38048720.63 38048720.88 0.0089 0.0026 Neptune 99462-10-06 14:23 G 38049087.85 38049088.10 38049088.36 0.0089 0.0007 Neptune 99463-10-09 01:40 G 38049455.32 38049455.57 38049455.82 0.0089 0.0013 Neptune 99464-10-10 12:43 G 38049822.79 38049823.03 38049823.27 0.0089 0.0032 Neptune 99465-10-12 23:02 G 38050190.28 38050190.46 38050190.69 0.0089 0.0052 Neptune 99466-10-15 10:33 G 38050557.79 38050557.94 38050558.10 0.0089 0.0070 Neptune 99467-10-17 21:07 G 38050925.36 38050925.38 38050925.42 0.0089 0.0089 Saturn 99468-04-22 15:50 G 38051112.99 38051113.16 38051113.33 0.0261 0.0194 Jupiter 99469-04-20 12:14 G 38051475.87 38051476.01 38051476.16 0.0497 0.0390 Saturn 99469-05-04 05:45 G 38051489.49 38051489.74 38051489.99 0.0259 0.0019 Saturn 99470-05-15 16:33 G 38051866.08 38051866.19 38051866.32 0.0258 0.0227 Jupiter 99481-04-25 01:40 G 38055863.34 38055863.57 38055863.81 0.0497 0.0013 Saturn 99483-10-23 22:33 G 38056775.25 38056775.44 38056775.64 0.0302 0.0176 Saturn 99484-11-06 22:47 G 38057155.25 38057155.45 38057155.66 0.0304 0.0160 Jupiter 99493-04-29 13:11 G 38060250.93 38060251.05 38060251.20 0.0497 0.0407 Saturn 99498-04-29 17:16 G 38062076.98 38062077.22 38062077.46 0.0260 0.0074 Saturn 99499-05-11 05:16 G 38062453.52 38062453.72 38062453.94 0.0259 0.0136 Uranus 99501-09-21 05:45 G 38063316.53 38063316.74 38063316.96 0.0135 0.0068

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Jupiter 99564-04-25 02:09 G 38086178.36 38086178.59 38086178.83 0.0496 0.0061 Saturn 99571-10-20 22:04 G 38088913.33 38088913.42 38088913.53 0.0301 0.0275 Saturn 99572-11-03 20:09 G 38089293.11 38089293.34 38089293.58 0.0303 0.0055 Jupiter 99576-04-29 12:28 G 38090565.84 38090566.02 38090566.19 0.0497 0.0329 Uranus 99585-09-21 13:40 G 38093997.87 38093998.07 38093998.31 0.0135 0.0065 Saturn 99586-04-27 12:28 G 38094215.82 38094216.02 38094216.23 0.0260 0.0141 Uranus 99586-09-25 20:38 G 38094367.11 38094367.36 38094367.61 0.0135 0.0019 Saturn 99587-05-09 02:09 G 38094592.35 38094592.59 38094592.83 0.0259 0.0070 Uranus 99587-09-30 02:38 G 38094736.47 38094736.61 38094736.79 0.0135 0.0103 Saturn 99601-10-28 20:09 G 38099879.11 38099879.34 38099879.57 0.0303 0.0090 Saturn 99602-11-12 21:07 G 38100259.24 38100259.38 38100259.52 0.0304 0.0245 Jupiter 99605-10-23 18:14 G 38101335.03 38101335.26 38101335.49 0.0529 0.0068 Mars 99606-01-25 06:28 G 38101428.58 38101428.77 38101428.95 0.1642 0.0277 Saturn 99615-04-22 23:31 G 38104803.38 38104803.48 38104803.60 0.0261 0.0234 Saturn 99616-05-03 14:38 G 38105179.86 38105180.11 38105180.36 0.0260 0.0021 Saturn 99617-05-15 02:23 G 38105556.43 38105556.60 38105556.77 0.0259 0.0187 Jupiter 99617-10-28 13:26 G 38105722.92 38105723.06 38105723.22 0.0529 0.0400 Neptune 99622-09-28 04:04 G 38107518.65 38107518.67 38107518.75 0.0090 0.0088 Neptune 99623-09-30 15:21 G 38107886.00 38107886.14 38107886.32 0.0090 0.0069 Neptune 99624-10-02 02:38 G 38108253.41 38108253.61 38108253.83 0.0090 0.0050 Neptune 99625-10-04 13:40 G 38108620.85 38108621.07 38108621.32 0.0089 0.0031 Neptune 99626-10-07 00:57 G 38108988.29 38108988.54 38108988.80 0.0089 0.0012 Uranus 99627-03-21 12:57 G 38109153.86 38109154.04 38109154.23 0.0143 0.0100 Neptune 99627-10-09 11:59 G 38109355.75 38109356.00 38109356.26 0.0089 0.0008 Uranus 99628-03-25 14:23 G 38109523.84 38109524.10 38109524.36 0.0143 0.0004 Neptune 99628-10-10 23:16 G 38109723.23 38109723.47 38109723.71 0.0089 0.0027 Uranus 99629-03-30 15:21 G 38109893.98 38109894.14 38109894.32 0.0143 0.0108 Neptune 99629-10-13 10:33 G 38110090.72 38110090.94 38110091.15 0.0089 0.0046 Neptune 99630-10-15 21:21 G 38110458.22 38110458.39 38110458.57 0.0089 0.0065 Saturn 99630-10-22 21:35 G 38110465.26 38110465.40 38110465.56 0.0301 0.0231

Neptune 99631-10-18 08:09 G 38110825.77 38110825.84 38110825.94 0.0089 0.0084 Saturn 99631-11-06 20:38 G 38110845.13 38110845.36 38110845.59 0.0303 0.0100 99637-03-11 07:55 G 38112796.68 38112796.83 38112797.02 0.0081 0.0061 Pluto Saturn 99645-04-29 00:14 G 38115767.29 38115767.51 38115767.74 0.0260 0.0113 Saturn 99646-05-10 13:11 G 38116143.82 38116144.05 38116144.28 0.0259 0.0097 Jupiter 99647-04-24 23:45 G 38116493.26 38116493.49 38116493.72 0.0497 0.0142 Jupiter 99659-04-29 13:11 G 38120880.85 38120881.05 38120881.25 0.0497 0.0257 Saturn 99660-10-30 18:28 G 38121431.04 38121431.27 38121431.52 0.0303 0.0047 Saturn 99661-11-14 20:09 G 38121811.27 38121811.34 38121811.42 0.0304 0.0288 Uranus 99669-09-21 23:02 G 38124679.25 38124679.46 38124679.70 0.0135 0.0061 Uranus 99670-09-26 05:45 G 38125048.50 38125048.74 38125048.99 0.0135 0.0023 Uranus 99671-09-30 11:59 G 38125417.87 38125418.00 38125418.17 0.0135 0.0107 Saturn 99674-04-24 11:02 G 38126354.81 38126354.96 38126355.11 0.0261 0.0205 Saturn 99675-05-06 01:26 G 38126731.31 38126731.56 38126731.81 0.0260 0.0008 Saturn 99676-05-16 12:43 G 38127107.90 38127108.03 38127108.17 0.0259 0.0213 Mars 99678-07-29 00:14 G 38127911.33 38127911.51 38127911.69 0.1895 0.0783 Jupiter 99688-10-22 14:52 G 38131649.90 38131650.12 38131650.34 0.0529 0.0163 Saturn 99689-10-24 18:28 G 38132017.09 38132017.27 38132017.46 0.0302 0.0189 Saturn 99690-11-08 18:14 G 38132397.05 38132397.26 38132397.47 0.0303 0.0143 Jupiter 99700-10-28 14:09 G 38136037.91 38136038.09 38136038.28 0.0529 0.0318 Saturn 99704-05-01 10:47 G 38137318.72 38137318.95 38137319.19 0.0260 0.0086 Saturn 99705-05-12 23:02 G 38137695.24 38137695.46 38137695.68 0.0259 0.0123 Neptune 99706-03-31 21:07 G 38138018.27 38138018.38 38138018.53 0.0088 0.0075 Neptune 99707-04-03 09:21 G 38138385.72 38138385.89 38138386.12 0.0088 0.0057 Neptune 99708-04-04 21:50 G 38138753.19 38138753.41 38138753.66 0.0088 0.0038 Neptune 99709-04-07 10:33 G 38139120.68 38139120.94 38139121.19 0.0088 0.0019 Neptune 99710-04-09 22:47 G 38139488.19 38139488.45 38139488.71 0.0088 0.0000 Uranus 99711-03-23 00:14 G 38139835.33 38139835.51 38139835.72 0.0143 0.0093 Neptune 99711-04-12 11:02 G 38139855.71 38139855.96 38139856.22 0.0088 0.0018 Uranus 99712-03-27 01:40 G 38140205.32 38140205.57 38140205.83 0.0143 0.0011

Neptune 99712-04-13 23:02 G 38140223.23 38140223.46 38140223.71 0.0088 0.0037 Uranus 99713-04-01 03:07 G 38140575.48 38140575.63 38140575.79 0.0143 0.0114 Neptune 99713-04-16 11:31 G 38140590.78 38140590.98 38140591.19 0.0088 0.0055 Neptune 99714-04-18 23:31 G 38140958.36 38140958.48 38140958.64 0.0088 0.0074 Saturn 99719-11-03 13:40 G 38142982.83 38142983.07 38142983.31 0.0303 0.0006 Jupiter 99730-04-25 02:52 G 38146808.40 38146808.62 38146808.83 0.0497 0.0203 Saturn 99733-04-26 20:38 G 38147906.19 38147906.36 38147906.55 0.0261 0.0178 Saturn 99734-05-08 10:33 G 38148282.69 38148282.94 38148283.19 0.0259 0.0033 Saturn 99735-05-19 21:07 G 38148659.29 38148659.38 38148659.48 0.0259 0.0238 Jupiter 99742-04-29 15:35 G 38151195.93 38151196.15 38151196.37 0.0497 0.0192 Saturn 99748-10-27 11:16 G 38153568.76 38153568.97 38153569.18 0.0302 0.0150 Saturn 99749-11-11 11:31 G 38153948.80 38153948.98 38153949.18 0.0304 0.0183 Uranus 99753-09-23 07:55 G 38155360.61 38155360.83 38155361.06 0.0135 0.0057 Uranus 99754-09-27 14:38 G 38155729.86 38155730.11 38155730.36 0.0135 0.0026 Uranus 99755-10-01 21:07 G 38156099.24 38156099.38 38156099.53 0.0135 0.0110 Saturn 99763-05-03 19:11 G 38158870.06 38158870.30 38158870.55 0.0259 0.0060 Saturn 99764-05-14 06:28 G 38159246.58 38159246.77 38159246.99 0.0258 0.0149 Jupiter 99771-10-23 16:19 G 38161964.98 38161965.18 38161965.38 0.0529 0.0241 Saturn 99777-10-21 05:02 G 38164154.67 38164154.71 38164154.76 0.0302 0.0295 Saturn 99778-11-05 03:21 G 38164534.40 38164534.64 38164534.88 0.0304 0.0031 Jupiter 99783-10-28 12:28 G 38166352.82 38166353.02 38166353.24 0.0529 0.0226 Neptune 99787-10-01 02:09 G 38167786.47 38167786.59 38167786.75 0.0090 0.0074 Neptune 99788-10-02 13:26 G 38168153.87 38168154.06 38168154.27 0.0090 0.0055 Neptune 99789-10-05 00:43 G 38168521.30 38168521.53 38168521.77 0.0090 0.0036 Neptune 99790-10-07 11:31 G 38168888.74 38168888.98 38168889.24 0.0089 0.0017 Neptune 99791-10-09 22:33 G 38169256.19 38169256.44 38169256.70 0.0089 0.0003 Saturn 99792-04-28 03:35 G 38169457.46 38169457.65 38169457.86 0.0260 0.0152 Neptune 99792-10-11 09:35 G 38169623.66 38169623.90 38169624.15 0.0089 0.0022 Saturn 99793-05-09 16:47 G 38169833.95 38169834.20 38169834.44 0.0259 0.0057 Neptune 99793-10-13 20:38 G 38169991.14 38169991.36 38169991.59 0.0089 0.0041

Pluto 99794-09-13 13:11 G 38170325.91 38170326.05 38170326.26 0.0063 0.0047 Neptune 99794-10-16 07:40 G 38170358.64 38170358.82 38170359.01 0.0089 0.0060 Uranus 99795-03-23 12:14 G 38170516.82 38170517.01 38170517.22 0.0143 0.0087 Pluto 99795-09-15 00:14 G 38170692.30 38170692.51 38170692.76 0.0064 0.0028 Neptune 99795-10-18 18:28 G 38170726.17 38170726.27 38170726.40 0.0089 0.0079 Uranus 99796-03-27 13:55 G 38170886.82 38170887.08 38170887.34 0.0143 0.0018 Uranus 99797-04-01 15:07 G 38171257.01 38171257.13 38171257.28 0.0143 0.0122 Saturn 99807-10-30 22:04 G 38175120.20 38175120.42 38175120.64 0.0302 0.0116 Saturn 99808-11-13 23:02 G 38175500.30 38175500.46 38175500.64 0.0304 0.0217 99811-01-26 02:52 G 38176303.46 38176303.62 38176303.78 0.1652 0.0890 Mars Jupiter 99813-04-25 02:23 G 38177123.41 38177123.60 38177123.80 0.0497 0.0280 Saturn 99821-04-24 10:33 G 38180044.86 38180044.94 38180045.03 0.0261 0.0245 Saturn 99822-05-06 00:57 G 38180421.29 38180421.54 38180421.79 0.0259 0.0035 Saturn 99823-05-17 11:31 G 38180797.81 38180797.98 38180798.18 0.0258 0.0171 Jupiter 99825-04-29 16:04 G 38181510.94 38181511.17 38181511.40 0.0497 0.0118 Saturn 99836-10-23 12:28 G 38185705.91 38185706.02 38185706.14 0.0302 0.0265 Uranus 99837-09-24 17:59 G 38186042.02 38186042.25 38186042.48 0.0135 0.0053 Saturn 99837-11-07 11:31 G 38186085.75 38186085.98 38186086.22 0.0304 0.0063 Uranus 99838-09-29 00:14 G 38186411.27 38186411.51 38186411.76 0.0135 0.0031 Uranus 99839-10-03 06:28 G 38186780.66 38186780.77 38186780.92 0.0135 0.0115 Saturn 99851-05-01 07:26 G 38191008.61 38191008.81 38191009.04 0.0260 0.0129 Saturn 99852-05-11 19:55 G 38191385.09 38191385.33 38191385.57 0.0259 0.0080 Jupiter 99854-10-23 16:47 G 38192280.03 38192280.20 38192280.39 0.0529 0.0324 Jupiter 99866-10-28 16:47 G 38196667.98 38196668.20 38196668.42 0.0529 0.0157 Saturn 99866-11-01 03:07 G 38196671.40 38196671.63 38196671.86 0.0303 0.0087 Saturn 99867-11-16 04:33 G 38197051.56 38197051.69 38197051.84 0.0304 0.0246 Neptune 99870-04-01 05:59 G 38197918.65 38197918.75 38197918.86 0.0088 0.0080 Neptune 99871-04-03 17:59 G 38198286.08 38198286.25 38198286.45 0.0088 0.0062 Neptune 99872-04-05 06:28 G 38198653.55 38198653.77 38198654.01 0.0088 0.0043 Neptune 99873-04-07 18:43 G 38199021.04 38199021.28 38199021.55 0.0088 0.0025

Neptune 99874-04-10 07:11 G 38199388.55 38199388.80 38199389.07 0.0088 0.0006 Neptune 99875-04-12 19:40 G 38199756.06 38199756.32 38199756.58 0.0088 0.0013 Neptune 99876-04-14 07:40 G 38200123.59 38200123.82 38200124.08 0.0088 0.0032 Neptune 99877-04-16 19:55 G 38200491.13 38200491.33 38200491.56 0.0088 0.0051 Neptune 99878-04-19 08:23 G 38200858.70 38200858.85 38200859.02 0.0088 0.0069 Uranus 99879-03-24 21:50 G 38201198.22 38201198.41 38201198.64 0.0143 0.0083 Neptune 99879-04-21 20:38 G 38201226.36 38201226.36 38201226.40 0.0088 0.0088 Uranus 99880-03-28 23:45 G 38201568.24 38201568.49 38201568.75 0.0143 0.0023 Saturn 99880-04-25 13:26 G 38201595.94 38201596.06 38201596.20 0.0261 0.0223 Uranus 99881-04-03 01:11 G 38201938.45 38201938.55 38201938.69 0.0143 0.0127 Saturn 99881-05-07 03:21 G 38201972.39 38201972.64 38201972.89 0.0259 0.0013 Saturn 99882-05-18 13:11 G 38202348.90 38202349.05 38202349.23 0.0258 0.0192 Pluto 99885-03-16 00:57 G 38203381.28 38203381.54 38203381.80 0.0080 0.0017 99890-01-28 08:09 G 38205160.69 38205160.84 38205160.99 0.1647 0.1008 Mars Saturn 99895-10-25 13:26 G 38207256.93 38207257.06 38207257.21 0.0302 0.0241 Jupiter 99896-04-24 10:19 G 38207438.76 38207438.93 38207439.12 0.0497 0.0325 Saturn 99896-11-08 13:11 G 38207636.83 38207637.05 38207637.29 0.0304 0.0089 Jupiter 99908-04-30 02:09 G 38211826.35 38211826.59 38211826.82 0.0497 0.0081 Saturn 99910-05-03 08:23 G 38212559.63 38212559.85 38212560.08 0.0260 0.0108 Saturn 99911-05-14 20:09 G 38212936.11 38212936.34 38212936.57 0.0258 0.0100 Jupiter 99920-05-04 16:04 G 38216214.11 38216214.17 38216214.23 0.0497 0.0480 Uranus 99920-09-21 20:38 G 38216354.34 38216354.36 38216354.41 0.0135 0.0133 Uranus 99921-09-26 03:07 G 38216723.41 38216723.63 38216723.87 0.0135 0.0049 Uranus 99922-09-30 09:35 G 38217092.67 38217092.90 38217093.15 0.0135 0.0035 Uranus 99923-10-04 15:50 G 38217462.07 38217462.16 38217462.30 0.0135 0.0119 Saturn 99925-11-03 02:38 G 38218222.38 38218222.61 38218222.85 0.0303 0.0063 Saturn 99926-11-18 04:33 G 38218602.59 38218602.69 38218602.81 0.0304 0.0270 Jupiter 99937-10-24 05:16 G 38222595.56 38222595.72 38222595.89 0.0529 0.0359 Saturn 99939-04-28 13:26 G 38223146.91 38223147.06 38223147.22 0.0261 0.0203 Saturn 99940-05-09 02:52 G 38223523.37 38223523.62 38223523.87 0.0259 0.0006

Saturn 99941-05-20 12:28 G 38223899.88 38223900.02 38223900.16 0.0258 0.0210 Jupiter 99949-10-29 04:04 G 38226983.44 38226983.67 38226983.89 0.0529 0.0119 Neptune 99951-10-02 12:14 G 38227686.92 38227687.01 38227687.15 0.0090 0.0080 Neptune 99952-10-03 23:16 G 38228054.31 38228054.47 38228054.69 0.0090 0.0061 Neptune 99953-10-06 10:33 G 38228421.73 38228421.94 38228422.19 0.0090 0.0042 Neptune 99954-10-08 22:04 G 38228789.17 38228789.42 38228789.67 0.0089 0.0022 Saturn 99954-10-27 10:47 G 38228807.79 38228807.95 38228808.12 0.0302 0.0220 Neptune 99955-10-11 09:07 G 38229156.63 38229156.88 38229157.14 0.0089 0.0003 Saturn 99955-11-11 10:33 G 38229187.73 38229187.94 38229188.18 0.0304 0.0111 Neptune 99956-10-12 20:09 G 38229524.09 38229524.34 38229524.59 0.0089 0.0016 Neptune 99957-10-15 06:57 G 38229891.57 38229891.79 38229892.03 0.0089 0.0036 Neptune 99958-10-17 17:45 G 38230259.06 38230259.24 38230259.46 0.0089 0.0055 Neptune 99959-10-20 04:47 G 38230626.57 38230626.70 38230626.86 0.0089 0.0074 99962-07-31 10:04 G 38231641.83 38231641.92 38231642.02 0.1885 0.1637 Mars Uranus 99963-03-26 06:14 G 38231879.55 38231879.76 38231879.98 0.0143 0.0079 Uranus 99964-03-30 08:09 G 38232249.59 38232249.84 38232250.10 0.0143 0.0026 Uranus 99965-04-04 09:35 G 38232619.82 38232619.90 38232620.02 0.0143 0.0131 Saturn 99969-05-04 06:14 G 38234110.53 38234110.76 38234111.00 0.0259 0.0090 Saturn 99970-05-15 17:59 G 38234487.03 38234487.25 38234487.47 0.0258 0.0118 Jupiter 99979-04-25 22:19 G 38237754.27 38237754.43 38237754.60 0.0497 0.0356 Saturn 99984-11-03 21:50 G 38239773.17 38239773.41 38239773.65 0.0303 0.0044 Saturn 99985-11-18 23:59 G 38240153.44 38240153.50 38240153.58 0.0304 0.0289 Jupiter 99991-04-30 08:09 G 38242141.60 38242141.84 38242142.07 0.0497 0.0029 Saturn 99998-04-29 11:02 G 38244697.79 38244697.96 38244698.14 0.0261 0.0185 Saturn 99999-05-10 23:59 G 38245074.26 38245074.50 38245074.75 0.0259 0.0024 Saturn 100000-05-21 09:21 G 38245450.78 38245450.89 38245451.01 0.0258 0.0227

# 101ST MILLENNIUM CE

#### This is a list of transits of Earth in the 101st millennium CE.

FROM MAX- C START MAX END SUNRAD DEPTH S

TRANSIT

TIME

Jupiter 100003-05-04 22:19 G 38246529.32 38246529.43 38246529.56 0.0497 0.0428 Uranus 100004-09-22 07:26 G 38247035.74 38247035.81 38247035.89 0.0135 0.0128 Uranus 100005-09-26 13:40 G 38247404.85 38247405.07 38247405.32 0.0135 0.0045 Uranus 100006-09-30 20:23 G 38247774.11 38247774.35 38247774.59 0.0135 0.0040 Uranus 100007-10-05 02:38 G 38248143.53 38248143.61 38248143.73 0.0135 0.0124 Saturn 100013-10-28 04:47 G 38250358.52 38250358.70 38250358.87 0.0302 0.0203 Saturn 100014-11-12 04:33 G 38250738.47 38250738.69 38250738.91 0.0304 0.0128 Jupiter 100020-10-23 15:21 G 38252911.00 38252911.14 38252911.29 0.0529 0.0401 Saturn 100028-05-05 02:23 G 38255661.36 38255661.60 38255661.84 0.0259 0.0073 Saturn 100029-05-16 13:40 G 38256037.87 38256038.07 38256038.29 0.0258 0.0134 Jupiter 100032-10-28 11:31 G 38257298.76 38257298.98 38257299.21 0.0529 0.0064 Neptune 100034-04-01 14:09 G 38257819.06 38257819.09 38257819.17 0.0088 0.0086 Neptune 100035-04-04 02:23 G 38258186.45 38258186.60 38258186.79 0.0088 0.0067 Neptune 100036-04-05 14:38 G 38258553.91 38258554.11 38258554.35 0.0088 0.0049 Neptune 100037-04-08 02:52 G 38258921.39 38258921.62 38258921.89 0.0088 0.0030 Neptune 100038-04-10 15:35 G 38259288.90 38259289.15 38259289.42 0.0088 0.0011 Neptune 100039-04-13 03:50 G 38259656.41 38259656.66 38259656.93 0.0088 0.0008 Neptune 100040-04-14 16:04 G 38260023.93 38260024.17 38260024.43 0.0088 0.0027 Neptune 100041-04-17 04:04 G 38260391.47 38260391.67 38260391.92 0.0088 0.0046 Neptune 100042-04-19 16:47 G 38260759.04 38260759.20 38260759.39 0.0088 0.0064 Pluto 100042-09-17 16:47 G 38260909.97 38260910.20 38260910.46 0.0063 0.0019 Neptune 100043-04-22 04:33 G 38261126.63 38261126.69 38261126.80 0.0088 0.0083

Pluto 100043-09-19 03:50 G 38261276.56 38261276.66 38261276.79 0.0064 0.0056 Saturn 100043-11-05 15:21 G 38261323.90 38261324.14 38261324.38 0.0303 0.0027 Uranus 100047-03-26 12:57 G 38262560.84 38262561.04 38262561.27 0.0143 0.0077 Uranus 100048-03-30 15:07 G 38262930.88 38262931.13 38262931.38 0.0143 0.0029 Uranus 100049-04-04 17:02 G 38263301.13 38263301.21 38263301.31 0.0143 0.0134 Saturn 100057-04-30 06:28 G 38266248.60 38266248.77 38266248.97 0.0261 0.0170 Saturn 100058-05-11 19:40 G 38266625.08 38266625.32 38266625.57 0.0259 0.0040 Saturn 100059-05-23 05:02 G 38267001.63 38267001.71 38267001.80 0.0258 0.0242 Jupiter 100062-04-25 05:59 G 38268069.62 38268069.75 38268069.90 0.0496 0.0400 Saturn 100072-10-28 21:07 G 38271909.20 38271909.38 38271909.58 0.0302 0.0187 Saturn 100073-11-12 21:07 G 38272289.17 38272289.38 38272289.59 0.0304 0.0143 Jupiter 100074-04-29 21:07 G 38272457.14 38272457.38 38272457.62 0.0497 0.0004 Jupiter 100086-05-04 12:14 G 38276844.89 38276845.01 38276845.15 0.0497 0.0407 Saturn 100087-05-06 21:35 G 38277212.16 38277212.40 38277212.65 0.0259 0.0058 Saturn 100088-05-17 08:52 G 38277588.68 38277588.87 38277589.08 0.0258 0.0149 Uranus 100088-09-22 16:47 G 38277717.12 38277717.20 38277717.32 0.0135 0.0124 Uranus 100089-09-26 23:31 G 38278086.24 38278086.48 38278086.72 0.0135 0.0040 Uranus 100090-10-01 05:59 G 38278455.52 38278455.75 38278456.00 0.0135 0.0045 Uranus 100091-10-05 12:28 G 38278824.97 38278825.02 38278825.11 0.0135 0.0129 Mars 100095-01-28 03:35 G 38280035.47 38280035.65 38280035.84 0.1657 0.0187 Saturn 100102-11-07 07:55 G 38282874.59 38282874.83 38282875.07 0.0303 0.0011 Jupiter 100103-10-25 01:26 G 38283226.44 38283226.56 38283226.69 0.0529 0.0445 Neptune 100115-10-02 21:35 G 38287587.35 38287587.40 38287587.51 0.0090 0.0086 Jupiter 100115-10-30 02:09 G 38287614.37 38287614.59 38287614.82 0.0530 0.0041 Saturn 100116-05-02 01:40 G 38287799.38 38287799.57 38287799.78 0.0261 0.0155 Neptune 100116-10-04 09:35 G 38287954.73 38287954.90 38287955.07 0.0090 0.0066 Saturn 100117-05-13 15:07 G 38288175.89 38288176.13 38288176.37 0.0259 0.0054 Neptune 100117-10-06 20:23 G 38288322.15 38288322.35 38288322.58 0.0090 0.0047 Saturn 100118-05-25 00:28 G 38288552.51 38288552.52 38288552.55 0.0258 0.0257 Neptune 100118-10-09 07:26 G 38288689.58 38288689.81 38288690.07 0.0090 0.0028

Neptune 100119-10-11 18:43 G 38289057.04 38289057.28 38289057.54 0.0090 0.0009 Neptune 100120-10-13 05:45 G 38289424.49 38289424.74 38289425.00 0.0089 0.0011 Neptune 100121-10-15 16:33 G 38289791.96 38289792.19 38289792.44 0.0089 0.0030 Neptune 100122-10-18 03:07 G 38290159.44 38290159.63 38290159.87 0.0089 0.0050 Neptune 100123-10-20 14:09 G 38290526.95 38290527.09 38290527.28 0.0089 0.0069 Neptune 100124-10-22 00:57 G 38290894.51 38290894.54 38290894.62 0.0089 0.0087 Jupiter 100127-11-04 01:26 G 38292002.53 38292002.56 38292002.61 0.0529 0.0519 Uranus 100131-03-27 21:50 G 38293242.19 38293242.41 38293242.63 0.0143 0.0072 Saturn 100131-10-31 15:35 G 38293459.96 38293460.15 38293460.36 0.0302 0.0170 Pluto 100132-03-18 05:45 G 38293598.67 38293598.74 38293598.86 0.0081 0.0075 Uranus 100132-03-31 23:31 G 38293612.24 38293612.48 38293612.74 0.0143 0.0034 Saturn 100132-11-14 15:07 G 38293839.93 38293840.13 38293840.34 0.0304 0.0160 Uranus 100133-04-06 01:11 G 38293982.51 38293982.55 38293982.64 0.0143 0.0139 Jupiter 100145-04-25 19:26 G 38298385.19 38298385.31 38298385.44 0.0497 0.0423 Saturn 100145-04-27 00:57 G 38298386.49 38298386.54 38298386.60 0.0262 0.0254 Saturn 100146-05-08 16:47 G 38298762.96 38298763.20 38298763.45 0.0260 0.0043 Saturn 100147-05-20 04:04 G 38299139.49 38299139.67 38299139.87 0.0258 0.0165 Jupiter 100157-04-30 10:04 G 38302772.69 38302772.92 38302773.16 0.0497 0.0025 Saturn 100161-11-08 02:23 G 38304425.36 38304425.60 38304425.85 0.0303 0.0008 Jupiter 100169-05-04 20:38 G 38307160.21 38307160.36 38307160.53 0.0496 0.0365 Uranus 100172-09-24 03:07 G 38308398.53 38308398.63 38308398.77 0.0135 0.0119 Uranus 100173-09-28 09:50 G 38308767.68 38308767.91 38308768.16 0.0135 0.0035 Uranus 100174-10-02 16:47 G 38309136.97 38309137.20 38309137.43 0.0135 0.0050 Saturn 100175-05-03 21:21 G 38309350.19 38309350.39 38309350.61 0.0261 0.0140 Uranus 100175-10-06 23:02 G 38309506.46 38309506.46 38309506.49 0.0135 0.0135 Saturn 100176-05-14 11:02 G 38309726.72 38309726.96 38309727.20 0.0259 0.0070 Jupiter 100186-10-24 13:40 G 38313541.97 38313542.07 38313542.17 0.0530 0.0474 Saturn 100190-11-01 12:14 G 38315010.81 38315011.01 38315011.22 0.0302 0.0152 Saturn 100191-11-16 11:16 G 38315390.79 38315390.97 38315391.18 0.0304 0.0179 Jupiter 100198-10-29 12:14 G 38317929.78 38317930.01 38317930.24 0.0529 0.0003

Neptune 100199-04-04 10:04 G 38318086.80 38318086.92 38318087.09 0.0088 0.0073 Neptune 100200-04-06 22:19 G 38318454.24 38318454.43 38318454.65 0.0088 0.0054 Neptune 100201-04-09 11:02 G 38318821.72 38318821.96 38318822.20 0.0088 0.0035 Neptune 100202-04-11 23:02 G 38319189.21 38319189.46 38319189.72 0.0088 0.0017 Neptune 100203-04-14 11:31 G 38319556.72 38319556.98 38319557.24 0.0088 0.0002 Neptune 100204-04-15 23:45 G 38319924.24 38319924.49 38319924.75 0.0088 0.0021 Saturn 100204-04-28 20:52 G 38319937.28 38319937.37 38319937.48 0.0262 0.0240 Neptune 100205-04-18 11:59 G 38320291.78 38320292.00 38320292.25 0.0088 0.0040 Saturn 100205-05-10 13:11 G 38320313.81 38320314.05 38320314.30 0.0260 0.0028 Neptune 100206-04-20 23:59 G 38320659.33 38320659.50 38320659.72 0.0088 0.0059 Saturn 100206-05-22 00:43 G 38320690.37 38320690.53 38320690.72 0.0258 0.0180 Neptune 100207-04-23 12:14 G 38321026.92 38321027.01 38321027.17 0.0088 0.0078 Jupiter 100210-11-04 08:09 G 38322317.73 38322317.84 38322317.95 0.0529 0.0461 Uranus 100215-03-29 08:52 G 38323923.65 38323923.87 38323924.11 0.0143 0.0066 Uranus 100216-04-02 10:47 G 38324293.71 38324293.95 38324294.20 0.0143 0.0040 Saturn 100219-10-27 05:02 G 38325596.68 38325596.71 38325596.75 0.0300 0.0296 Saturn 100220-11-10 01:11 G 38325976.31 38325976.55 38325976.79 0.0303 0.0027 Jupiter 100228-04-26 03:35 G 38328700.58 38328700.65 38328700.75 0.0496 0.0461 Saturn 100234-05-05 18:57 G 38330901.07 38330901.29 38330901.51 0.0261 0.0124 Saturn 100235-05-17 08:38 G 38331277.63 38331277.86 38331278.10 0.0259 0.0085 Jupiter 100240-04-30 17:31 G 38333088.00 38333088.23 38333088.47 0.0496 0.0067 Saturn 100249-11-03 13:55 G 38336561.86 38336562.08 38336562.30 0.0301 0.0129 Saturn 100250-11-18 12:28 G 38336941.85 38336942.02 38336942.21 0.0304 0.0201 Jupiter 100252-05-05 06:43 G 38337475.61 38337475.78 38337475.97 0.0496 0.0330 Uranus 100256-09-25 13:26 G 38339079.94 38339080.06 38339080.21 0.0135 0.0114 Uranus 100257-09-29 20:09 G 38339449.10 38339449.34 38339449.59 0.0135 0.0030 Uranus 100258-10-04 02:52 G 38339818.40 38339818.62 38339818.85 0.0135 0.0055 Saturn 100263-04-30 18:57 G 38341488.18 38341488.29 38341488.43 0.0262 0.0224 Saturn 100264-05-11 11:45 G 38341864.75 38341864.99 38341865.24 0.0260 0.0012 Saturn 100265-05-22 23:59 G 38342241.35 38342241.50 38342241.67 0.0259 0.0196

Saturn 100278-10-28 08:38 G 38347147.77 38347147.86 38347147.97 0.0300 0.0272 Saturn 100279-11-12 04:33 G 38347527.46 38347527.69 38347527.94 0.0303 0.0052 Neptune 100280-10-04 17:45 G 38347855.12 38347855.24 38347855.42 0.0090 0.0073 Neptune 100281-10-07 05:31 G 38348222.53 38348222.73 38348222.94 0.0090 0.0053 Jupiter 100281-10-29 16:47 G 38348244.98 38348245.20 38348245.43 0.0530 0.0066 Neptune 100282-10-09 16:47 G 38348589.98 38348590.20 38348590.45 0.0090 0.0034 Neptune 100283-10-12 04:04 G 38348957.43 38348957.67 38348957.93 0.0090 0.0014 Neptune 100284-10-13 15:21 G 38349324.89 38349325.14 38349325.39 0.0089 0.0005 Neptune 100285-10-16 02:09 G 38349692.35 38349692.59 38349692.84 0.0089 0.0025 Neptune 100286-10-18 13:11 G 38350059.84 38350060.05 38350060.28 0.0089 0.0044 Neptune 100287-10-20 23:59 G 38350427.33 38350427.50 38350427.69 0.0089 0.0063 Neptune 100288-10-22 10:47 G 38350794.87 38350794.95 38350795.07 0.0089 0.0082 Pluto 100290-09-21 18:57 G 38351494.04 38351494.29 38351494.55 0.0064 0.0007 Saturn 100293-05-06 18:43 G 38352452.05 38352452.28 38352452.51 0.0261 0.0107 Jupiter 100293-11-03 15:35 G 38352633.00 38352633.15 38352633.29 0.0530 0.0410 Saturn 100294-05-18 08:38 G 38352828.63 38352828.86 38352829.09 0.0260 0.0103 Uranus 100299-03-29 21:50 G 38354605.18 38354605.41 38354605.65 0.0143 0.0057 Mars 100300-01-28 22:19 G 38354910.34 38354910.43 38354910.53 0.1667 0.1430 Uranus 100300-04-03 23:59 G 38354975.26 38354975.50 38354975.75 0.0143 0.0048 Saturn 100308-11-05 20:52 G 38358113.15 38358113.37 38358113.60 0.0301 0.0102 Saturn 100309-11-20 19:40 G 38358493.17 38358493.32 38358493.49 0.0303 0.0228 Saturn 100322-05-02 20:38 G 38363039.21 38363039.36 38363039.52 0.0262 0.0205 Jupiter 100323-05-02 00:43 G 38363403.30 38363403.53 38363403.77 0.0496 0.0112 Saturn 100323-05-14 13:26 G 38363415.81 38363416.06 38363416.31 0.0260 0.0008 Saturn 100324-05-25 01:55 G 38363792.45 38363792.58 38363792.72 0.0259 0.0214 Mars 100325-08-06 05:16 G 38364230.62 38364230.72 38364230.82 0.1883 0.1621 Jupiter 100335-05-06 14:23 G 38367790.91 38367791.10 38367791.30 0.0496 0.0283 Saturn 100337-10-30 18:14 G 38368699.13 38368699.26 38368699.41 0.0300 0.0243 Saturn 100338-11-14 14:38 G 38369078.87 38369079.11 38369079.34 0.0303 0.0081 Uranus 100340-09-27 00:43 G 38369761.41 38369761.53 38369761.70 0.0135 0.0109

Uranus 100341-10-01 07:40 G 38370130.58 38370130.82 38370131.07 0.0135 0.0024 Uranus 100342-10-05 14:09 G 38370499.88 38370500.09 38370500.32 0.0135 0.0061 Saturn 100352-05-08 21:35 G 38374003.17 38374003.40 38374003.64 0.0261 0.0088 Saturn 100353-05-20 11:59 G 38374379.78 38374380.00 38374380.22 0.0260 0.0122 Neptune 100363-04-05 17:59 G 38377987.14 38377987.25 38377987.37 0.0088 0.0078 Neptune 100364-04-07 05:45 G 38378354.57 38378354.74 38378354.95 0.0088 0.0060 Jupiter 100364-10-29 20:09 G 38378560.12 38378560.34 38378560.56 0.0530 0.0130 Neptune 100365-04-09 18:14 G 38378722.03 38378722.26 38378722.49 0.0088 0.0041 Neptune 100366-04-12 05:59 G 38379089.51 38379089.75 38379090.02 0.0088 0.0023 Neptune 100367-04-14 18:28 G 38379457.01 38379457.27 38379457.53 0.0088 0.0004 Saturn 100367-11-08 09:50 G 38379664.68 38379664.91 38379665.15 0.0301 0.0069 Neptune 100368-04-16 06:43 G 38379824.52 38379824.78 38379825.04 0.0088 0.0015 Saturn 100368-11-22 08:38 G 38380044.74 38380044.86 38380044.99 0.0303 0.0260 Neptune 100369-04-18 18:43 G 38380192.05 38380192.28 38380192.53 0.0088 0.0034 Neptune 100370-04-21 06:57 G 38380559.60 38380559.79 38380560.02 0.0088 0.0053 Neptune 100371-04-23 19:11 G 38380927.17 38380927.30 38380927.47 0.0088 0.0072 Jupiter 100376-11-03 18:28 G 38382948.10 38382948.27 38382948.45 0.0530 0.0341 Mars 100379-02-01 04:19 G 38383767.50 38383767.68 38383767.86 0.1663 0.0530 Pluto 100380-03-22 14:23 G 38384182.87 38384183.10 38384183.37 0.0080 0.0024 Saturn 100381-05-04 01:26 G 38384590.39 38384590.56 38384590.74 0.0262 0.0184 Saturn 100382-05-15 18:14 G 38384967.01 38384967.26 38384967.51 0.0260 0.0029 Uranus 100383-03-31 10:33 G 38385286.71 38385286.94 38385287.20 0.0143 0.0051 Saturn 100383-05-27 06:57 G 38385343.69 38385343.79 38385343.89 0.0259 0.0234 Uranus 100384-04-04 12:43 G 38385656.81 38385657.03 38385657.28 0.0143 0.0057 Saturn 100396-11-01 09:07 G 38390250.72 38390250.88 38390251.06 0.0300 0.0209 Saturn 100397-11-16 05:31 G 38390630.51 38390630.73 38390630.96 0.0303 0.0116 Jupiter 100406-05-01 04:33 G 38393718.47 38393718.69 38393718.92 0.0496 0.0166 Saturn 100411-05-11 04:04 G 38395554.43 38395554.67 38395554.91 0.0261 0.0065 Saturn 100412-05-21 18:14 G 38395931.07 38395931.26 38395931.48 0.0260 0.0145 Jupiter 100418-05-05 17:02 G 38398106.00 38398106.21 38398106.42 0.0496 0.0223

Uranus 100424-09-27 12:14 G 38400442.87 38400443.01 38400443.19 0.0135 0.0103 Uranus 100425-10-01 18:43 G 38400812.04 38400812.28 38400812.54 0.0135 0.0019 Uranus 100426-10-06 00:57 G 38401181.34 38401181.54 38401181.77 0.0135 0.0067 Saturn 100426-11-10 04:19 G 38401216.45 38401216.68 38401216.93 0.0301 0.0031 Saturn 100427-11-25 03:35 G 38401596.61 38401596.65 38401596.70 0.0303 0.0297 Saturn 100440-05-05 09:35 G 38406141.71 38406141.90 38406142.10 0.0262 0.0160 Saturn 100441-05-17 02:09 G 38406518.34 38406518.59 38406518.83 0.0260 0.0052 Saturn 100442-05-28 14:38 G 38406895.09 38406895.11 38406895.14 0.0259 0.0257 Neptune 100444-10-05 01:40 G 38407755.47 38407755.57 38407755.71 0.0090 0.0079 Neptune 100445-10-07 13:11 G 38408122.88 38408123.05 38408123.26 0.0090 0.0060 Neptune 100446-10-10 00:57 G 38408490.31 38408490.54 38408490.77 0.0090 0.0040 Neptune 100447-10-12 11:59 G 38408857.76 38408858.00 38408858.26 0.0090 0.0021 Jupiter 100447-10-29 17:59 G 38408875.04 38408875.25 38408875.45 0.0529 0.0222 Neptune 100448-10-13 23:31 G 38409225.22 38409225.48 38409225.73 0.0090 0.0002 Neptune 100449-10-16 10:33 G 38409592.70 38409592.94 38409593.20 0.0089 0.0018 Neptune 100450-10-18 21:35 G 38409960.18 38409960.40 38409960.64 0.0089 0.0038 Neptune 100451-10-21 08:38 G 38410327.67 38410327.86 38410328.06 0.0089 0.0057 Neptune 100452-10-22 18:57 G 38410695.19 38410695.29 38410695.46 0.0089 0.0077 Saturn 100455-11-04 05:16 G 38411802.52 38411802.72 38411802.91 0.0301 0.0170 Saturn 100456-11-18 01:55 G 38412182.37 38412182.58 38412182.79 0.0303 0.0155 Jupiter 100459-11-03 14:38 G 38413262.91 38413263.11 38413263.32 0.0530 0.0242 Uranus 100467-03-31 21:35 G 38415968.16 38415968.40 38415968.65 0.0144 0.0044 Uranus 100468-04-04 23:31 G 38416338.26 38416338.48 38416338.72 0.0143 0.0063 Saturn 100469-04-30 18:14 G 38416729.21 38416729.26 38416729.34 0.0263 0.0254 Saturn 100470-05-12 13:11 G 38417105.81 38417106.05 38417106.30 0.0261 0.0040 Saturn 100471-05-24 03:21 G 38417482.46 38417482.64 38417482.84 0.0260 0.0169 Saturn 100485-11-12 02:09 G 38422768.35 38422768.59 38422768.83 0.0302 0.0012 Jupiter 100489-04-30 04:04 G 38424033.47 38424033.67 38424033.88 0.0496 0.0241 Saturn 100499-05-07 20:23 G 38427693.14 38427693.35 38427693.57 0.0262 0.0133 Saturn 100500-05-19 12:28 G 38428069.78 38428070.02 38428070.26 0.0260 0.0078

Jupiter 100501-05-05 16:19 G 38428420.96 38428421.18 38428421.41 0.0496 0.0148 Uranus 100508-09-29 00:43 G 38431124.38 38431124.53 38431124.72 0.0134 0.0097 Uranus 100509-10-03 07:11 G 38431493.56 38431493.80 38431494.06 0.0134 0.0012 Uranus 100510-10-07 13:26 G 38431862.86 38431863.06 38431863.28 0.0135 0.0073 Saturn 100514-11-07 03:21 G 38433354.43 38433354.64 38433354.87 0.0301 0.0128 Saturn 100515-11-22 00:57 G 38433734.36 38433734.54 38433734.73 0.0303 0.0198 Neptune 100527-04-06 01:11 G 38437887.48 38437887.55 38437887.62 0.0088 0.0084 Neptune 100528-04-07 12:43 G 38438254.88 38438255.03 38438255.23 0.0088 0.0066 Saturn 100528-05-03 06:14 G 38438280.64 38438280.76 38438280.90 0.0263 0.0225 Neptune 100529-04-10 00:57 G 38438622.33 38438622.54 38438622.77 0.0088 0.0047 Saturn 100529-05-15 00:28 G 38438657.27 38438657.52 38438657.77 0.0261 0.0012 Neptune 100530-04-12 13:11 G 38438989.81 38438990.05 38438990.30 0.0088 0.0028 Saturn 100530-05-26 13:55 G 38439033.93 38439034.08 38439034.26 0.0260 0.0195 Jupiter 100530-10-29 11:45 G 38439189.81 38439189.99 38439190.17 0.0530 0.0328 Neptune 100531-04-15 01:11 G 38439357.30 38439357.55 38439357.82 0.0088 0.0010 Neptune 100532-04-16 13:26 G 38439724.80 38439725.06 38439725.33 0.0088 0.0009 Neptune 100533-04-19 01:26 G 38440092.32 38440092.56 38440092.82 0.0088 0.0028 Neptune 100534-04-21 13:40 G 38440459.86 38440460.07 38440460.30 0.0088 0.0047 Neptune 100535-04-24 01:40 G 38440827.42 38440827.57 38440827.77 0.0088 0.0066 Neptune 100536-04-25 13:55 G 38441195.05 38441195.08 38441195.19 0.0088 0.0085 Pluto 100537-09-24 06:28 G 38441711.64 38441711.77 38441711.93 0.0063 0.0052 Pluto 100538-09-25 17:31 G 38442078.00 38442078.23 38442078.48 0.0064 0.0022 Jupiter 100542-11-03 10:47 G 38443577.73 38443577.95 38443578.17 0.0530 0.0146 Saturn 100543-11-01 07:26 G 38443940.71 38443940.81 38443940.94 0.0299 0.0262 Saturn 100544-11-15 02:09 G 38444320.35 38444320.59 38444320.83 0.0302 0.0056 Uranus 100551-04-02 06:43 G 38446649.54 38446649.78 38446650.04 0.0144 0.0040 Uranus 100552-04-06 08:52 G 38447019.66 38447019.87 38447020.11 0.0144 0.0067 Saturn 100558-05-10 08:23 G 38449244.63 38449244.85 38449245.09 0.0261 0.0105 Saturn 100559-05-21 23:59 G 38449621.28 38449621.50 38449621.73 0.0260 0.0106 Jupiter 100572-04-30 04:33 G 38454348.51 38454348.69 38454348.87 0.0496 0.0312

Saturn 100573-11-09 01:40 G 38454906.34 38454906.57 38454906.80 0.0301 0.0086 Saturn 100574-11-23 23:45 G 38455286.35 38455286.49 38455286.65 0.0303 0.0241 Mars 100584-01-31 22:19 G 38458642.26 38458642.43 38458642.60 0.1673 0.0745 Jupiter 100584-05-04 18:14 G 38458736.03 38458736.26 38458736.49 0.0496 0.0083 Saturn 100587-05-05 18:57 G 38459832.13 38459832.29 38459832.46 0.0262 0.0196 Saturn 100588-05-16 12:14 G 38460208.76 38460209.01 38460209.26 0.0261 0.0016 Saturn 100589-05-28 01:26 G 38460585.43 38460585.56 38460585.69 0.0260 0.0221 Uranus 100592-09-29 12:57 G 38461805.87 38461806.04 38461806.24 0.0134 0.0090 Uranus 100593-10-03 19:26 G 38462175.06 38462175.31 38462175.56 0.0134 0.0005 Uranus 100594-10-08 01:11 G 38462544.36 38462544.55 38462544.76 0.0135 0.0080 Jupiter 100596-05-09 05:59 G 38463123.68 38463123.75 38463123.83 0.0496 0.0471 Saturn 100602-11-04 04:47 G 38465492.55 38465492.70 38465492.87 0.0300 0.0221 Saturn 100603-11-19 00:14 G 38465872.29 38465872.51 38465872.75 0.0302 0.0100 Neptune 100608-10-06 09:21 G 38467655.84 38467655.89 38467655.99 0.0090 0.0086 Mars 100609-08-07 18:57 G 38467961.12 38467961.29 38467961.46 0.1873 0.0943 Neptune 100609-10-08 21:07 G 38468023.22 38468023.38 38468023.56 0.0090 0.0066 Neptune 100610-10-11 08:09 G 38468390.64 38468390.84 38468391.07 0.0090 0.0047 Neptune 100611-10-13 19:26 G 38468758.08 38468758.31 38468758.56 0.0090 0.0027 Neptune 100612-10-15 06:57 G 38469125.54 38469125.79 38469126.04 0.0090 0.0008 Neptune 100613-10-17 18:14 G 38469493.01 38469493.26 38469493.51 0.0090 0.0012 Jupiter 100613-10-29 12:28 G 38469504.88 38469505.02 38469505.17 0.0530 0.0408 Neptune 100614-10-20 05:02 G 38469860.49 38469860.71 38469860.97 0.0089 0.0032 Neptune 100615-10-22 16:04 G 38470227.98 38470228.17 38470228.40 0.0089 0.0051 Neptune 100616-10-24 03:21 G 38470595.49 38470595.64 38470595.81 0.0089 0.0070 Saturn 100617-05-12 20:38 G 38470796.12 38470796.36 38470796.60 0.0261 0.0076 Neptune 100617-10-26 14:23 G 38470963.09 38470963.10 38470963.14 0.0089 0.0089 Saturn 100618-05-24 11:16 G 38471172.76 38471172.97 38471173.19 0.0260 0.0133 Jupiter 100625-11-03 08:52 G 38473892.64 38473892.87 38473893.10 0.0529 0.0055 Pluto 100628-03-26 19:55 G 38474767.08 38474767.33 38474767.59 0.0080 0.0017 Saturn 100632-11-11 22:19 G 38476458.19 38476458.43 38476458.67 0.0302 0.0044

Saturn 100633-11-26 21:07 G 38476838.31 38476838.38 38476838.48 0.0303 0.0283 Uranus 100634-03-29 12:14 G 38476961.00 38476961.01 38476961.06 0.0144 0.0143 Uranus 100635-04-03 14:38 G 38477330.87 38477331.11 38477331.37 0.0144 0.0036 Uranus 100636-04-07 16:47 G 38477700.98 38477701.20 38477701.43 0.0144 0.0071 Jupiter 100637-11-08 05:02 G 38478280.66 38478280.71 38478280.76 0.0529 0.0514 Saturn 100646-05-08 06:14 G 38481383.57 38481383.76 38481383.96 0.0262 0.0167 Saturn 100647-05-19 22:47 G 38481760.21 38481760.45 38481760.70 0.0260 0.0044 Saturn 100648-05-30 11:02 G 38482136.90 38482136.96 38482137.05 0.0259 0.0247 Jupiter 100655-05-01 06:57 G 38484663.64 38484663.79 38484663.95 0.0496 0.0375 Saturn 100661-11-05 22:47 G 38487044.26 38487044.45 38487044.64 0.0300 0.0181 Saturn 100662-11-20 19:11 G 38487424.09 38487424.30 38487424.51 0.0302 0.0141 Mars 100663-02-04 04:33 G 38487499.57 38487499.69 38487499.82 0.1668 0.1247 Jupiter 100667-05-05 15:35 G 38489050.92 38489051.15 38489051.39 0.0496 0.0006 Saturn 100675-05-03 12:42 G 38491971.01 38491971.03 38491971.09 0.0263 0.0260 Saturn 100676-05-14 07:26 G 38492347.56 38492347.81 38492348.05 0.0261 0.0048 Uranus 100676-10-01 01:26 G 38492487.37 38492487.56 38492487.77 0.0135 0.0083 Saturn 100677-05-25 21:06 G 38492724.18 38492724.38 38492724.58 0.0259 0.0159 Uranus 100677-10-05 07:40 G 38492856.57 38492856.82 38492857.07 0.0135 0.0002 Uranus 100678-10-09 13:26 G 38493225.88 38493226.06 38493226.27 0.0135 0.0087 Jupiter 100679-05-10 04:04 G 38493438.54 38493438.67 38493438.83 0.0496 0.0391 Saturn 100691-11-14 13:40 G 38498009.83 38498010.07 38498010.31 0.0302 0.0007 Neptune 100692-04-07 19:11 G 38498155.16 38498155.30 38498155.46 0.0088 0.0072 Neptune 100693-04-10 07:26 G 38498522.61 38498522.81 38498523.02 0.0088 0.0053 Neptune 100694-04-12 18:57 G 38498890.07 38498890.29 38498890.55 0.0088 0.0035 Neptune 100695-04-15 07:26 G 38499257.56 38499257.81 38499258.08 0.0088 0.0016 Neptune 100696-04-16 19:40 G 38499625.06 38499625.32 38499625.58 0.0088 0.0003 Jupiter 100696-10-28 10:04 G 38499819.85 38499819.92 38499820.00 0.0529 0.0500 Neptune 100697-04-19 07:26 G 38499992.57 38499992.81 38499993.07 0.0088 0.0022 Neptune 100698-04-21 19:26 G 38500360.09 38500360.31 38500360.56 0.0088 0.0041 Neptune 100699-04-24 07:26 G 38500727.65 38500727.81 38500728.03 0.0088 0.0060

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Saturn 100779-11-10 18:57 G 38530147.08 38530147.29 38530147.52 0.0301 0.0116 Neptune 100780-10-24 10:04 G 38530495.76 38530495.92 38530496.12 0.0089 0.0064 Saturn 100780-11-24 17:02 G 38530527.04 38530527.21 38530527.39 0.0303 0.0208 Neptune 100781-10-26 21:06 G 38530863.31 38530863.38 38530863.50 0.0089 0.0083 Pluto 100785-09-28 03:06 G 38532295.46 38532295.63 38532295.84 0.0063 0.0042 Pluto 100786-09-29 13:40 G 38532661.88 38532662.07 38532662.32 0.0064 0.0033 Jupiter 100791-11-03 13:26 G 38534522.83 38534523.06 38534523.29 0.0530 0.0095 Saturn 100793-05-07 02:38 G 38535073.47 38535073.61 38535073.77 0.0262 0.0209 Saturn 100794-05-18 19:26 G 38535450.06 38535450.31 38535450.56 0.0260 0.0001 Saturn 100795-05-30 07:26 G 38535826.67 38535826.81 38535826.97 0.0259 0.0205 Uranus 100802-03-31 11:16 G 38538323.87 38538323.97 38538324.10 0.0144 0.0129 Uranus 100803-04-05 13:40 G 38538693.81 38538694.07 38538694.32 0.0144 0.0022 Jupiter 100803-11-08 11:30 G 38538910.83 38538910.98 38538911.15 0.0529 0.0375 Uranus 100804-04-09 15:21 G 38539063.95 38539064.14 38539064.36 0.0144 0.0085 Saturn 100808-11-03 08:52 G 38540732.76 38540732.87 38540732.99 0.0300 0.0263 Saturn 100809-11-18 04:04 G 38541112.43 38541112.67 38541112.91 0.0303 0.0054 Jupiter 100821-04-30 14:52 G 38545294.10 38545294.12 38545294.15 0.0496 0.0492 Saturn 100823-05-13 23:45 G 38546037.26 38546037.49 38546037.72 0.0261 0.0093 Saturn 100824-05-24 14:09 G 38546413.87 38546414.09 38546414.31 0.0259 0.0114 Jupiter 100833-05-05 04:47 G 38549681.47 38549681.70 38549681.93 0.0496 0.0099 Saturn 100838-11-11 20:38 G 38551698.14 38551698.36 38551698.60 0.0301 0.0091 Saturn 100839-11-26 19:11 G 38552078.15 38552078.30 38552078.46 0.0303 0.0233 Uranus 100844-10-03 02:38 G 38553850.39 38553850.61 38553850.82 0.0135 0.0069 Jupiter 100845-05-09 14:09 G 38554068.89 38554069.09 38554069.28 0.0496 0.0278 Uranus 100845-10-07 08:38 G 38554219.61 38554219.86 38554220.11 0.0135 0.0016 Uranus 100846-10-11 14:23 G 38554588.95 38554589.10 38554589.28 0.0135 0.0101 Saturn 100852-05-08 03:35 G 38556624.49 38556624.65 38556624.84 0.0262 0.0190 Saturn 100853-05-19 20:09 G 38557001.09 38557001.34 38557001.59 0.0260 0.0021 Saturn 100854-05-31 07:54 G 38557377.72 38557377.83 38557377.96 0.0259 0.0224 Neptune 100856-04-08 00:57 G 38558055.45 38558055.54 38558055.69 0.0088 0.0079

Neptune 100857-04-10 12:57 G 38558422.88 38558423.04 38558423.26 0.0088 0.0060 Neptune 100858-04-13 01:26 G 38558790.34 38558790.56 38558790.81 0.0088 0.0041 Neptune 100859-04-15 13:40 G 38559157.82 38559158.07 38559158.33 0.0088 0.0022 Neptune 100860-04-17 01:40 G 38559525.31 38559525.57 38559525.84 0.0088 0.0004 Neptune 100861-04-19 13:40 G 38559892.82 38559893.07 38559893.33 0.0088 0.0016 Neptune 100862-04-22 01:40 G 38560260.34 38560260.57 38560260.82 0.0088 0.0035 Neptune 100863-04-24 13:26 G 38560627.88 38560628.06 38560628.29 0.0088 0.0054 Neptune 100864-04-26 01:40 G 38560995.44 38560995.57 38560995.74 0.0088 0.0072 Saturn 100867-11-05 07:11 G 38562283.67 38562283.80 38562283.95 0.0300 0.0242 100868-02-03 21:06 G 38562374.19 38562374.38 38562374.57 0.1679 0.0084 Mars Saturn 100868-11-19 02:52 G 38562663.39 38562663.62 38562663.85 0.0303 0.0077 Jupiter 100874-11-02 20:23 G 38564838.13 38564838.35 38564838.57 0.0530 0.0149 Pluto 100876-03-29 19:26 G 38565351.08 38565351.31 38565351.54 0.0080 0.0038 Saturn 100882-05-14 22:47 G 38567588.21 38567588.45 38567588.69 0.0261 0.0075 Saturn 100883-05-26 12:28 G 38567964.82 38567965.02 38567965.25 0.0259 0.0132 Uranus 100886-04-01 01:54 G 38569005.46 38569005.58 38569005.74 0.0144 0.0120 Jupiter 100886-11-07 16:18 G 38569226.00 38569226.18 38569226.37 0.0530 0.0308 Uranus 100887-04-06 04:18 G 38569375.43 38569375.68 38569375.94 0.0144 0.0013 Uranus 100888-04-10 06:28 G 38569745.59 38569745.77 38569745.97 0.0144 0.0095 Mars 100893-08-08 10:33 G 38571691.75 38571691.94 38571692.13 0.1863 0.0383 Saturn 100897-11-12 17:30 G 38573248.99 38573249.23 38573249.46 0.0301 0.0071 Saturn 100898-11-27 16:18 G 38573629.06 38573629.18 38573629.31 0.0303 0.0254 Saturn 100911-05-11 02:09 G 38578175.41 38578175.59 38578175.78 0.0262 0.0171 Saturn 100912-05-21 18:14 G 38578552.01 38578552.26 38578552.51 0.0260 0.0038 Saturn 100913-06-02 05:30 G 38578928.66 38578928.73 38578928.83 0.0259 0.0241 Jupiter 100916-05-05 11:02 G 38579996.73 38579996.96 38579997.18 0.0496 0.0149 Saturn 100926-11-07 02:38 G 38583834.46 38583834.61 38583834.77 0.0300 0.0224 Saturn 100927-11-21 22:18 G 38584214.20 38584214.43 38584214.66 0.0303 0.0095 Jupiter 100928-05-10 01:11 G 38584384.35 38584384.55 38584384.76 0.0496 0.0248 Uranus 100928-10-04 15:35 G 38584531.93 38584532.15 38584532.37 0.0134 0.0062

Uranus 100929-10-08 21:35 G 38584901.16 38584901.40 38584901.65 0.0134 0.0023 Uranus 100930-10-13 03:06 G 38585270.51 38585270.63 38585270.80 0.0135 0.0109 Neptune 100937-10-09 09:35 G 38587823.80 38587823.90 38587824.02 0.0090 0.0080 Neptune 100938-10-11 20:38 G 38588191.19 38588191.36 38588191.56 0.0090 0.0061 Neptune 100939-10-14 07:54 G 38588558.62 38588558.83 38588559.07 0.0090 0.0042 Neptune 100940-10-15 19:26 G 38588926.07 38588926.31 38588926.56 0.0090 0.0022 Saturn 100941-05-16 19:11 G 38589139.06 38589139.30 38589139.54 0.0261 0.0058 Neptune 100941-10-18 06:42 G 38589293.52 38589293.78 38589294.03 0.0090 0.0003 Saturn 100942-05-28 08:52 G 38589515.67 38589515.87 38589516.08 0.0259 0.0148 Neptune 100942-10-20 17:45 G 38589660.99 38589661.24 38589661.49 0.0090 0.0017 Neptune 100943-10-23 04:47 G 38590028.48 38590028.70 38590028.94 0.0090 0.0037 Neptune 100944-10-24 16:04 G 38590395.98 38590396.17 38590396.37 0.0090 0.0056 Neptune 100945-10-27 02:52 G 38590763.51 38590763.62 38590763.78 0.0089 0.0076 Saturn 100956-11-14 11:16 G 38594799.73 38594799.97 38594800.21 0.0301 0.0054 Jupiter 100957-11-03 05:16 G 38595153.51 38595153.72 38595153.93 0.0530 0.0198 Saturn 100957-11-29 10:18 G 38595179.83 38595179.93 38595180.04 0.0303 0.0271 Jupiter 100969-11-08 06:42 G 38599541.58 38599541.78 38599541.97 0.0530 0.0283 Uranus 100970-04-02 14:23 G 38599686.96 38599687.10 38599687.28 0.0144 0.0113 Saturn 100970-05-11 21:50 G 38599726.22 38599726.41 38599726.62 0.0262 0.0156 Uranus 100971-04-07 17:02 G 38600056.95 38600057.21 38600057.47 0.0144 0.0005 Saturn 100971-05-23 14:09 G 38600102.84 38600103.09 38600103.33 0.0260 0.0053 Uranus 100972-04-11 18:57 G 38600427.13 38600427.29 38600427.49 0.0144 0.0103 Saturn 100972-06-03 01:26 G 38600479.53 38600479.56 38600479.60 0.0259 0.0255 Saturn 100985-11-07 19:40 G 38605385.15 38605385.32 38605385.50 0.0300 0.0208 Saturn 100986-11-22 15:06 G 38605764.91 38605765.13 38605765.36 0.0303 0.0111 Jupiter 100999-05-06 00:14 G 38610312.29 38610312.51 38610312.73 0.0496 0.0172 Saturn 100999-05-06 18:57 G 38610313.25 38610313.29 38610313.36 0.0263 0.0256 Saturn 101000-05-18 14:09 G 38610689.85 38610690.09 38610690.34 0.0261 0.0044

## 102ND MILLENNIUM CE

### This is a list of transits of Earth in the 102nd millennium CE.

FROM MAX- C START MAX END SUNRAD DEPTH S

TRANSIT

TIME

Saturn 101001-05-30 04:04 G 38611066.48 38611066.67 38611066.87 0.0259 0.0162 Jupiter 101011-05-11 14:52 G 38614699.91 38614700.12 38614700.33 0.0496 0.0222 Uranus 101012-10-06 05:16 G 38615213.50 38615213.72 38615213.96 0.0134 0.0055 Uranus 101013-10-10 11:30 G 38615582.74 38615582.98 38615583.23 0.0134 0.0031 Uranus 101014-10-14 17:16 G 38615952.11 38615952.22 38615952.36 0.0134 0.0116 Saturn 101015-11-17 04:18 G 38616350.44 38616350.68 38616350.92 0.0301 0.0038 Saturn 101016-12-01 03:21 G 38616730.57 38616730.64 38616730.72 0.0303 0.0287 Neptune 101020-04-09 06:28 G 38617955.73 38617955.77 38617955.85 0.0088 0.0085 Neptune 101021-04-11 18:57 G 38618323.13 38618323.29 38618323.47 0.0088 0.0066 Neptune 101022-04-14 06:42 G 38618690.58 38618690.78 38618691.02 0.0088 0.0048 Neptune 101023-04-16 18:57 G 38619058.05 38619058.29 38619058.55 0.0088 0.0029 Neptune 101024-04-18 07:11 G 38619425.54 38619425.80 38619426.06 0.0088 0.0010 Neptune 101025-04-20 19:11 G 38619793.05 38619793.30 38619793.57 0.0088 0.0010 Neptune 101026-04-23 06:57 G 38620160.56 38620160.79 38620161.06 0.0088 0.0029 Neptune 101027-04-25 19:26 G 38620528.09 38620528.31 38620528.53 0.0088 0.0047 Neptune 101028-04-27 07:11 G 38620895.65 38620895.80 38620895.99 0.0088 0.0066 Neptune 101029-04-29 18:57 G 38621263.26 38621263.29 38621263.39 0.0088 0.0085 Saturn 101029-05-13 16:47 G 38621277.00 38621277.20 38621277.42 0.0262 0.0142 Saturn 101030-05-25 09:06 G 38621653.64 38621653.88 38621654.12 0.0260 0.0068 Pluto 101033-10-01 20:09 G 38622879.16 38622879.34 38622879.55 0.0063 0.0041

Pluto 101034-10-03 06:57 G 38623245.58 38623245.79 38623246.02 0.0064 0.0033 Jupiter 101040-11-03 18:57 G 38625469.09 38625469.29 38625469.51 0.0530 0.0221 Saturn 101044-11-09 13:11 G 38626935.88 38626936.05 38626936.25 0.0300 0.0193 Saturn 101045-11-24 08:38 G 38627315.64 38627315.86 38627316.08 0.0303 0.0127 Jupiter 101052-11-08 17:59 G 38629857.05 38629857.25 38629857.45 0.0530 0.0247 Uranus 101054-04-04 02:52 G 38630368.46 38630368.62 38630368.81 0.0144 0.0106 Uranus 101055-04-09 05:30 G 38630738.47 38630738.73 38630738.99 0.0144 0.0002 Uranus 101056-04-13 07:54 G 38631108.68 38631108.83 38631109.01 0.0144 0.0110 Saturn 101058-05-08 13:26 G 38631863.98 38631864.06 38631864.17 0.0263 0.0242 Saturn 101059-05-20 08:52 G 38632240.63 38632240.87 38632241.12 0.0261 0.0030 Saturn 101060-05-30 23:02 G 38632617.28 38632617.46 38632617.64 0.0259 0.0177 Mars 101073-02-03 09:50 G 38637248.84 38637248.91 38637248.97 0.1691 0.1569 Saturn 101074-11-17 21:50 G 38637901.17 38637901.41 38637901.65 0.0301 0.0023 Saturn 101075-12-02 20:38 G 38638281.36 38638281.36 38638281.39 0.0303 0.0302 Jupiter 101082-05-06 09:50 G 38640627.70 38640627.91 38640628.13 0.0496 0.0205 Saturn 101088-05-14 11:59 G 38642827.79 38642828.00 38642828.23 0.0262 0.0128 Saturn 101089-05-26 04:18 G 38643204.45 38643204.68 38643204.93 0.0260 0.0083 Jupiter 101094-05-10 23:59 G 38645015.28 38645015.50 38645015.72 0.0496 0.0185 Uranus 101095-10-03 13:40 G 38645526.02 38645526.07 38645526.13 0.0134 0.0131 Uranus 101096-10-06 19:26 G 38645895.09 38645895.31 38645895.56 0.0134 0.0046 Uranus 101097-10-11 01:26 G 38646264.33 38646264.56 38646264.81 0.0134 0.0040 Uranus 101098-10-15 07:11 G 38646633.73 38646633.80 38646633.92 0.0134 0.0124 Neptune 101101-10-10 14:23 G 38647724.07 38647724.10 38647724.17 0.0090 0.0088 Neptune 101102-10-13 01:40 G 38648091.44 38648091.57 38648091.76 0.0090 0.0069 Neptune 101103-10-15 13:26 G 38648458.86 38648459.06 38648459.28 0.0090 0.0049 Saturn 101103-11-12 08:52 G 38648486.69 38648486.87 38648487.08 0.0300 0.0176 Neptune 101104-10-17 00:42 G 38648826.30 38648826.53 38648826.78 0.0090 0.0030 Saturn 101104-11-26 04:04 G 38648866.46 38648866.67 38648866.89 0.0302 0.0144 Neptune 101105-10-19 12:14 G 38649193.76 38649194.01 38649194.26 0.0090 0.0010 Neptune 101106-10-21 23:16 G 38649561.22 38649561.47 38649561.73 0.0090 0.0010

Neptune 101107-10-24 10:18 G 38649928.70 38649928.93 38649929.18 0.0090 0.0030 Neptune 101108-10-25 21:35 G 38650296.20 38650296.40 38650296.62 0.0090 0.0049 Neptune 101109-10-28 08:23 G 38650663.71 38650663.85 38650664.04 0.0090 0.0069 Neptune 101110-10-30 19:26 G 38651031.29 38651031.31 38651031.39 0.0089 0.0088 Saturn 101117-05-10 08:52 G 38653414.76 38653414.87 38653415.01 0.0263 0.0229 Saturn 101118-05-22 04:47 G 38653791.45 38653791.70 38653791.95 0.0261 0.0015 Saturn 101119-06-02 18:28 G 38654168.12 38654168.27 38654168.45 0.0259 0.0192 Jupiter 101123-11-05 02:23 G 38655784.41 38655784.60 38655784.80 0.0530 0.0273 Pluto 101124-04-03 15:21 G 38655934.95 38655935.14 38655935.36 0.0080 0.0049 Saturn 101133-11-19 18:57 G 38659452.05 38659452.29 38659452.53 0.0301 0.0004 Jupiter 101135-11-10 01:54 G 38660172.36 38660172.58 38660172.79 0.0530 0.0196 Uranus 101138-04-05 11:16 G 38661049.80 38661049.97 38661050.16 0.0144 0.0102 Uranus 101139-04-10 14:09 G 38661419.83 38661420.09 38661420.34 0.0144 0.0006 Uranus 101140-04-14 16:33 G 38661790.04 38661790.19 38661790.36 0.0144 0.0114 Saturn 101147-05-17 08:23 G 38664378.63 38664378.85 38664379.08 0.0263 0.0113 Saturn 101148-05-28 00:57 G 38664755.32 38664755.54 38664755.78 0.0260 0.0098 Mars 101152-02-07 18:57 G 38666106.11 38666106.29 38666106.47 0.1686 0.0561 Saturn 101162-11-13 08:23 G 38670037.65 38670037.85 38670038.06 0.0299 0.0155 Saturn 101163-11-28 03:06 G 38670417.43 38670417.63 38670417.84 0.0302 0.0164 Jupiter 101165-05-06 20:38 G 38670943.16 38670943.36 38670943.57 0.0496 0.0237 Saturn 101176-05-11 06:28 G 38674965.63 38674965.77 38674965.92 0.0264 0.0214 Jupiter 101177-05-11 10:33 G 38675330.72 38675330.94 38675331.17 0.0496 0.0153 Saturn 101177-05-23 02:23 G 38675342.35 38675342.60 38675342.85 0.0261 0.0003 Mars 101177-08-11 03:21 G 38675422.45 38675422.64 38675422.84 0.1853 0.0097 Saturn 101178-06-03 16:33 G 38675719.05 38675719.19 38675719.35 0.0259 0.0207 Uranus 101179-10-05 03:35 G 38676207.56 38676207.65 38676207.76 0.0134 0.0123 Uranus 101180-10-08 09:50 G 38676576.67 38676576.91 38676577.15 0.0134 0.0038 Uranus 101181-10-12 15:50 G 38676945.93 38676946.16 38676946.39 0.0134 0.0048 Uranus 101182-10-16 21:35 G 38677315.37 38677315.40 38677315.45 0.0134 0.0132 Neptune 101185-04-12 00:28 G 38678223.39 38678223.52 38678223.68 0.0088 0.0073

Neptune 101186-04-14 12:28 G 38678590.83 38678591.02 38678591.24 0.0088 0.0054 Neptune 101187-04-17 00:42 G 38678958.29 38678958.53 38678958.77 0.0088 0.0035 Neptune 101188-04-18 12:42 G 38679325.77 38679326.03 38679326.29 0.0088 0.0016 Neptune 101189-04-21 00:57 G 38679693.28 38679693.54 38679693.80 0.0088 0.0003 Neptune 101190-04-23 12:42 G 38680060.79 38680061.03 38680061.29 0.0088 0.0022 Neptune 101191-04-26 00:42 G 38680428.31 38680428.53 38680428.77 0.0088 0.0041 Saturn 101191-11-07 05:02 G 38680623.67 38680623.71 38680623.75 0.0298 0.0293 Neptune 101192-04-27 12:28 G 38680795.85 38680796.02 38680796.24 0.0088 0.0060 Saturn 101192-11-20 20:09 G 38681003.10 38681003.34 38681003.58 0.0301 0.0018 Neptune 101193-04-30 00:28 G 38681163.44 38681163.52 38681163.67 0.0088 0.0079 Saturn 101206-05-18 07:26 G 38685929.58 38685929.81 38685930.04 0.0263 0.0097 Jupiter 101206-11-04 09:21 G 38686099.71 38686099.89 38686100.07 0.0531 0.0324 Saturn 101207-05-30 00:14 G 38686306.29 38686306.51 38686306.74 0.0261 0.0113 Jupiter 101218-11-09 09:35 G 38690487.68 38690487.90 38690488.12 0.0531 0.0150 Saturn 101221-11-14 13:26 G 38691588.85 38691589.06 38691589.28 0.0299 0.0130 Uranus 101222-04-05 22:04 G 38691731.23 38691731.42 38691731.61 0.0144 0.0096 Saturn 101222-11-29 08:09 G 38691968.66 38691968.84 38691969.04 0.0302 0.0189 Uranus 101223-04-11 00:28 G 38692101.26 38692101.52 38692101.78 0.0144 0.0012 Uranus 101224-04-15 02:52 G 38692471.49 38692471.62 38692471.77 0.0144 0.0120 Saturn 101235-05-13 06:42 G 38696516.62 38696516.78 38696516.95 0.0264 0.0196 Saturn 101236-05-24 02:38 G 38696893.36 38696893.61 38696893.86 0.0261 0.0018 Saturn 101237-06-04 17:30 G 38697270.11 38697270.23 38697270.35 0.0260 0.0224 Jupiter 101248-05-06 05:30 G 38701258.53 38701258.73 38701258.92 0.0496 0.0276 Saturn 101250-11-08 11:30 G 38702174.89 38702174.98 38702175.10 0.0298 0.0268 Saturn 101251-11-23 02:52 G 38702554.38 38702554.62 38702554.86 0.0301 0.0044 Jupiter 101260-05-10 17:30 G 38705646.00 38705646.23 38705646.46 0.0495 0.0110 Uranus 101263-10-05 17:16 G 38706889.10 38706889.22 38706889.35 0.0134 0.0115 Uranus 101264-10-08 23:16 G 38707258.23 38707258.47 38707258.72 0.0134 0.0030 Saturn 101265-05-19 09:06 G 38707480.65 38707480.88 38707481.13 0.0263 0.0079 Uranus 101265-10-13 05:30 G 38707627.51 38707627.73 38707627.96 0.0134 0.0056

Saturn 101266-05-31 02:09 G 38707857.39 38707857.59 38707857.81 0.0261 0.0132 Neptune 101266-10-12 06:57 G 38707991.66 38707991.79 38707991.93 0.0090 0.0076 Neptune 101267-10-14 18:14 G 38708359.08 38708359.26 38708359.47 0.0090 0.0057 Neptune 101268-10-16 05:45 G 38708726.51 38708726.74 38708726.98 0.0090 0.0037 Neptune 101269-10-18 16:47 G 38709093.96 38709094.20 38709094.46 0.0090 0.0018 Neptune 101270-10-21 04:18 G 38709461.43 38709461.68 38709461.94 0.0090 0.0003 Neptune 101271-10-23 15:35 G 38709828.90 38709829.15 38709829.40 0.0090 0.0022 Jupiter 101272-05-15 05:59 G 38710033.74 38710033.75 38710033.77 0.0495 0.0493 Neptune 101272-10-25 02:23 G 38710196.39 38710196.60 38710196.84 0.0090 0.0042 Neptune 101273-10-27 13:26 G 38710563.89 38710564.06 38710564.26 0.0090 0.0061 Neptune 101274-10-30 00:28 G 38710931.44 38710931.52 38710931.66 0.0090 0.0081 Saturn 101280-11-15 23:30 G 38713140.26 38713140.48 38713140.71 0.0299 0.0100 Pluto 101281-10-04 10:18 G 38713462.79 38713462.93 38713463.14 0.0063 0.0047 Saturn 101281-11-30 18:14 G 38713520.10 38713520.26 38713520.43 0.0302 0.0218 Pluto 101282-10-05 21:35 G 38713829.19 38713829.40 38713829.65 0.0064 0.0028 Jupiter 101289-11-03 14:23 G 38716414.95 38716415.10 38716415.27 0.0530 0.0384 Saturn 101294-05-14 09:50 G 38718067.74 38718067.91 38718068.11 0.0264 0.0177 Saturn 101295-05-26 05:59 G 38718444.51 38718444.75 38718445.00 0.0261 0.0038 Saturn 101296-06-05 21:06 G 38718821.30 38718821.38 38718821.47 0.0260 0.0243 Jupiter 101301-11-09 10:47 G 38720802.72 38720802.95 38720803.18 0.0530 0.0074 Uranus 101306-04-07 07:54 G 38722412.65 38722412.83 38722413.05 0.0144 0.0091 Uranus 101307-04-12 10:47 G 38722782.70 38722782.95 38722783.21 0.0144 0.0018 Uranus 101308-04-16 13:11 G 38723152.94 38723153.05 38723153.18 0.0144 0.0126 Saturn 101309-11-11 00:28 G 38723726.38 38723726.52 38723726.67 0.0298 0.0236 Saturn 101310-11-25 16:04 G 38724105.94 38724106.17 38724106.40 0.0301 0.0077 Saturn 101324-05-21 14:09 G 38729031.85 38729032.09 38729032.34 0.0263 0.0057 Saturn 101325-06-02 07:11 G 38729408.60 38729408.80 38729409.01 0.0261 0.0153 Jupiter 101331-05-07 10:18 G 38731573.75 38731573.93 38731574.11 0.0495 0.0326 Saturn 101339-11-19 15:21 G 38734691.90 38734692.14 38734692.38 0.0299 0.0065 Saturn 101340-12-03 10:18 G 38735071.80 38735071.93 38735072.06 0.0302 0.0253

Jupiter 101343-05-11 20:38 G 38735961.12 38735961.36 38735961.60 0.0495 0.0050 Uranus 101347-10-07 06:14 G 38737570.63 38737570.76 38737570.93 0.0134 0.0108 Uranus 101348-10-10 12:57 G 38737939.79 38737940.04 38737940.29 0.0134 0.0022 Neptune 101349-04-12 05:45 G 38738123.66 38738123.74 38738123.88 0.0088 0.0080 Uranus 101349-10-14 19:11 G 38738309.08 38738309.30 38738309.52 0.0134 0.0064 Neptune 101350-04-14 17:45 G 38738491.08 38738491.24 38738491.45 0.0088 0.0061 Neptune 101351-04-17 05:59 G 38738858.53 38738858.75 38738858.99 0.0088 0.0042 Neptune 101352-04-18 17:59 G 38739226.01 38739226.25 38739226.51 0.0088 0.0023 Neptune 101353-04-21 06:14 G 38739593.50 38739593.76 38739594.02 0.0088 0.0004 Saturn 101353-05-16 16:33 G 38739619.00 38739619.19 38739619.41 0.0264 0.0154 Neptune 101354-04-23 17:59 G 38739961.01 38739961.25 38739961.52 0.0088 0.0016 Saturn 101354-05-28 12:28 G 38739995.79 38739996.02 38739996.27 0.0261 0.0061 Neptune 101355-04-26 06:14 G 38740328.53 38740328.76 38740329.01 0.0088 0.0034 Jupiter 101355-05-16 08:52 G 38740348.76 38740348.87 38740348.99 0.0496 0.0432 Neptune 101356-04-27 18:28 G 38740696.07 38740696.27 38740696.49 0.0088 0.0053 Mars 101357-02-06 05:59 G 38740980.60 38740980.75 38740980.91 0.1698 0.0974 Neptune 101357-04-30 06:28 G 38741063.63 38741063.77 38741063.93 0.0088 0.0072 Saturn 101368-11-12 17:30 G 38745278.05 38745278.23 38745278.41 0.0298 0.0201 Saturn 101369-11-27 09:21 G 38745657.67 38745657.89 38745658.12 0.0301 0.0113 Pluto 101372-04-06 05:16 G 38746518.49 38746518.72 38746518.95 0.0080 0.0038 Jupiter 101372-11-03 11:16 G 38746729.88 38746729.97 38746730.08 0.0530 0.0477 Saturn 101382-05-11 23:30 G 38750206.40 38750206.48 38750206.57 0.0265 0.0248 Saturn 101383-05-23 22:04 G 38750583.17 38750583.42 38750583.67 0.0263 0.0033 Saturn 101384-06-03 14:52 G 38750959.95 38750960.12 38750960.31 0.0261 0.0176 Jupiter 101384-11-08 06:57 G 38751117.56 38751117.79 38751118.02 0.0531 0.0021 Uranus 101390-04-07 22:47 G 38753094.25 38753094.45 38753094.68 0.0144 0.0081 Uranus 101391-04-13 01:26 G 38753464.31 38753464.56 38753464.81 0.0144 0.0028 Uranus 101392-04-17 03:50 G 38753834.59 38753834.66 38753834.75 0.0144 0.0136 Jupiter 101396-11-13 06:14 G 38755505.65 38755505.76 38755505.89 0.0531 0.0450 Saturn 101398-11-21 11:30 G 38756243.74 38756243.98 38756244.22 0.0300 0.0025

Saturn 101399-12-06 07:11 G 38756623.74 38756623.80 38756623.86 0.0302 0.0292 Saturn 101412-05-19 02:38 G 38761170.40 38761170.61 38761170.83 0.0263 0.0127 Saturn 101413-05-30 21:50 G 38761547.18 38761547.41 38761547.65 0.0261 0.0085 Jupiter 101414-05-07 09:50 G 38761888.77 38761888.91 38761889.05 0.0496 0.0399 Jupiter 101426-05-11 22:18 G 38766276.20 38766276.43 38766276.67 0.0496 0.0017 Saturn 101427-11-16 13:54 G 38766829.89 38766830.08 38766830.30 0.0299 0.0162 Saturn 101428-11-30 06:42 G 38767209.58 38767209.78 38767209.99 0.0301 0.0153 Neptune 101430-10-13 11:30 G 38767891.91 38767891.98 38767892.08 0.0090 0.0084 Uranus 101431-10-08 20:09 G 38768252.18 38768252.34 38768252.52 0.0134 0.0100 Neptune 101431-10-15 22:47 G 38768259.30 38768259.45 38768259.65 0.0090 0.0065 Uranus 101432-10-12 02:23 G 38768621.36 38768621.60 38768621.86 0.0134 0.0014 Neptune 101432-10-17 10:33 G 38768626.73 38768626.94 38768627.17 0.0090 0.0045 Uranus 101433-10-16 08:38 G 38768990.66 38768990.86 38768991.08 0.0134 0.0072 Neptune 101433-10-19 22:18 G 38768994.19 38768994.43 38768994.67 0.0090 0.0025 Neptune 101434-10-22 09:35 G 38769361.65 38769361.90 38769362.16 0.0090 0.0005 Neptune 101435-10-24 20:38 G 38769729.12 38769729.36 38769729.62 0.0090 0.0015 Mars 101436-02-10 15:06 G 38769838.00 38769838.13 38769838.27 0.1692 0.1166 Neptune 101436-10-26 07:26 G 38770096.60 38770096.81 38770097.07 0.0090 0.0035 Neptune 101437-10-28 18:42 G 38770464.10 38770464.28 38770464.50 0.0090 0.0054 Jupiter 101438-05-16 11:16 G 38770663.82 38770663.97 38770664.13 0.0495 0.0371 Neptune 101438-10-31 06:14 G 38770831.62 38770831.76 38770831.91 0.0090 0.0073 Saturn 101441-05-14 10:18 G 38771757.80 38771757.93 38771758.07 0.0265 0.0221 Saturn 101442-05-26 08:09 G 38772134.59 38772134.84 38772135.09 0.0262 0.0006 Saturn 101443-06-07 00:57 G 38772511.38 38772511.54 38772511.70 0.0261 0.0201 Saturn 101456-11-09 20:23 G 38777416.31 38777416.35 38777416.42 0.0297 0.0289 Saturn 101457-11-24 09:35 G 38777795.66 38777795.90 38777796.15 0.0300 0.0018 Mars 101461-08-12 22:04 G 38779153.23 38779153.42 38779153.61 0.1843 0.0473 Jupiter 101467-11-09 07:11 G 38781432.57 38781432.80 38781433.02 0.0531 0.0102 Saturn 101471-05-21 14:09 G 38782721.86 38782722.09 38782722.33 0.0263 0.0100 Saturn 101472-06-01 08:52 G 38783098.64 38783098.87 38783099.09 0.0261 0.0112

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Saturn 101545-11-21 07:54 G 38809933.60 38809933.83 38809934.07 0.0300 0.0079 Saturn 101546-12-06 02:38 G 38810313.47 38810313.61 38810313.76 0.0302 0.0237 Jupiter 101550-11-09 02:09 G 38811747.38 38811747.59 38811747.80 0.0530 0.0204 Uranus 101558-04-11 02:23 G 38814457.37 38814457.60 38814457.83 0.0144 0.0064 Uranus 101559-04-16 04:33 G 38814827.45 38814827.69 38814827.94 0.0144 0.0045 Saturn 101559-05-19 10:33 G 38814860.76 38814860.94 38814861.15 0.0264 0.0163 Saturn 101560-05-30 06:57 G 38815237.54 38815237.79 38815238.03 0.0262 0.0050 Saturn 101561-06-10 21:50 G 38815614.37 38815614.41 38815614.48 0.0260 0.0254 Jupiter 101562-11-13 20:38 G 38816135.16 38816135.36 38816135.57 0.0531 0.0247 Saturn 101574-11-15 12:42 G 38820519.86 38820520.03 38820520.20 0.0298 0.0209 Saturn 101575-11-30 04:04 G 38820899.44 38820899.67 38820899.90 0.0301 0.0101 Saturn 101588-05-13 16:18 G 38825448.12 38825448.18 38825448.24 0.0265 0.0255 Saturn 101589-05-25 14:09 G 38825824.85 38825825.09 38825825.34 0.0262 0.0042 Saturn 101590-06-06 06:57 G 38826201.60 38826201.79 38826201.99 0.0260 0.0166 Jupiter 101592-05-10 21:21 G 38826906.17 38826906.39 38826906.61 0.0495 0.0162 Neptune 101595-10-16 03:06 G 38828159.51 38828159.63 38828159.81 0.0090 0.0073 Neptune 101596-10-17 15:06 G 38828526.94 38828527.13 38828527.35 0.0090 0.0053 Neptune 101597-10-20 02:52 G 38828894.39 38828894.62 38828894.86 0.0090 0.0033 Neptune 101598-10-22 14:09 G 38829261.85 38829262.09 38829262.36 0.0090 0.0014 Uranus 101599-10-10 23:59 G 38829615.32 38829615.50 38829615.71 0.0134 0.0085 Neptune 101599-10-25 01:40 G 38829629.32 38829629.57 38829629.83 0.0090 0.0007 Uranus 101600-10-14 06:28 G 38829984.51 38829984.77 38829985.02 0.0134 0.0003 Neptune 101600-10-26 12:57 G 38829996.81 38829997.04 38829997.29 0.0090 0.0027 Uranus 101601-10-18 12:14 G 38830353.83 38830354.01 38830354.21 0.0134 0.0088 Neptune 101601-10-28 23:59 G 38830364.30 38830364.50 38830364.73 0.0090 0.0047 Neptune 101602-10-31 11:16 G 38830731.82 38830731.97 38830732.16 0.0090 0.0066 Neptune 101603-11-02 22:04 G 38831099.37 38831099.42 38831099.52 0.0090 0.0086 Jupiter 101604-05-15 10:18 G 38831293.72 38831293.93 38831294.14 0.0496 0.0223 Saturn 101604-11-23 01:11 G 38831485.31 38831485.55 38831485.79 0.0300 0.0041 Saturn 101605-12-07 20:52 G 38831865.29 38831865.37 38831865.48 0.0302 0.0276

Saturn 101618-05-20 21:21 G 38836412.18 38836412.39 38836412.61 0.0263 0.0134 Saturn 101619-06-01 16:33 G 38836788.96 38836789.19 38836789.43 0.0261 0.0077 Pluto 101620-04-09 15:50 G 38837101.91 38837102.16 38837102.42 0.0080 0.0019 Jupiter 101633-11-07 23:45 G 38842062.30 38842062.49 38842062.68 0.0530 0.0296 Saturn 101633-11-17 03:35 G 38842071.46 38842071.65 38842071.86 0.0298 0.0173 Saturn 101634-12-01 20:09 G 38842451.12 38842451.34 38842451.55 0.0301 0.0139 Mars 101641-02-09 01:26 G 38844712.38 38844712.56 38844712.75 0.1705 0.0403 Uranus 101642-04-11 12:14 G 38845138.78 38845139.01 38845139.25 0.0144 0.0059 Uranus 101643-04-16 14:23 G 38845508.87 38845509.10 38845509.35 0.0144 0.0050 Jupiter 101645-11-13 00:57 G 38846450.32 38846450.54 38846450.75 0.0531 0.0180 Saturn 101647-05-16 02:38 G 38846999.49 38846999.61 38846999.75 0.0265 0.0228 Saturn 101648-05-26 23:45 G 38847376.24 38847376.49 38847376.74 0.0262 0.0015 Saturn 101649-06-07 15:35 G 38847752.99 38847753.15 38847753.32 0.0260 0.0191 Saturn 101663-11-25 12:57 G 38853036.80 38853037.04 38853037.29 0.0301 0.0008 Jupiter 101675-05-11 02:38 G 38857221.40 38857221.61 38857221.82 0.0496 0.0214 Saturn 101677-05-22 05:45 G 38857963.51 38857963.74 38857963.97 0.0263 0.0107 Neptune 101678-04-15 05:45 G 38858291.63 38858291.74 38858291.91 0.0088 0.0074 Saturn 101678-06-02 23:59 G 38858340.27 38858340.50 38858340.73 0.0261 0.0102 Neptune 101679-04-17 17:45 G 38858659.05 38858659.24 38858659.46 0.0088 0.0055 Neptune 101680-04-19 05:45 G 38859026.51 38859026.74 38859026.99 0.0088 0.0036 Neptune 101681-04-21 17:45 G 38859393.99 38859394.24 38859394.50 0.0088 0.0017 Neptune 101682-04-24 05:45 G 38859761.48 38859761.74 38859762.00 0.0088 0.0002 Neptune 101683-04-26 17:45 G 38860128.98 38860129.24 38860129.49 0.0088 0.0021 Uranus 101683-10-11 13:40 G 38860296.88 38860297.07 38860297.29 0.0134 0.0076 Neptune 101684-04-28 05:45 G 38860496.51 38860496.74 38860496.97 0.0088 0.0040 Uranus 101684-10-14 19:54 G 38860666.08 38860666.33 38860666.59 0.0134 0.0010 Neptune 101685-04-30 17:45 G 38860864.05 38860864.24 38860864.43 0.0088 0.0059 Uranus 101685-10-19 01:54 G 38861035.41 38861035.58 38861035.76 0.0134 0.0096 Neptune 101686-05-03 05:45 G 38861231.63 38861231.74 38861231.87 0.0088 0.0078 Jupiter 101687-05-15 15:35 G 38861608.93 38861609.15 38861609.38 0.0495 0.0169

Saturn 101692-11-18 12:57 G 38863622.83 38863623.04 38863623.26 0.0299 0.0141 Saturn 101693-12-03 06:14 G 38864002.57 38864002.76 38864002.97 0.0301 0.0173 Saturn 101706-05-18 10:33 G 38868550.78 38868550.94 38868551.10 0.0264 0.0202 Saturn 101707-05-30 06:42 G 38868927.53 38868927.78 38868928.03 0.0262 0.0011 Saturn 101708-06-09 21:35 G 38869304.28 38869304.40 38869304.55 0.0260 0.0215 Jupiter 101716-11-08 05:59 G 38872377.58 38872377.75 38872377.92 0.0530 0.0350 Saturn 101721-11-13 06:14 G 38874208.69 38874208.76 38874208.84 0.0297 0.0282 Saturn 101722-11-27 20:09 G 38874588.10 38874588.34 38874588.58 0.0301 0.0023 Uranus 101726-04-12 21:50 G 38875820.18 38875820.41 38875820.65 0.0144 0.0054 Uranus 101727-04-17 23:59 G 38876190.27 38876190.50 38876190.75 0.0144 0.0055 Jupiter 101728-11-13 03:35 G 38876765.42 38876765.65 38876765.87 0.0530 0.0109 Saturn 101736-05-24 10:33 G 38879514.70 38879514.94 38879515.18 0.0263 0.0084 Saturn 101737-06-05 04:04 G 38879891.45 38879891.67 38879891.89 0.0261 0.0125 Mars 101745-08-14 19:11 G 38882884.12 38882884.30 38882884.48 0.1833 0.0738 Saturn 101751-11-21 16:33 G 38885173.97 38885174.19 38885174.41 0.0299 0.0115 Saturn 101752-12-05 10:33 G 38885553.77 38885553.94 38885554.13 0.0302 0.0200 Jupiter 101758-05-11 05:02 G 38887536.52 38887536.71 38887536.91 0.0495 0.0275 Neptune 101759-10-16 09:21 G 38888059.79 38888059.89 38888060.02 0.0090 0.0080 Neptune 101760-10-17 20:38 G 38888427.19 38888427.36 38888427.57 0.0090 0.0061 Neptune 101761-10-20 08:09 G 38888794.63 38888794.84 38888795.08 0.0090 0.0041 Neptune 101762-10-22 19:40 G 38889162.08 38889162.32 38889162.58 0.0090 0.0021 Neptune 101763-10-25 07:11 G 38889529.55 38889529.80 38889530.06 0.0090 0.0002 Neptune 101764-10-26 18:42 G 38889897.03 38889897.28 38889897.53 0.0090 0.0019 Saturn 101765-05-19 14:23 G 38890101.93 38890102.10 38890102.29 0.0264 0.0179 Neptune 101765-10-29 05:59 G 38890264.53 38890264.75 38890264.98 0.0090 0.0039 Saturn 101766-05-31 10:18 G 38890478.69 38890478.93 38890479.18 0.0261 0.0032 Neptune 101766-10-31 16:47 G 38890632.03 38890632.20 38890632.41 0.0090 0.0059 Saturn 101767-06-12 00:57 G 38890855.44 38890855.54 38890855.64 0.0260 0.0235 Uranus 101767-10-13 02:52 G 38890978.42 38890978.62 38890978.85 0.0134 0.0069 Neptune 101767-11-03 03:35 G 38890999.56 38890999.65 38890999.81 0.0090 0.0079

Uranus 101768-10-16 09:21 G 38891347.64 38891347.89 38891348.14 0.0134 0.0018 Uranus 101769-10-20 14:52 G 38891716.98 38891717.12 38891717.30 0.0134 0.0104 Jupiter 101770-05-15 18:42 G 38891924.05 38891924.28 38891924.51 0.0495 0.0108 Pluto 101778-10-12 17:59 G 38894996.00 38894996.25 38894996.51 0.0064 0.0007 Saturn 101780-11-14 06:57 G 38895759.68 38895759.79 38895759.92 0.0298 0.0260 Saturn 101781-11-28 21:21 G 38896139.15 38896139.39 38896139.63 0.0301 0.0047 Jupiter 101782-05-20 08:09 G 38896311.84 38896311.84 38896311.85 0.0496 0.0495 Saturn 101795-05-26 11:59 G 38901065.76 38901066.00 38901066.24 0.0262 0.0063 Saturn 101796-06-06 05:02 G 38901442.51 38901442.71 38901442.92 0.0260 0.0144 Jupiter 101799-11-08 09:06 G 38902692.74 38902692.88 38902693.02 0.0530 0.0420 Uranus 101810-04-14 05:59 G 38906501.52 38906501.75 38906502.00 0.0144 0.0050 Saturn 101810-11-23 16:04 G 38906724.94 38906725.17 38906725.40 0.0299 0.0093 Uranus 101811-04-19 07:54 G 38906871.61 38906871.83 38906872.08 0.0144 0.0059 Jupiter 101811-11-14 08:52 G 38907080.64 38907080.87 38907081.10 0.0531 0.0047 Saturn 101811-12-08 10:47 G 38907104.79 38907104.95 38907105.11 0.0302 0.0222 Jupiter 101823-11-19 10:33 G 38911468.91 38911468.94 38911468.98 0.0531 0.0523 Saturn 101824-05-21 15:06 G 38911652.93 38911653.13 38911653.32 0.0264 0.0160 Saturn 101825-06-02 10:18 G 38912029.69 38912029.93 38912030.18 0.0261 0.0052 Saturn 101826-06-14 00:42 G 38912406.48 38912406.53 38912406.58 0.0260 0.0253 Saturn 101839-11-17 04:04 G 38917310.53 38917310.67 38917310.81 0.0298 0.0241 Saturn 101840-11-30 18:28 G 38917690.04 38917690.27 38917690.51 0.0301 0.0067 Jupiter 101841-05-11 15:06 G 38917851.95 38917852.13 38917852.32 0.0496 0.0310 Neptune 101842-04-16 11:30 G 38918191.91 38918191.98 38918192.12 0.0088 0.0081 Neptune 101843-04-18 23:45 G 38918559.33 38918559.49 38918559.70 0.0088 0.0062 Neptune 101844-04-20 11:30 G 38918926.77 38918926.98 38918927.23 0.0088 0.0043 Neptune 101845-04-22 23:30 G 38919294.25 38919294.48 38919294.75 0.0088 0.0024 Neptune 101846-04-25 11:45 G 38919661.73 38919661.99 38919662.26 0.0088 0.0004 Neptune 101847-04-27 23:45 G 38920029.24 38920029.49 38920029.75 0.0088 0.0015 Neptune 101848-04-29 11:16 G 38920396.75 38920396.97 38920397.23 0.0088 0.0034 Neptune 101849-05-01 23:16 G 38920764.28 38920764.47 38920764.70 0.0088 0.0053

Neptune 101850-05-04 11:16 G 38921131.85 38921131.97 38921132.14 0.0088 0.0072 Uranus 101851-10-14 15:06 G 38921659.91 38921660.13 38921660.36 0.0135 0.0062 Uranus 101852-10-17 21:21 G 38922029.14 38922029.39 38922029.64 0.0135 0.0025 Jupiter 101853-05-16 05:45 G 38922239.51 38922239.74 38922239.98 0.0496 0.0079 Saturn 101853-05-16 11:16 G 38922239.94 38922239.97 38922240.03 0.0265 0.0261 \* Uranus 101853-10-22 03:21 G 38922398.51 38922398.64 38922398.79 0.0135 0.0111 Saturn 101854-05-28 10:18 G 38922616.69 38922616.93 38922617.18 0.0262 0.0046 Saturn 101855-06-09 03:21 G 38922993.45 38922993.64 38922993.84 0.0260 0.0162 Jupiter 101865-05-20 19:54 G 38926627.25 38926627.33 38926627.41 0.0496 0.0464 Pluto 101868-04-12 19:40 G 38927685.08 38927685.32 38927685.58 0.0080 0.0022 Saturn 101869-11-24 11:16 G 38928275.74 38928275.97 38928276.21 0.0299 0.0076 Saturn 101870-12-09 05:59 G 38928655.61 38928655.75 38928655.90 0.0302 0.0240 Jupiter 101882-11-08 21:06 G 38933008.26 38933008.38 38933008.50 0.0531 0.0451 Saturn 101883-05-23 12:28 G 38933203.82 38933204.02 38933204.24 0.0264 0.0144 Saturn 101884-06-03 07:54 G 38933580.59 38933580.83 38933581.07 0.0261 0.0067 Uranus 101894-04-14 17:45 G 38937183.00 38937183.24 38937183.49 0.0144 0.0043 Jupiter 101894-11-13 21:50 G 38937396.18 38937396.41 38937396.64 0.0531 0.0021 Uranus 101895-04-19 19:40 G 38937553.10 38937553.32 38937553.56 0.0144 0.0066 Saturn 101898-11-17 22:47 G 38938861.30 38938861.45 38938861.61 0.0298 0.0225 Saturn 101899-12-02 13:11 G 38939240.83 38939241.05 38939241.29 0.0301 0.0084 Jupiter 101906-11-19 20:52 G 38941784.27 38941784.37 38941784.46 0.0531 0.0483 Saturn 101912-05-18 07:26 G 38943790.73 38943790.81 38943790.91 0.0265 0.0246 Saturn 101913-05-30 06:42 G 38944167.53 38944167.78 38944168.03 0.0262 0.0031 Saturn 101914-06-10 23:30 G 38944544.30 38944544.48 38944544.67 0.0260 0.0176 Neptune 101923-10-17 15:06 G 38947960.10 38947960.13 38947960.21 0.0090 0.0088 Jupiter 101924-05-12 03:50 G 38948167.50 38948167.66 38948167.84 0.0496 0.0335 Neptune 101924-10-19 02:52 G 38948327.47 38948327.62 38948327.80 0.0090 0.0068 Mars 101925-02-12 19:54 G 38948444.14 38948444.33 38948444.52 0.1713 0.0151 Neptune 101925-10-21 14:23 G 38948694.90 38948695.10 38948695.32 0.0090 0.0048 Neptune 101926-10-24 01:40 G 38949062.34 38949062.57 38949062.82 0.0090 0.0028

Neptune 101927-10-26 13:11 G 38949429.80 38949430.05 38949430.31 0.0090 0.0009 Neptune 101928-10-28 00:42 G 38949797.28 38949797.53 38949797.79 0.0090 0.0012 Saturn 101928-11-26 05:02 G 38949826.47 38949826.71 38949826.95 0.0299 0.0061 Neptune 101929-10-30 11:45 G 38950164.77 38950164.99 38950165.25 0.0090 0.0032 Saturn 101929-12-10 23:30 G 38950206.36 38950206.48 38950206.62 0.0302 0.0255 Neptune 101930-11-01 23:02 G 38950532.28 38950532.46 38950532.69 0.0090 0.0052 Neptune 101931-11-04 10:47 G 38950899.81 38950899.95 38950900.11 0.0090 0.0071 Uranus 101935-10-16 02:52 G 38952341.40 38952341.62 38952341.86 0.0135 0.0056 Jupiter 101936-05-16 14:52 G 38952554.88 38952555.12 38952555.36 0.0495 0.0043 Uranus 101936-10-19 09:06 G 38952710.65 38952710.88 38952711.14 0.0135 0.0032 Uranus 101937-10-23 15:06 G 38953080.03 38953080.13 38953080.27 0.0135 0.0118 Saturn 101942-05-25 07:54 G 38954754.62 38954754.83 38954755.05 0.0264 0.0130 Saturn 101943-06-06 03:35 G 38955131.41 38955131.65 38955131.89 0.0261 0.0081 Jupiter 101948-05-21 04:33 G 38956942.58 38956942.69 38956942.81 0.0495 0.0426 Saturn 101957-11-19 16:47 G 38960412.03 38960412.20 38960412.37 0.0297 0.0209 Saturn 101958-12-04 06:42 G 38960791.56 38960791.78 38960792.02 0.0301 0.0099 Jupiter 101965-11-09 08:52 G 38963323.78 38963323.87 38963323.97 0.0530 0.0483 Saturn 101971-05-20 02:09 G 38965341.48 38965341.59 38965341.72 0.0265 0.0232 Saturn 101972-05-31 01:26 G 38965718.31 38965718.56 38965718.81 0.0262 0.0017 Saturn 101973-06-11 18:14 G 38966095.10 38966095.26 38966095.44 0.0260 0.0190 Uranus 101977-04-11 04:33 G 38967494.69 38967494.69 38967494.71 0.0143 0.0143 Jupiter 101977-11-14 05:45 G 38967711.51 38967711.74 38967711.97 0.0531 0.0029 Uranus 101978-04-16 05:59 G 38967864.51 38967864.75 38967865.01 0.0143 0.0036 Uranus 101979-04-21 07:54 G 38968234.62 38968234.83 38968235.06 0.0144 0.0074 Saturn 101987-11-27 22:47 G 38971377.21 38971377.45 38971377.69 0.0299 0.0046 Saturn 101988-12-11 17:16 G 38971757.12 38971757.22 38971757.34 0.0302 0.0270 Jupiter 101989-11-19 05:30 G 38972099.61 38972099.73 38972099.86 0.0531 0.0436

## 103RD MILLENNIUM CE

## This is a list of transits of Earth in the 103rd millennium CE.

FROM MAX- C START MAX END SUNRAD DEPTH S

TRANSIT

TIME

Saturn 102001-05-26 02:52 G 38976305.40 38976305.62 38976305.84 0.0264 0.0117 Saturn 102002-06-06 22:47 G 38976682.22 38976682.45 38976682.68 0.0262 0.0095 Neptune 102006-04-16 18:28 G 38978092.26 38978092.27 38978092.32 0.0088 0.0087 Neptune 102007-04-19 06:42 G 38978459.62 38978459.78 38978459.95 0.0088 0.0068 Jupiter 102007-05-12 14:09 G 38978482.94 38978483.09 38978483.26 0.0495 0.0364 Neptune 102008-04-20 18:28 G 38978827.07 38978827.27 38978827.50 0.0088 0.0049 Neptune 102009-04-23 06:28 G 38979194.54 38979194.77 38979195.03 0.0088 0.0030 Neptune 102010-04-25 18:42 G 38979562.02 38979562.28 38979562.54 0.0088 0.0011 Neptune 102011-04-28 06:28 G 38979929.51 38979929.77 38979930.03 0.0088 0.0008 Neptune 102012-04-29 18:14 G 38980297.02 38980297.26 38980297.52 0.0088 0.0028 Neptune 102013-05-02 05:59 G 38980664.55 38980664.75 38980664.99 0.0088 0.0047 Neptune 102014-05-04 17:45 G 38981032.09 38981032.24 38981032.44 0.0088 0.0066 Neptune 102015-05-07 05:45 G 38981399.70 38981399.74 38981399.84 0.0088 0.0085 Saturn 102016-11-20 12:14 G 38981962.83 38981963.01 38981963.20 0.0297 0.0193 Saturn 102017-12-05 01:54 G 38982342.36 38982342.58 38982342.81 0.0301 0.0115 Jupiter 102019-05-17 03:06 G 38982870.40 38982870.63 38982870.87 0.0495 0.0020 Uranus 102019-10-16 14:23 G 38983022.88 38983023.10 38983023.35 0.0135 0.0050 Uranus 102020-10-19 20:52 G 38983392.14 38983392.37 38983392.62 0.0135 0.0038 Uranus 102021-10-24 03:21 G 38983761.55 38983761.64 38983761.74 0.0135 0.0124 Pluto 102026-10-16 00:14 G 38985579.31 38985579.51 38985579.75 0.0064 0.0033 Pluto 102027-10-17 11:45 G 38985945.80 38985945.99 38985946.19 0.0064 0.0041 Mars 102029-08-16 18:28 G 38986615.10 38986615.27 38986615.44 0.1824 0.0893

Saturn 102030-05-20 20:38 G 38986892.23 38986892.36 38986892.51 0.0265 0.0219 Jupiter 102031-05-21 17:02 G 38987258.08 38987258.21 38987258.36 0.0495 0.0402 Saturn 102031-06-01 20:09 G 38987269.09 38987269.34 38987269.59 0.0263 0.0005 Saturn 102032-06-12 13:26 G 38987645.91 38987646.06 38987646.22 0.0260 0.0204 Saturn 102046-11-28 18:28 G 38992928.03 38992928.27 38992928.51 0.0299 0.0029 Saturn 102047-12-13 12:42 G 38993307.97 38993308.03 38993308.12 0.0302 0.0286 Saturn 102060-05-26 22:04 G 38997856.19 38997856.42 38997856.65 0.0264 0.0103 Jupiter 102060-11-13 15:35 G 38998026.93 38998027.15 38998027.38 0.0531 0.0067 Uranus 102061-04-11 17:45 G 38998176.18 38998176.24 38998176.35 0.0143 0.0136 Saturn 102061-06-07 18:14 G 38998233.04 38998233.26 38998233.49 0.0262 0.0109 Uranus 102062-04-16 19:54 G 38998546.08 38998546.33 38998546.59 0.0143 0.0027 Uranus 102063-04-21 21:35 G 38998916.20 38998916.40 38998916.63 0.0143 0.0082 Jupiter 102072-11-18 16:47 G 39002415.05 39002415.20 39002415.35 0.0531 0.0405 Saturn 102075-11-22 10:18 G 39003513.74 39003513.93 39003514.13 0.0297 0.0175 Saturn 102076-12-05 23:45 G 39003893.28 39003893.49 39003893.71 0.0300 0.0133 Neptune 102088-10-18 09:50 G 39008227.79 39008227.91 39008228.07 0.0090 0.0075 Saturn 102089-05-21 16:33 G 39008443.05 39008443.19 39008443.36 0.0266 0.0206 Neptune 102089-10-20 21:35 G 39008595.20 39008595.40 39008595.60 0.0090 0.0055 Jupiter 102090-05-12 00:57 G 39008798.41 39008798.54 39008798.69 0.0495 0.0395 Saturn 102090-06-02 16:33 G 39008819.94 39008820.19 39008820.44 0.0263 0.0011 Neptune 102090-10-23 08:23 G 39008962.64 39008962.85 39008963.10 0.0090 0.0036 Saturn 102091-06-14 09:50 G 39009196.79 39009196.91 39009197.06 0.0261 0.0218 Neptune 102091-10-25 20:09 G 39009330.10 39009330.34 39009330.60 0.0090 0.0016 Neptune 102092-10-27 07:26 G 39009697.56 39009697.81 39009698.07 0.0090 0.0005 Neptune 102093-10-29 18:28 G 39010065.04 39010065.27 39010065.53 0.0090 0.0025 Neptune 102094-11-01 05:30 G 39010432.54 39010432.73 39010432.98 0.0090 0.0045 Neptune 102095-11-03 17:02 G 39010800.05 39010800.21 39010800.40 0.0090 0.0064 Neptune 102096-11-05 04:18 G 39011167.62 39011167.68 39011167.79 0.0090 0.0084 Jupiter 102102-05-17 14:52 G 39013185.88 39013186.12 39013186.35 0.0495 0.0013 Uranus 102102-10-13 20:09 G 39013335.29 39013335.34 39013335.41 0.0135 0.0130

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Neptune 102256-10-28 15:35 G 39069597.89 39069598.15 39069598.40 0.0090 0.0003 Neptune 102257-10-31 02:38 G 39069965.37 39069965.61 39069965.87 0.0090 0.0018 Neptune 102258-11-02 13:40 G 39070332.85 39070333.07 39070333.32 0.0090 0.0038 Neptune 102259-11-05 01:26 G 39070700.36 39070700.56 39070700.75 0.0090 0.0057 Neptune 102260-11-06 12:14 G 39071067.89 39071068.01 39071068.15 0.0090 0.0077 Saturn 102266-05-27 22:33 G 39073096.24 39073096.44 39073096.65 0.0266 0.0148 Saturn 102267-06-08 22:04 G 39073473.19 39073473.42 39073473.67 0.0263 0.0068 Jupiter 102268-05-17 02:09 G 39073816.36 39073816.59 39073816.83 0.0495 0.0108 Uranus 102270-10-15 20:09 G 39074698.24 39074698.34 39074698.48 0.0135 0.0118 Uranus 102271-10-20 03:21 G 39075067.40 39075067.64 39075067.89 0.0135 0.0030 Uranus 102272-10-23 09:35 G 39075436.69 39075436.90 39075437.14 0.0135 0.0058 Pluto 102275-10-20 15:50 G 39076528.92 39076529.16 39076529.42 0.0064 0.0010 Jupiter 102280-05-21 14:38 G 39078203.92 39078204.11 39078204.32 0.0495 0.0271 Saturn 102281-11-22 12:57 G 39078753.89 39078754.04 39078754.21 0.0296 0.0224 Saturn 102282-12-06 23:45 G 39079133.25 39079133.49 39079133.72 0.0299 0.0078 Saturn 102295-05-23 02:52 G 39083683.53 39083683.62 39083683.72 0.0267 0.0244 Saturn 102296-06-03 05:45 G 39084060.49 39084060.74 39084060.99 0.0264 0.0026 Saturn 102297-06-15 01:40 G 39084437.41 39084437.57 39084437.76 0.0262 0.0184 Jupiter 102309-11-14 23:30 G 39088972.29 39088972.48 39088972.69 0.0531 0.0273 Saturn 102311-12-02 03:35 G 39089719.41 39089719.65 39089719.88 0.0297 0.0056 Saturn 102312-12-15 17:59 G 39090099.13 39090099.25 39090099.39 0.0300 0.0253 Uranus 102313-04-16 00:28 G 39090220.38 39090220.52 39090220.66 0.0143 0.0120 Mars 102313-08-19 20:09 G 39090346.17 39090346.34 39090346.50 0.1814 0.0934 Uranus 102314-04-21 02:09 G 39090590.33 39090590.59 39090590.85 0.0143 0.0011 Uranus 102315-04-26 03:35 G 39090960.48 39090960.65 39090960.86 0.0143 0.0098 Jupiter 102321-11-19 23:59 G 39093360.29 39093360.50 39093360.71 0.0531 0.0194 Saturn 102325-05-30 07:26 G 39094647.60 39094647.81 39094648.04 0.0265 0.0122 Saturn 102326-06-11 06:28 G 39095024.54 39095024.77 39095025.01 0.0263 0.0092 Neptune 102335-04-20 20:23 G 39098260.27 39098260.35 39098260.47 0.0088 0.0081 Neptune 102336-04-22 08:23 G 39098627.68 39098627.85 39098628.05 0.0088 0.0062

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Mars 102414-02-14 17:16 G 39127050.09 39127050.22 39127050.36 0.1734 0.1229 Saturn 102414-06-08 03:06 G 39127163.38 39127163.63 39127163.88 0.0264 0.0029 Saturn 102415-06-19 22:18 G 39127540.33 39127540.43 39127540.54 0.0262 0.0235 Neptune 102416-10-20 01:54 G 39128028.57 39128028.58 39128028.62 0.0090 0.0089 Neptune 102417-10-22 13:25 G 39128395.91 39128396.06 39128396.24 0.0090 0.0069 Neptune 102418-10-25 01:11 G 39128763.34 39128763.55 39128763.77 0.0090 0.0049 Neptune 102419-10-27 12:28 G 39129130.78 39129131.02 39129131.27 0.0090 0.0029 Neptune 102420-10-28 23:45 G 39129498.24 39129498.49 39129498.75 0.0090 0.0009 Neptune 102421-10-31 11:01 G 39129865.71 39129865.96 39129866.22 0.0090 0.0011 Neptune 102422-11-02 22:18 G 39130233.20 39130233.43 39130233.68 0.0090 0.0031 Neptune 102423-11-05 09:06 G 39130600.69 39130600.88 39130601.11 0.0090 0.0051 Neptune 102424-11-06 20:09 G 39130968.21 39130968.34 39130968.53 0.0090 0.0071 Saturn 102428-11-21 13:11 G 39132443.96 39132444.05 39132444.16 0.0295 0.0269 Saturn 102429-12-05 21:35 G 39132823.16 39132823.40 39132823.64 0.0298 0.0026 Jupiter 102434-05-17 03:49 G 39134446.45 39134446.66 39134446.86 0.0495 0.0241 Uranus 102438-10-17 17:45 G 39136061.10 39136061.24 39136061.41 0.0135 0.0107 Uranus 102439-10-22 00:57 G 39136430.30 39136430.54 39136430.79 0.0135 0.0019 Uranus 102440-10-25 07:40 G 39136799.61 39136799.82 39136800.04 0.0135 0.0069 Saturn 102443-06-03 08:09 G 39137750.60 39137750.84 39137751.08 0.0265 0.0065 Saturn 102444-06-14 05:30 G 39138127.53 39138127.73 39138127.94 0.0262 0.0146 Jupiter 102446-05-21 15:21 G 39138833.91 39138834.14 39138834.37 0.0495 0.0132 Saturn 102458-11-29 23:59 G 39143409.28 39143409.50 39143409.73 0.0297 0.0108 Saturn 102459-12-14 13:25 G 39143788.88 39143789.06 39143789.24 0.0300 0.0198 Saturn 102472-05-28 14:37 G 39148337.92 39148338.11 39148338.32 0.0266 0.0158 Saturn 102473-06-09 14:52 G 39148714.88 39148715.12 39148715.37 0.0263 0.0057 Saturn 102474-06-21 09:21 G 39149091.89 39149091.89 39149091.90 0.0261 0.0261 Jupiter 102475-11-13 14:23 G 39149602.00 39149602.10 39149602.21 0.0531 0.0468 Uranus 102481-04-16 20:09 G 39151583.20 39151583.34 39151583.53 0.0143 0.0109 Uranus 102482-04-21 22:04 G 39151953.16 39151953.42 39151953.68 0.0143 0.0000 Uranus 102483-04-26 23:16 G 39152323.32 39152323.47 39152323.65 0.0143 0.0109

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Uranus 102691-10-25 06:57 G 39228474.54 39228474.79 39228475.04 0.0135 0.0005 Uranus 102692-10-28 13:40 G 39228843.88 39228844.07 39228844.28 0.0135 0.0083 Saturn 102693-11-24 10:47 G 39229235.87 39229235.95 39229236.05 0.0295 0.0274 Saturn 102694-12-08 19:25 G 39229615.07 39229615.31 39229615.55 0.0299 0.0021 Jupiter 102695-05-22 00:42 G 39229779.29 39229779.53 39229779.76 0.0495 0.0044 Mars 102698-02-17 08:23 G 39230781.68 39230781.85 39230782.03 0.1743 0.0789 Jupiter 102707-05-27 14:52 G 39234166.95 39234167.12 39234167.29 0.0495 0.0335 Saturn 102708-06-06 21:21 G 39234543.15 39234543.39 39234543.63 0.0264 0.0055 Saturn 102709-06-18 18:13 G 39234920.06 39234920.26 39234920.46 0.0262 0.0154 Saturn 102723-12-03 17:45 G 39240201.02 39240201.24 39240201.46 0.0297 0.0114 Saturn 102724-12-17 07:11 G 39240580.61 39240580.80 39240580.98 0.0300 0.0191 Uranus 102733-04-21 07:25 G 39243627.63 39243627.81 39243628.03 0.0143 0.0090 Uranus 102734-04-26 08:52 G 39243997.62 39243997.87 39243998.13 0.0143 0.0020 Uranus 102735-05-01 10:04 G 39244367.83 39244367.92 39244368.04 0.0143 0.0129 Jupiter 102736-11-19 00:13 G 39244935.30 39244935.51 39244935.73 0.0532 0.0206 Saturn 102737-06-01 23:01 G 39245130.26 39245130.46 39245130.67 0.0266 0.0153 Saturn 102738-06-13 22:33 G 39245507.21 39245507.44 39245507.69 0.0263 0.0061 Neptune 102745-10-24 07:11 G 39248196.73 39248196.80 39248196.93 0.0090 0.0083 Neptune 102746-10-26 18:57 G 39248564.13 39248564.29 39248564.49 0.0090 0.0063 Neptune 102747-10-29 06:28 G 39248931.57 39248931.77 39248932.01 0.0090 0.0043 Neptune 102748-10-30 18:13 G 39249299.03 39249299.26 39249299.52 0.0090 0.0023 Jupiter 102748-11-24 00:57 G 39249323.34 39249323.54 39249323.74 0.0531 0.0260 Neptune 102749-11-02 05:59 G 39249666.50 39249666.75 39249667.01 0.0090 0.0002 Neptune 102750-11-04 17:16 G 39250033.98 39250034.22 39250034.48 0.0090 0.0018 Neptune 102751-11-07 04:18 G 39250401.47 39250401.68 39250401.93 0.0090 0.0039 Neptune 102752-11-08 15:21 G 39250768.98 39250769.14 39250769.36 0.0090 0.0059 Saturn 102752-11-26 09:21 G 39250786.78 39250786.89 39250787.02 0.0295 0.0254 Neptune 102753-11-11 03:06 G 39251136.52 39251136.63 39251136.76 0.0090 0.0078 Saturn 102753-12-10 18:13 G 39251166.02 39251166.26 39251166.50 0.0299 0.0041 Jupiter 102766-05-17 21:35 G 39255707.31 39255707.40 39255707.49 0.0495 0.0455

Saturn 102766-05-27 17:59 G 39255717.18 39255717.25 39255717.33 0.0267 0.0254 Saturn 102767-06-08 21:21 G 39256094.14 39256094.39 39256094.64 0.0264 0.0037 Saturn 102768-06-19 17:45 G 39256471.06 39256471.24 39256471.43 0.0262 0.0172 Pluto 102772-10-27 07:25 G 39258061.57 39258061.81 39258062.08 0.0064 0.0010 Uranus 102774-10-22 10:18 G 39258786.77 39258786.93 39258787.14 0.0135 0.0089 Uranus 102775-10-26 17:45 G 39259155.99 39259156.24 39259156.49 0.0135 0.0001 Uranus 102776-10-30 00:28 G 39259525.33 39259525.52 39259525.71 0.0135 0.0088 Mars 102777-02-20 22:33 G 39259639.39 39259639.44 39259639.49 0.1736 0.1667 Jupiter 102778-05-22 11:30 G 39260094.75 39260094.98 39260095.21 0.0495 0.0076 Saturn 102782-12-04 14:37 G 39261751.88 39261752.11 39261752.34 0.0297 0.0095 Saturn 102783-12-19 04:04 G 39262131.51 39262131.67 39262131.86 0.0300 0.0211 Jupiter 102790-05-26 21:35 G 39264482.21 39264482.40 39264482.59 0.0494 0.0292 Saturn 102796-06-02 22:04 G 39266681.21 39266681.42 39266681.63 0.0266 0.0136 Saturn 102797-06-14 21:35 G 39267058.16 39267058.40 39267058.64 0.0263 0.0077 Saturn 102811-11-28 05:45 G 39272337.60 39272337.74 39272337.88 0.0295 0.0237 Saturn 102812-12-11 14:23 G 39272716.86 39272717.10 39272717.34 0.0299 0.0059 Uranus 102817-04-21 16:04 G 39274308.98 39274309.17 39274309.39 0.0143 0.0086 Uranus 102818-04-26 17:30 G 39274678.98 39274679.23 39274679.49 0.0143 0.0024 Uranus 102819-05-01 18:28 G 39275049.20 39275049.27 39275049.38 0.0143 0.0133 Jupiter 102819-11-19 10:18 G 39275250.73 39275250.93 39275251.14 0.0531 0.0244 Saturn 102825-05-28 15:06 G 39277268.03 39277268.13 39277268.25 0.0267 0.0239 Saturn 102826-06-09 18:28 G 39277645.02 39277645.27 39277645.52 0.0264 0.0021 Saturn 102827-06-21 14:37 G 39278021.95 39278022.11 39278022.30 0.0262 0.0188 Neptune 102828-04-23 10:04 G 39278328.83 39278328.92 39278329.04 0.0088 0.0080 Neptune 102829-04-25 21:49 G 39278696.24 39278696.41 39278696.61 0.0088 0.0061 Neptune 102830-04-28 09:35 G 39279063.69 39279063.90 39279064.15 0.0088 0.0042 Neptune 102831-04-30 21:35 G 39279431.16 39279431.40 39279431.66 0.0088 0.0023 Jupiter 102831-11-24 07:25 G 39279638.60 39279638.81 39279639.02 0.0531 0.0205 Neptune 102832-05-02 09:49 G 39279798.65 39279798.91 39279799.17 0.0088 0.0003 Neptune 102833-05-04 21:21 G 39280166.15 39280166.39 39280166.66 0.0088 0.0017

Neptune 102834-05-07 09:21 G 39280533.67 39280533.89 39280534.14 0.0088 0.0036 Neptune 102835-05-09 21:35 G 39280901.21 39280901.40 39280901.61 0.0088 0.0055 Neptune 102836-05-11 09:06 G 39281268.77 39281268.88 39281269.05 0.0088 0.0075 Saturn 102841-12-05 08:52 G 39283302.64 39283302.87 39283303.10 0.0297 0.0080 Saturn 102842-12-19 22:33 G 39283682.29 39283682.44 39283682.60 0.0300 0.0227 Jupiter 102849-05-17 06:57 G 39286022.75 39286022.79 39286022.83 0.0495 0.0485 Saturn 102855-06-04 18:42 G 39288232.07 39288232.28 39288232.51 0.0266 0.0121 Saturn 102856-06-15 18:28 G 39288609.04 39288609.27 39288609.50 0.0263 0.0092 Uranus 102858-10-22 20:09 G 39289468.16 39289468.34 39289468.55 0.0135 0.0084 Uranus 102859-10-27 03:21 G 39289837.39 39289837.64 39289837.89 0.0135 0.0005 Uranus 102860-10-30 09:49 G 39290206.75 39290206.91 39290207.11 0.0135 0.0093 Jupiter 102861-05-21 20:52 G 39290410.14 39290410.37 39290410.60 0.0494 0.0109 Pluto 102862-04-27 20:09 G 39290751.12 39290751.34 39290751.60 0.0080 0.0031 Saturn 102870-11-28 23:45 G 39293888.35 39293888.49 39293888.66 0.0295 0.0223 Saturn 102871-12-13 08:37 G 39294267.63 39294267.86 39294268.10 0.0299 0.0075 Jupiter 102873-05-26 09:35 G 39294797.70 39294797.90 39294798.10 0.0495 0.0265 Mars 102881-08-23 05:01 G 39297808.53 39297808.71 39297808.88 0.1795 0.0794 Saturn 102884-05-29 10:47 G 39298818.82 39298818.95 39298819.09 0.0267 0.0225 Saturn 102885-06-10 14:09 G 39299195.85 39299196.09 39299196.34 0.0264 0.0008 Saturn 102886-06-22 10:33 G 39299572.80 39299572.94 39299573.11 0.0262 0.0202 Saturn 102900-12-07 03:21 G 39304853.41 39304853.64 39304853.88 0.0297 0.0065 Uranus 102901-04-22 23:30 G 39304990.27 39304990.48 39304990.69 0.0143 0.0082 Saturn 102901-12-21 17:01 G 39305233.07 39305233.21 39305233.35 0.0300 0.0241 Uranus 102902-04-28 00:28 G 39305360.27 39305360.52 39305360.78 0.0143 0.0026 Jupiter 102902-11-19 18:13 G 39305566.07 39305566.26 39305566.45 0.0531 0.0292 Uranus 102903-05-03 01:25 G 39305730.49 39305730.56 39305730.65 0.0143 0.0136 Neptune 102909-10-24 17:30 G 39308097.22 39308097.23 39308097.29 0.0090 0.0089 Neptune 102910-10-27 05:01 G 39308464.56 39308464.71 39308464.89 0.0090 0.0069 Neptune 102911-10-29 16:33 G 39308831.99 39308832.19 39308832.42 0.0090 0.0049 Neptune 102912-10-31 04:04 G 39309199.44 39309199.67 39309199.92 0.0090 0.0029

Neptune 102913-11-02 15:35 G 39309566.91 39309567.15 39309567.41 0.0090 0.0009 Saturn 102914-06-06 14:09 G 39309782.87 39309783.09 39309783.33 0.0266 0.0107 Neptune 102914-11-05 03:06 G 39309934.38 39309934.63 39309934.89 0.0090 0.0012 Jupiter 102914-11-24 18:13 G 39309954.04 39309954.26 39309954.48 0.0532 0.0173 Saturn 102915-06-18 13:54 G 39310159.86 39310160.08 39310160.31 0.0263 0.0106 Neptune 102915-11-07 14:37 G 39310301.87 39310302.11 39310302.35 0.0090 0.0032 Neptune 102916-11-09 01:25 G 39310669.38 39310669.56 39310669.79 0.0090 0.0053 Neptune 102917-11-11 12:57 G 39311036.90 39311037.04 39311037.20 0.0090 0.0072 Saturn 102929-11-30 18:57 G 39315439.13 39315439.29 39315439.47 0.0295 0.0207 Saturn 102930-12-15 03:21 G 39315818.41 39315818.64 39315818.87 0.0298 0.0090 Uranus 102942-10-24 05:45 G 39320149.55 39320149.74 39320149.96 0.0135 0.0080 Saturn 102943-06-01 05:30 G 39320369.59 39320369.73 39320369.89 0.0267 0.0212 Uranus 102943-10-28 12:57 G 39320518.79 39320519.04 39320519.29 0.0135 0.0009 Jupiter 102944-05-22 08:52 G 39320725.64 39320725.87 39320726.10 0.0495 0.0135 Saturn 102944-06-12 09:35 G 39320746.65 39320746.90 39320747.15 0.0264 0.0007 Uranus 102944-10-31 19:54 G 39320888.16 39320888.33 39320888.50 0.0135 0.0097 Saturn 102945-06-24 06:13 G 39321123.63 39321123.76 39321123.91 0.0262 0.0215 Jupiter 102956-05-26 22:33 G 39325113.24 39325113.44 39325113.65 0.0495 0.0242 Saturn 102959-12-08 22:33 G 39326404.21 39326404.44 39326404.68 0.0297 0.0050 Saturn 102960-12-22 11:59 G 39326783.88 39326784.00 39326784.12 0.0300 0.0256 Saturn 102973-06-07 09:35 G 39331333.68 39331333.90 39331334.14 0.0266 0.0094 Saturn 102974-06-19 09:49 G 39331710.69 39331710.91 39331711.13 0.0263 0.0120 Mars 102982-02-19 22:18 G 39334513.24 39334513.43 39334513.62 0.1751 0.0390 Uranus 102985-04-23 07:25 G 39335671.61 39335671.81 39335672.04 0.0143 0.0079 Jupiter 102985-11-19 04:47 G 39335881.53 39335881.70 39335881.89 0.0532 0.0325 Uranus 102986-04-28 08:37 G 39336041.61 39336041.86 39336042.11 0.0143 0.0030 Uranus 102987-05-03 09:21 G 39336411.85 39336411.89 39336411.96 0.0143 0.0139 Saturn 102988-12-01 17:01 G 39336990.03 39336990.21 39336990.40 0.0294 0.0189 Saturn 102989-12-16 00:57 G 39337369.32 39337369.54 39337369.77 0.0298 0.0108 Neptune 102992-04-23 18:57 G 39338229.26 39338229.29 39338229.36 0.0088 0.0086 Neptune 102993-04-26 06:42 G 39338596.64 39338596.78 39338596.97 0.0088 0.0067

Neptune 102994-04-28 18:42 G 39338964.08 39338964.28 39338964.52 0.0088 0.0048

Neptune 102995-05-01 06:57 G 39339331.55 39339331.79 39339332.04 0.0088 0.0028

Neptune 102996-05-02 18:57 G 39339699.03 39339699.29 39339699.55 0.0088 0.0009

Neptune 102997-05-05 06:42 G 39340066.53 39340066.78 39340067.05 0.0088 0.0011

Jupiter 102997-11-24 05:30 G 39340269.51 39340269.73 39340269.95 0.0532 0.0138

Neptune 102998-05-07 18:42 G 39340434.04 39340434.28 39340434.54 0.0088 0.0030

Neptune 102999-05-10 06:13 G 39340801.57 39340801.76 39340802.00 0.0088 0.0050

Neptune 103000-05-12 18:28 G 39341169.13 39341169.27 39341169.45 0.0088 0.0069

## 104TH MILLENNIUM CE

## This is a list of transits of Earth in the 104th millennium CE.

FROM MAX- C START MAX END SUNRAD DEPTH S

TRANSIT

TIME

Saturn 103002-06-03 01:11 G 39341920.40 39341920.55 39341920.73 0.0268 0.0198

Saturn 103003-06-15 05:30 G 39342297.48 39342297.73 39342297.98 0.0264 0.0021

Saturn 103004-06-26 02:09 G 39342674.49 39342674.59 39342674.73 0.0262 0.0229

Saturn 103018-12-10 20:52 G 39347955.13 39347955.37 39347955.61 0.0297 0.0031

Saturn 103019-12-25 09:49 G 39348334.82 39348334.91 39348335.01 0.0300 0.0274

Pluto 103020-10-30 09:06 G 39348644.66 39348644.88 39348645.11 0.0064 0.0030

Pluto 103021-10-31 19:54 G 39349011.16 39349011.33 39349011.53 0.0064 0.0044

Uranus 103026-10-25 13:54 G 39350830.87 39350831.08 39350831.29 0.0135 0.0077

Jupiter 103027-05-23 19:54 G 39351041.10 39351041.33 39351041.55 0.0494 0.0161

Uranus 103027-10-29 20:52 G 39351200.12 39351200.37 39351200.62 0.0135 0.0012

Uranus 103028-11-02 03:35 G 39351569.50 39351569.65 39351569.83 0.0135 0.0101 Saturn 103032-06-09 06:13 G 39352884.52 39352884.76 39352885.00 0.0266 0.0079 Saturn 103033-06-21 06:28 G 39353261.56 39353261.77 39353261.99 0.0264 0.0135 Jupiter 103039-05-28 08:37 G 39355428.65 39355428.86 39355429.08 0.0494 0.0212 Saturn 103047-12-04 17:45 G 39358541.05 39358541.24 39358541.44 0.0294 0.0169 Saturn 103048-12-18 01:40 G 39358920.35 39358920.57 39358920.79 0.0298 0.0128 Saturn 103061-06-03 22:47 G 39363471.28 39363471.45 39363471.64 0.0268 0.0183 Saturn 103062-06-16 03:06 G 39363848.39 39363848.63 39363848.88 0.0265 0.0036 Saturn 103063-06-28 00:13 G 39364225.43 39364225.51 39364225.61 0.0262 0.0244 Jupiter 103068-11-19 11:16 G 39366196.81 39366196.97 39366197.13 0.0531 0.0377 Uranus 103069-04-24 17:16 G 39366353.02 39366353.22 39366353.46 0.0143 0.0074 Uranus 103070-04-29 18:28 G 39366723.02 39366723.27 39366723.52 0.0143 0.0035 Neptune 103074-10-27 15:21 G 39368365.02 39368365.14 39368365.29 0.0090 0.0075 Neptune 103075-10-30 02:52 G 39368732.44 39368732.62 39368732.84 0.0090 0.0055 Neptune 103076-10-31 14:23 G 39369099.88 39369100.10 39369100.35 0.0090 0.0035 Neptune 103077-11-03 01:54 G 39369467.33 39369467.58 39369467.84 0.0090 0.0015 Saturn 103077-12-11 23:45 G 39369506.24 39369506.49 39369506.73 0.0297 0.0010 Neptune 103078-11-05 13:25 G 39369834.81 39369835.06 39369835.31 0.0090 0.0006 Saturn 103078-12-26 12:42 G 39369886.00 39369886.03 39369886.07 0.0300 0.0295 Neptune 103079-11-08 00:57 G 39370202.30 39370202.54 39370202.79 0.0090 0.0026 Neptune 103080-11-09 12:28 G 39370569.80 39370570.02 39370570.23 0.0090 0.0046 Jupiter 103080-11-24 09:49 G 39370584.68 39370584.91 39370585.14 0.0532 0.0076 Neptune 103081-11-11 23:45 G 39370937.32 39370937.49 39370937.66 0.0090 0.0066 Neptune 103082-11-14 10:18 G 39371304.90 39371304.93 39371305.03 0.0090 0.0087 Saturn 103091-06-11 05:01 G 39374435.47 39374435.71 39374435.95 0.0266 0.0063 Saturn 103092-06-22 05:30 G 39374812.53 39374812.73 39374812.94 0.0264 0.0151 Jupiter 103092-11-29 07:25 G 39374972.78 39374972.81 39374972.83 0.0533 0.0529 Saturn 103106-12-06 23:30 G 39380092.28 39380092.48 39380092.70 0.0294 0.0143 Saturn 103107-12-21 07:25 G 39380471.61 39380471.81 39380472.02 0.0298 0.0154 Pluto 103110-05-01 14:09 G 39381333.88 39381334.09 39381334.33 0.0080 0.0041

Jupiter 103110-05-24 03:49 G 39381356.45 39381356.66 39381356.88 0.0494 0.0201 Uranus 103110-10-26 22:04 G 39381512.22 39381512.42 39381512.64 0.0135 0.0074 Uranus 103111-10-31 05:30 G 39381881.48 39381881.73 39381881.98 0.0135 0.0016 Uranus 103112-11-03 12:13 G 39382250.87 39382251.01 39382251.18 0.0135 0.0105 Saturn 103120-06-05 23:01 G 39385022.27 39385022.46 39385022.66 0.0268 0.0165 Saturn 103121-06-18 03:21 G 39385399.40 39385399.64 39385399.89 0.0265 0.0053 Jupiter 103122-05-28 16:04 G 39385743.95 39385744.17 39385744.39 0.0494 0.0168 Saturn 103122-06-30 00:42 G 39385776.51 39385776.53 39385776.57 0.0262 0.0260 Saturn 103135-12-01 03:06 G 39390678.56 39390678.63 39390678.73 0.0293 0.0271 Saturn 103136-12-14 07:11 G 39391057.56 39391057.80 39391058.04 0.0297 0.0018 Saturn 103149-05-31 22:47 G 39395609.42 39395609.45 39395609.50 0.0270 0.0266 Saturn 103150-06-13 06:42 G 39395986.54 39395986.78 39395987.03 0.0266 0.0044 Saturn 103151-06-25 07:11 G 39396363.61 39396363.80 39396363.99 0.0264 0.0169 Jupiter 103151-11-20 11:01 G 39396511.85 39396511.96 39396512.09 0.0532 0.0454 Uranus 103153-04-26 05:01 G 39397034.48 39397034.71 39397034.94 0.0143 0.0067 Uranus 103154-05-01 05:30 G 39397404.50 39397404.73 39397404.99 0.0143 0.0042 Neptune 103157-04-27 16:33 G 39398497.07 39398497.19 39398497.36 0.0088 0.0073 Neptune 103158-04-30 05:01 G 39398864.50 39398864.71 39398864.92 0.0088 0.0053 Neptune 103159-05-02 16:33 G 39399231.96 39399232.19 39399232.44 0.0088 0.0034 Neptune 103160-05-04 04:33 G 39399599.44 39399599.69 39399599.96 0.0088 0.0015 Neptune 103161-05-06 16:33 G 39399966.94 39399967.19 39399967.46 0.0088 0.0006 Neptune 103162-05-09 04:18 G 39400334.44 39400334.68 39400334.94 0.0088 0.0025 Neptune 103163-05-11 16:18 G 39400701.96 39400702.18 39400702.41 0.0088 0.0044 Jupiter 103163-11-25 11:59 G 39400899.77 39400900.00 39400900.23 0.0532 0.0012 Neptune 103164-05-13 03:49 G 39401069.51 39401069.66 39401069.87 0.0088 0.0064 Neptune 103165-05-15 15:49 G 39401437.10 39401437.16 39401437.27 0.0088 0.0083 Mars 103165-08-26 10:18 G 39401539.76 39401539.93 39401540.11 0.1785 0.0670 Saturn 103165-12-08 10:18 G 39401643.71 39401643.93 39401644.15 0.0295 0.0113 Saturn 103166-12-22 18:42 G 39402023.10 39402023.28 39402023.48 0.0298 0.0184 Jupiter 103175-11-30 12:57 G 39405287.93 39405288.04 39405288.15 0.0532 0.0469

Saturn 103179-06-08 03:06 G 39406573.42 39406573.63 39406573.84 0.0268 0.0144 Saturn 103180-06-19 06:57 G 39406950.56 39406950.79 39406951.04 0.0265 0.0075 Jupiter 103193-05-23 09:35 G 39411671.70 39411671.90 39411672.10 0.0495 0.0250 Uranus 103194-10-27 06:13 G 39412193.56 39412193.76 39412193.98 0.0135 0.0071 Saturn 103194-12-02 15:35 G 39412230.02 39412230.15 39412230.29 0.0293 0.0240 Uranus 103195-10-31 13:40 G 39412562.83 39412563.07 39412563.32 0.0135 0.0018 Saturn 103195-12-16 19:54 G 39412609.09 39412609.33 39412609.57 0.0297 0.0049 Uranus 103196-11-03 20:37 G 39412932.22 39412932.36 39412932.52 0.0135 0.0107 Jupiter 103205-05-27 22:33 G 39416059.21 39416059.44 39416059.67 0.0494 0.0125 Saturn 103208-06-02 04:04 G 39417160.58 39417160.67 39417160.79 0.0269 0.0243 Saturn 103209-06-14 11:59 G 39417537.75 39417538.00 39417538.25 0.0266 0.0021 Saturn 103210-06-26 12:13 G 39417914.84 39417915.01 39417915.18 0.0264 0.0191 Jupiter 103217-06-01 10:33 G 39420446.92 39420446.94 39420446.96 0.0494 0.0492 Saturn 103224-12-10 01:25 G 39423195.33 39423195.56 39423195.80 0.0295 0.0079 Saturn 103225-12-24 10:18 G 39423574.78 39423574.93 39423575.10 0.0298 0.0219 Jupiter 103234-11-19 14:52 G 39426827.07 39426827.12 39426827.17 0.0532 0.0518 Uranus 103237-04-26 15:35 G 39427715.93 39427716.15 39427716.39 0.0143 0.0062 Uranus 103238-05-01 16:33 G 39428085.96 39428086.19 39428086.44 0.0143 0.0048 Saturn 103238-06-09 10:18 G 39428124.72 39428124.93 39428125.16 0.0267 0.0119 Neptune 103238-10-28 01:54 G 39428265.49 39428265.58 39428265.70 0.0090 0.0081 Saturn 103239-06-21 13:54 G 39428501.85 39428502.08 39428502.31 0.0265 0.0098 Neptune 103239-10-30 13:25 G 39428632.89 39428633.06 39428633.26 0.0090 0.0061 Neptune 103240-11-01 00:42 G 39429000.32 39429000.53 39429000.77 0.0090 0.0041 Neptune 103241-11-03 12:13 G 39429367.77 39429368.01 39429368.27 0.0090 0.0021 Neptune 103242-11-05 23:45 G 39429735.24 39429735.49 39429735.75 0.0090 0.0001 Neptune 103243-11-08 11:01 G 39430102.72 39430102.96 39430103.21 0.0090 0.0020 Neptune 103244-11-09 22:33 G 39430470.21 39430470.44 39430470.67 0.0090 0.0040 Neptune 103245-11-12 09:06 G 39430837.72 39430837.88 39430838.10 0.0090 0.0061 Neptune 103246-11-14 20:37 G 39431205.28 39431205.36 39431205.50 0.0090 0.0081 Jupiter 103246-11-24 12:28 G 39431214.79 39431215.02 39431215.25 0.0532 0.0068

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Saturn 103327-06-19 07:25 G 39460640.56 39460640.81 39460641.05 0.0266 0.0033 Neptune 103328-05-13 14:09 G 39460969.91 39460970.09 39460970.30 0.0088 0.0058 Saturn 103328-06-30 06:42 G 39461017.68 39461017.78 39461017.88 0.0263 0.0241 Neptune 103329-05-16 01:54 G 39461337.49 39461337.58 39461337.73 0.0088 0.0078 Jupiter 103329-11-24 04:33 G 39461529.48 39461529.69 39461529.91 0.0532 0.0178 Jupiter 103341-11-29 04:18 G 39465917.49 39465917.68 39465917.88 0.0532 0.0280 Saturn 103341-12-01 14:37 G 39465920.07 39465920.11 39465920.18 0.0292 0.0283 Saturn 103342-12-15 16:47 G 39466298.96 39466299.20 39466299.45 0.0296 0.0004 Saturn 103343-12-30 03:49 G 39466678.66 39466678.66 39466678.67 0.0299 0.0298 Saturn 103356-06-13 10:33 G 39471227.69 39471227.94 39471228.18 0.0267 0.0062 Saturn 103357-06-25 11:45 G 39471604.79 39471604.99 39471605.20 0.0264 0.0151 Pluto 103359-05-05 09:49 G 39472283.66 39472283.91 39472284.17 0.0080 0.0022 Jupiter 103359-05-23 11:30 G 39472301.84 39472301.98 39472302.14 0.0495 0.0379 Uranus 103362-10-29 00:57 G 39473556.33 39473556.54 39473556.77 0.0135 0.0064 Uranus 103363-11-02 08:23 G 39473925.61 39473925.85 39473926.10 0.0135 0.0026 Uranus 103364-11-05 15:06 G 39474295.02 39474295.13 39474295.28 0.0135 0.0115 Jupiter 103371-05-27 23:16 G 39476689.24 39476689.47 39476689.71 0.0494 0.0012 Saturn 103371-12-09 21:35 G 39476885.19 39476885.40 39476885.62 0.0295 0.0129 Saturn 103372-12-23 05:16 G 39477264.53 39477264.72 39477264.93 0.0298 0.0165 Jupiter 103383-06-01 12:28 G 39481076.86 39481077.02 39481077.18 0.0494 0.0360 Saturn 103385-06-08 14:52 G 39481814.92 39481815.12 39481815.33 0.0268 0.0156 Saturn 103386-06-20 19:40 G 39482192.08 39482192.32 39482192.57 0.0265 0.0062 Saturn 103400-12-04 09:49 G 39487471.79 39487471.91 39487472.05 0.0292 0.0245 Saturn 103401-12-18 13:25 G 39487850.82 39487851.06 39487851.30 0.0296 0.0041 Neptune 103402-10-29 12:13 G 39488165.99 39488166.01 39488166.10 0.0090 0.0088 Neptune 103403-11-01 00:13 G 39488533.35 39488533.51 39488533.69 0.0090 0.0067 Neptune 103404-11-02 11:45 G 39488900.78 39488900.99 39488901.22 0.0090 0.0047 Uranus 103405-04-29 09:21 G 39489078.65 39489078.89 39489079.13 0.0143 0.0054 Neptune 103405-11-04 23:01 G 39489268.23 39489268.46 39489268.72 0.0090 0.0027 Uranus 103406-05-04 10:04 G 39489448.70 39489448.92 39489449.17 0.0143 0.0056

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Neptune 103567-11-01 10:04 G 39548433.81 39548433.92 39548434.09 0.0090 0.0074 Neptune 103568-11-02 22:18 G 39548801.23 39548801.43 39548801.64 0.0090 0.0053 Neptune 103569-11-05 09:35 G 39549168.68 39549168.90 39549169.15 0.0090 0.0033 Neptune 103570-11-07 21:06 G 39549536.14 39549536.38 39549536.64 0.0090 0.0013 Neptune 103571-11-10 08:37 G 39549903.61 39549903.86 39549904.11 0.0090 0.0008 Neptune 103572-11-11 19:40 G 39550271.09 39550271.32 39550271.57 0.0090 0.0029 Uranus 103573-05-01 00:57 G 39550441.31 39550441.54 39550441.79 0.0143 0.0048 Neptune 103573-11-14 06:57 G 39550638.60 39550638.79 39550639.02 0.0090 0.0049 Uranus 103574-05-06 02:09 G 39550811.36 39550811.59 39550811.82 0.0143 0.0062 Neptune 103574-11-16 17:59 G 39551006.11 39551006.25 39551006.44 0.0090 0.0069 Neptune 103575-11-19 05:16 G 39551373.71 39551373.72 39551373.78 0.0090 0.0089 Saturn 103577-12-10 22:04 G 39552126.22 39552126.42 39552126.63 0.0294 0.0150 Jupiter 103578-11-24 03:21 G 39552474.50 39552474.64 39552474.78 0.0531 0.0418 Saturn 103578-12-25 05:01 G 39552505.51 39552505.71 39552505.93 0.0298 0.0144 Jupiter 103590-11-29 04:47 G 39556862.47 39556862.70 39556862.92 0.0532 0.0045 Saturn 103591-06-11 02:09 G 39557056.41 39557056.59 39557056.79 0.0268 0.0169 Saturn 103592-06-22 06:42 G 39557433.54 39557433.78 39557434.03 0.0265 0.0049 Saturn 103593-07-04 04:18 G 39557810.63 39557810.68 39557810.75 0.0263 0.0255 Jupiter 103602-12-04 05:01 G 39561250.64 39561250.71 39561250.79 0.0532 0.0502 Saturn 103606-12-04 19:40 G 39562712.27 39562712.32 39562712.39 0.0292 0.0282 Pluto 103607-05-08 01:40 G 39562866.40 39562866.57 39562866.78 0.0080 0.0055 Saturn 103607-12-18 22:04 G 39563091.18 39563091.42 39563091.66 0.0296 0.0003 Saturn 103609-01-01 09:21 G 39563470.89 39563470.89 39563470.91 0.0299 0.0299 Uranus 103614-11-01 03:49 G 39565600.44 39565600.66 39565600.90 0.0135 0.0052 Uranus 103615-11-05 11:16 G 39565969.74 39565969.97 39565970.22 0.0135 0.0038 Uranus 103616-11-08 18:28 G 39566339.20 39566339.27 39566339.36 0.0135 0.0127 Jupiter 103620-05-27 08:23 G 39567634.63 39567634.85 39567635.07 0.0495 0.0184 Saturn 103620-06-04 21:06 G 39567643.38 39567643.38 39567643.40 0.0270 0.0269 Saturn 103621-06-17 05:30 G 39568020.49 39568020.73 39568020.98 0.0266 0.0048 Saturn 103622-06-29 06:28 G 39568397.59 39568397.77 39568397.98 0.0264 0.0165

Jupiter 103632-05-31 21:35 G 39572022.18 39572022.40 39572022.62 0.0494 0.0186 Saturn 103636-12-12 00:42 G 39573677.31 39573677.53 39573677.75 0.0294 0.0127 Saturn 103637-12-26 08:23 G 39574056.65 39574056.85 39574057.05 0.0298 0.0167 Neptune 103650-05-01 09:49 G 39578565.78 39578565.91 39578566.09 0.0088 0.0071 Saturn 103650-06-12 06:28 G 39578607.56 39578607.77 39578607.98 0.0268 0.0147 Neptune 103651-05-03 22:04 G 39578933.22 39578933.42 39578933.64 0.0088 0.0051 Saturn 103651-06-24 10:18 G 39578984.69 39578984.93 39578985.17 0.0265 0.0070 Neptune 103652-05-05 09:49 G 39579300.68 39579300.91 39579301.17 0.0088 0.0032 Neptune 103653-05-07 21:49 G 39579668.16 39579668.41 39579668.68 0.0088 0.0012 Neptune 103654-05-10 10:04 G 39580035.66 39580035.92 39580036.18 0.0088 0.0008 Neptune 103655-05-12 21:35 G 39580403.17 39580403.40 39580403.67 0.0088 0.0028 Neptune 103656-05-14 09:49 G 39580770.70 39580770.91 39580771.14 0.0088 0.0047 Uranus 103657-05-01 11:30 G 39581122.74 39581122.98 39581123.23 0.0143 0.0042 Neptune 103657-05-16 21:35 G 39581138.25 39581138.40 39581138.59 0.0088 0.0067 Uranus 103658-05-06 11:59 G 39581492.78 39581493.00 39581493.24 0.0143 0.0068 Neptune 103658-05-19 10:04 G 39581505.88 39581505.92 39581505.98 0.0088 0.0086 Jupiter 103661-11-23 12:28 G 39582789.90 39582790.02 39582790.13 0.0532 0.0457 Saturn 103665-12-05 20:37 G 39584263.25 39584263.36 39584263.46 0.0292 0.0262 Saturn 103666-12-19 23:01 G 39584642.22 39584642.46 39584642.70 0.0296 0.0023 Jupiter 103673-11-28 11:45 G 39587177.76 39587177.99 39587178.22 0.0532 0.0006 Saturn 103679-06-06 23:01 G 39589194.37 39589194.46 39589194.55 0.0270 0.0250 Saturn 103680-06-18 07:11 G 39589571.55 39589571.80 39589572.05 0.0266 0.0029 Saturn 103681-06-30 07:54 G 39589948.65 39589948.83 39589949.01 0.0263 0.0183 Jupiter 103685-12-03 08:23 G 39591565.72 39591565.85 39591565.98 0.0532 0.0436 Saturn 103695-12-13 23:01 G 39595228.24 39595228.46 39595228.69 0.0294 0.0109 Saturn 103696-12-27 06:57 G 39595607.62 39595607.79 39595607.99 0.0298 0.0187 Uranus 103698-11-01 12:13 G 39596281.77 39596282.01 39596282.24 0.0135 0.0050 Uranus 103699-11-05 19:25 G 39596651.07 39596651.31 39596651.55 0.0135 0.0041 Uranus 103700-11-10 02:23 G 39597020.55 39597020.60 39597020.68 0.0135 0.0130 Jupiter 103703-05-28 15:21 G 39597949.93 39597950.14 39597950.35 0.0494 0.0223

Saturn 103709-06-14 06:28 G 39600158.55 39600158.77 39600158.99 0.0268 0.0129 Saturn 103710-06-26 10:18 G 39600535.70 39600535.93 39600536.17 0.0265 0.0088 Jupiter 103715-06-02 04:33 G 39602337.46 39602337.69 39602337.92 0.0494 0.0146 Saturn 103724-12-07 17:45 G 39605814.11 39605814.24 39605814.37 0.0292 0.0244 Saturn 103725-12-21 20:09 G 39606193.10 39606193.34 39606193.58 0.0296 0.0041 Neptune 103731-11-01 20:52 G 39608334.27 39608334.37 39608334.50 0.0090 0.0080 Neptune 103732-11-03 08:23 G 39608701.68 39608701.85 39608702.06 0.0090 0.0060 Mars 103733-08-31 01:25 G 39609002.38 39609002.56 39609002.75 0.1766 0.0316 Neptune 103733-11-05 20:37 G 39609069.13 39609069.36 39609069.59 0.0090 0.0039 Neptune 103734-11-08 07:54 G 39609436.58 39609436.83 39609437.08 0.0090 0.0019 Neptune 103735-11-10 19:25 G 39609804.06 39609804.31 39609804.57 0.0090 0.0002 Neptune 103736-11-12 06:28 G 39610171.54 39610171.77 39610172.03 0.0090 0.0023 Neptune 103737-11-14 17:45 G 39610539.03 39610539.24 39610539.48 0.0090 0.0043 Saturn 103738-06-08 21:06 G 39610745.27 39610745.38 39610745.51 0.0270 0.0234 Neptune 103738-11-17 05:01 G 39610906.54 39610906.71 39610906.90 0.0090 0.0063 Saturn 103739-06-21 05:16 G 39611122.47 39611122.72 39611122.97 0.0266 0.0012 Neptune 103739-11-19 16:18 G 39611274.10 39611274.18 39611274.28 0.0090 0.0083 Saturn 103740-07-02 05:45 G 39611499.58 39611499.74 39611499.91 0.0263 0.0198 Uranus 103741-05-02 22:47 G 39611804.20 39611804.45 39611804.70 0.0143 0.0035 Uranus 103742-05-07 23:16 G 39612174.27 39612174.47 39612174.71 0.0143 0.0075 Jupiter 103744-11-23 18:28 G 39613105.21 39613105.27 39613105.33 0.0531 0.0509 Saturn 103754-12-15 18:57 G 39616779.06 39616779.29 39616779.52 0.0294 0.0093 Saturn 103755-12-30 03:06 G 39617158.45 39617158.63 39617158.80 0.0298 0.0203 Jupiter 103756-11-28 17:59 G 39617493.02 39617493.25 39617493.48 0.0532 0.0060 Pluto 103766-11-10 04:04 G 39621126.44 39621126.67 39621126.93 0.0064 0.0018 Pluto 103767-11-11 15:21 G 39621493.05 39621493.14 39621493.27 0.0064 0.0058 Saturn 103768-06-15 03:49 G 39621709.44 39621709.66 39621709.89 0.0268 0.0114 Jupiter 103768-12-03 18:28 G 39621881.12 39621881.27 39621881.42 0.0533 0.0400 Saturn 103769-06-27 07:54 G 39622086.60 39622086.83 39622087.06 0.0265 0.0102 Uranus 103782-11-02 21:06 G 39626963.15 39626963.38 39626963.62 0.0135 0.0046

Uranus 103783-11-07 04:18 G 39627332.45 39627332.68 39627332.93 0.0135 0.0044 Saturn 103783-12-09 12:57 G 39627364.91 39627365.04 39627365.20 0.0292 0.0229 Uranus 103784-11-10 11:45 G 39627701.95 39627701.99 39627702.02 0.0135 0.0134 Saturn 103784-12-22 15:49 G 39627743.92 39627744.16 39627744.40 0.0296 0.0057 Jupiter 103786-05-28 02:37 G 39628265.41 39628265.61 39628265.82 0.0494 0.0252 Saturn 103797-06-09 16:47 G 39632296.06 39632296.20 39632296.35 0.0270 0.0220 Jupiter 103798-06-01 16:04 G 39632652.94 39632653.17 39632653.40 0.0494 0.0119 Saturn 103798-06-22 01:11 G 39632673.30 39632673.55 39632673.80 0.0266 0.0004 Saturn 103799-07-04 01:40 G 39633050.44 39633050.57 39633050.73 0.0263 0.0213 Jupiter 103810-06-07 05:45 G 39637040.71 39637040.74 39637040.77 0.0494 0.0488 Saturn 103813-12-17 13:11 G 39638329.82 39638330.05 39638330.29 0.0294 0.0078 Neptune 103814-05-02 20:09 G 39638466.22 39638466.34 39638466.48 0.0088 0.0076 Saturn 103814-12-31 20:52 G 39638709.22 39638709.37 39638709.55 0.0298 0.0218 Neptune 103815-05-05 07:40 G 39638833.64 39638833.82 39638834.04 0.0088 0.0057 Neptune 103816-05-06 19:25 G 39639201.09 39639201.31 39639201.56 0.0088 0.0038 Neptune 103817-05-09 07:25 G 39639568.56 39639568.81 39639569.07 0.0088 0.0018 Neptune 103818-05-11 19:25 G 39639936.05 39639936.31 39639936.58 0.0088 0.0002 Neptune 103819-05-14 07:11 G 39640303.55 39640303.80 39640304.06 0.0088 0.0022 Neptune 103820-05-15 19:25 G 39640671.08 39640671.31 39640671.54 0.0088 0.0041 Neptune 103821-05-18 07:11 G 39641038.62 39641038.80 39641039.00 0.0088 0.0061 Neptune 103822-05-20 18:57 G 39641406.22 39641406.29 39641406.42 0.0088 0.0081 Uranus 103824-04-29 08:23 G 39642115.82 39642115.85 39642115.93 0.0143 0.0140 Uranus 103825-05-04 09:21 G 39642485.65 39642485.89 39642486.15 0.0143 0.0030 Uranus 103826-05-09 10:18 G 39642855.72 39642855.93 39642856.15 0.0143 0.0080 Saturn 103827-06-17 23:16 G 39643260.24 39643260.47 39643260.70 0.0268 0.0100 Saturn 103828-06-29 03:21 G 39643637.42 39643637.64 39643637.87 0.0265 0.0116 Mars 103834-02-28 06:28 G 39645707.59 39645707.77 39645707.96 0.1777 0.0483 Jupiter 103839-11-30 05:30 G 39647808.50 39647808.73 39647808.96 0.0532 0.0088 Saturn 103842-12-11 08:09 G 39648915.68 39648915.84 39648916.01 0.0292 0.0214 Saturn 103843-12-25 10:33 G 39649294.71 39649294.94 39649295.18 0.0296 0.0072

Jupiter 103851-12-05 06:28 G 39652196.61 39652196.77 39652196.94 0.0532 0.0368 Pluto 103856-05-11 19:11 G 39653816.04 39653816.30 39653816.57 0.0080 0.0003 Saturn 103856-06-11 11:30 G 39653846.83 39653846.98 39653847.15 0.0270 0.0207 Saturn 103857-06-23 20:23 G 39654224.10 39654224.35 39654224.60 0.0266 0.0016 Saturn 103858-07-05 21:06 G 39654601.26 39654601.38 39654601.51 0.0263 0.0226 Uranus 103865-10-30 22:47 G 39657275.42 39657275.45 39657275.51 0.0135 0.0132 Uranus 103866-11-04 06:13 G 39657644.53 39657644.76 39657645.01 0.0135 0.0043 Uranus 103867-11-08 13:25 G 39658013.84 39658014.06 39658014.30 0.0135 0.0048 Jupiter 103869-05-28 15:21 G 39658580.95 39658581.14 39658581.34 0.0495 0.0274 Saturn 103872-12-18 08:23 G 39659880.61 39659880.85 39659881.09 0.0294 0.0063 Saturn 103874-01-01 16:04 G 39660260.02 39660260.17 39660260.32 0.0298 0.0232 Jupiter 103881-06-02 03:35 G 39662968.42 39662968.65 39662968.89 0.0494 0.0095 Saturn 103886-06-18 17:59 G 39664811.02 39664811.25 39664811.50 0.0268 0.0087 Saturn 103887-06-30 22:18 G 39665188.23 39665188.43 39665188.66 0.0265 0.0131 Jupiter 103893-06-06 16:47 G 39667356.12 39667356.20 39667356.29 0.0493 0.0461 Neptune 103895-11-02 06:42 G 39668234.74 39668234.78 39668234.87 0.0090 0.0087 Neptune 103896-11-03 18:42 G 39668602.12 39668602.28 39668602.46 0.0090 0.0066 Neptune 103897-11-06 06:13 G 39668969.56 39668969.76 39668969.99 0.0090 0.0046 Neptune 103898-11-08 18:13 G 39669337.02 39669337.26 39669337.50 0.0090 0.0025 Neptune 103899-11-11 05:45 G 39669704.49 39669704.74 39669705.00 0.0090 0.0005 Neptune 103900-11-13 17:30 G 39670071.98 39670072.23 39670072.48 0.0090 0.0016 Neptune 103901-11-16 04:18 G 39670439.47 39670439.68 39670439.93 0.0090 0.0037 Saturn 103901-12-13 05:01 G 39670466.53 39670466.71 39670466.89 0.0292 0.0197 Neptune 103902-11-18 15:49 G 39670806.98 39670807.16 39670807.37 0.0090 0.0057 Saturn 103902-12-27 06:57 G 39670845.57 39670845.79 39670846.03 0.0296 0.0089 Neptune 103903-11-21 03:06 G 39671174.52 39671174.63 39671174.77 0.0090 0.0077 Uranus 103908-04-30 18:13 G 39672797.19 39672797.26 39672797.35 0.0143 0.0135 Uranus 103909-05-05 19:11 G 39673167.04 39673167.30 39673167.55 0.0143 0.0025 Uranus 103910-05-10 19:40 G 39673537.12 39673537.32 39673537.54 0.0143 0.0085 Saturn 103915-06-14 06:28 G 39675397.60 39675397.77 39675397.94 0.0270 0.0193

Saturn 103916-06-25 15:21 G 39675774.89 39675775.14 39675775.39 0.0266 0.0029 Saturn 103917-07-07 16:33 G 39676152.09 39676152.19 39676152.30 0.0264 0.0239 Jupiter 103922-11-30 13:40 G 39678123.85 39678124.07 39678124.29 0.0532 0.0133 Saturn 103931-12-21 05:01 G 39681431.48 39681431.71 39681431.95 0.0294 0.0047 Saturn 103933-01-03 12:28 G 39681810.89 39681811.02 39681811.15 0.0298 0.0248 Jupiter 103934-12-05 12:57 G 39682511.86 39682512.04 39682512.23 0.0532 0.0317 Saturn 103945-06-20 13:54 G 39686361.85 39686362.08 39686362.33 0.0268 0.0072 Saturn 103946-07-02 18:28 G 39686739.07 39686739.27 39686739.49 0.0265 0.0145 Uranus 103949-11-01 09:21 G 39687956.82 39687956.89 39687956.98 0.0135 0.0127 Uranus 103950-11-05 16:47 G 39688325.96 39688326.20 39688326.45 0.0135 0.0037 Uranus 103951-11-09 23:30 G 39688695.27 39688695.48 39688695.73 0.0135 0.0053 Jupiter 103952-05-29 03:21 G 39688896.45 39688896.64 39688896.83 0.0494 0.0295 Saturn 103960-12-14 04:18 G 39692017.50 39692017.68 39692017.89 0.0292 0.0178 Saturn 103961-12-28 06:28 G 39692396.55 39692396.77 39692397.00 0.0296 0.0108 Jupiter 103964-06-02 14:52 G 39693283.88 39693284.12 39693284.35 0.0494 0.0065 Saturn 103974-06-15 03:06 G 39696948.45 39696948.63 39696948.82 0.0270 0.0178 Saturn 103975-06-27 11:59 G 39697325.76 39697326.00 39697326.25 0.0267 0.0044 Jupiter 103976-06-07 02:52 G 39697671.51 39697671.62 39697671.74 0.0494 0.0428 Saturn 103976-07-08 13:25 G 39697702.99 39697703.06 39697703.13 0.0264 0.0253 Neptune 103978-05-03 06:13 G 39698366.68 39698366.76 39698366.86 0.0088 0.0082 Neptune 103979-05-05 17:30 G 39698734.07 39698734.23 39698734.43 0.0088 0.0063 Neptune 103980-05-07 05:45 G 39699101.52 39699101.74 39699101.97 0.0088 0.0043 Neptune 103981-05-09 17:16 G 39699468.98 39699469.22 39699469.48 0.0088 0.0024 Neptune 103982-05-12 05:16 G 39699836.46 39699836.72 39699836.98 0.0088 0.0004 Neptune 103983-05-14 17:01 G 39700203.96 39700204.21 39700204.47 0.0088 0.0016 Neptune 103984-05-16 04:33 G 39700571.47 39700571.69 39700571.94 0.0088 0.0036 Neptune 103985-05-18 16:47 G 39700939.00 39700939.20 39700939.41 0.0088 0.0055 Neptune 103986-05-21 04:33 G 39701306.57 39701306.69 39701306.84 0.0088 0.0075 Saturn 103990-12-22 06:13 G 39702982.52 39702982.76 39702983.00 0.0294 0.0025 Saturn 103992-01-05 13:25 G 39703361.97 39703362.06 39703362.17 0.0298 0.0269

Uranus 103992-05-01 01:54 G 39703478.49 39703478.58 39703478.68 0.0143 0.0132

Uranus 103993-05-06 02:37 G 39703848.35 39703848.61 39703848.86 0.0143 0.0023

Uranus 103994-05-11 03:21 G 39704218.45 39704218.64 39704218.85 0.0143 0.0088

# 105TH MILLENNIUM CE

### This is a list of transits of Earth in the 105th millennium CE.

FROM MAX- C START MAX END SUNRAD DEPTH S

TRANSIT

TIME

Saturn 104004-06-21 11:30 G 39707912.74 39707912.98 39707913.23 0.0268 0.0056 Saturn 104005-07-03 16:33 G 39708290.00 39708290.19 39708290.39 0.0265 0.0159 Jupiter 104005-11-29 17:16 G 39708439.01 39708439.22 39708439.44 0.0533 0.0195 Pluto 104014-11-13 02:37 G 39711709.61 39711709.61 39711709.66 0.0064 0.0064 Pluto 104015-11-14 14:23 G 39712075.86 39712076.10 39712076.36 0.0064 0.0011 Mars 104017-09-02 11:30 G 39712733.79 39712733.98 39712734.17 0.1757 0.0046 Jupiter 104017-12-04 18:57 G 39712827.10 39712827.29 39712827.49 0.0533 0.0265 Saturn 104019-12-16 07:40 G 39713568.63 39713568.82 39713569.04 0.0292 0.0155 Saturn 104020-12-29 09:35 G 39713947.69 39713947.90 39713948.13 0.0296 0.0132 Saturn 104033-06-16 02:23 G 39718499.41 39718499.60 39718499.81 0.0270 0.0161 Uranus 104033-11-01 18:42 G 39718638.20 39718638.28 39718638.40 0.0135 0.0123 Saturn 104034-06-28 11:30 G 39718876.74 39718876.98 39718877.22 0.0267 0.0061 Uranus 104034-11-06 02:09 G 39719007.36 39719007.59 39719007.85 0.0135 0.0033 Jupiter 104035-05-29 11:16 G 39719211.79 39719211.97 39719212.14 0.0494 0.0337 Uranus 104035-11-10 09:21 G 39719376.67 39719376.89 39719377.12 0.0135 0.0057 Jupiter 104047-06-02 23:45 G 39723599.25 39723599.49 39723599.72 0.0494 0.0030

Saturn 104048-12-09 13:25 G 39724155.00 39724155.06 39724155.14 0.0290 0.0277 Saturn 104049-12-23 11:16 G 39724533.73 39724533.97 39724534.21 0.0294 0.0001 Saturn 104051-01-06 18:42 G 39724913.24 39724913.28 39724913.33 0.0298 0.0292 Jupiter 104059-06-07 12:28 G 39727986.88 39727987.02 39727987.16 0.0493 0.0396 Neptune 104060-11-04 04:33 G 39728502.56 39728502.69 39728502.86 0.0090 0.0073 Neptune 104061-11-06 15:49 G 39728869.98 39728870.16 39728870.39 0.0090 0.0053 Saturn 104062-06-10 23:16 G 39729086.42 39729086.47 39729086.54 0.0272 0.0263 Neptune 104062-11-09 03:49 G 39729237.43 39729237.66 39729237.91 0.0090 0.0032 Saturn 104063-06-23 12:13 G 39729463.76 39729464.01 39729464.26 0.0268 0.0038 Neptune 104063-11-11 15:35 G 39729604.90 39729605.15 39729605.41 0.0090 0.0011 Saturn 104064-07-04 17:01 G 39729841.03 39729841.21 39729841.40 0.0265 0.0178 Neptune 104064-11-13 03:06 G 39729972.39 39729972.63 39729972.89 0.0090 0.0010 Neptune 104065-11-15 14:37 G 39730339.87 39730340.11 39730340.35 0.0090 0.0030 Neptune 104066-11-18 01:54 G 39730707.39 39730707.58 39730707.81 0.0090 0.0051 Neptune 104067-11-20 13:25 G 39731074.92 39731075.06 39731075.22 0.0090 0.0071 Uranus 104076-05-01 09:21 G 39734159.80 39734159.89 39734160.01 0.0143 0.0129 Uranus 104077-05-06 10:18 G 39734529.68 39734529.93 39734530.19 0.0143 0.0019 Uranus 104078-05-11 11:01 G 39734899.77 39734899.96 39734900.16 0.0143 0.0091 Saturn 104078-12-17 16:33 G 39735119.98 39735120.19 39735120.41 0.0292 0.0127 Saturn 104079-12-31 18:57 G 39735499.09 39735499.29 39735499.50 0.0296 0.0160 Jupiter 104088-11-29 00:28 G 39738754.32 39738754.52 39738754.72 0.0532 0.0245 Saturn 104092-06-17 05:16 G 39740050.51 39740050.72 39740050.93 0.0270 0.0140 Saturn 104093-06-29 13:54 G 39740427.84 39740428.08 39740428.32 0.0267 0.0081 Jupiter 104100-12-04 22:47 G 39743142.23 39743142.45 39743142.66 0.0532 0.0201 Pluto 104105-05-16 15:21 G 39744766.01 39744766.14 39744766.28 0.0079 0.0068 Saturn 104107-12-12 23:01 G 39745706.35 39745706.46 39745706.59 0.0290 0.0250 Saturn 104108-12-25 21:06 G 39746085.14 39746085.38 39746085.62 0.0295 0.0028 Uranus 104117-11-03 04:33 G 39749319.58 39749319.69 39749319.82 0.0135 0.0119 Mars 104118-03-02 15:06 G 39749438.95 39749439.13 39749439.31 0.1787 0.0689 Jupiter 104118-05-29 18:42 G 39749527.14 39749527.28 39749527.45 0.0494 0.0376

Uranus 104118-11-07 11:59 G 39749688.76 39749689.00 39749689.25 0.0135 0.0028 Uranus 104119-11-11 18:57 G 39750058.08 39750058.29 39750058.52 0.0135 0.0062 Saturn 104121-06-13 03:35 G 39750637.54 39750637.65 39750637.77 0.0272 0.0241 Saturn 104122-06-25 16:18 G 39751014.93 39751015.18 39751015.43 0.0268 0.0016 Saturn 104123-07-07 21:06 G 39751392.22 39751392.38 39751392.55 0.0265 0.0199 Jupiter 104130-06-03 07:25 G 39753914.57 39753914.81 39753915.05 0.0494 0.0011 Saturn 104137-12-20 05:01 G 39756671.49 39756671.71 39756671.95 0.0292 0.0095 Saturn 104139-01-03 08:09 G 39757050.66 39757050.84 39757051.03 0.0296 0.0192 Jupiter 104142-06-07 16:33 G 39758302.03 39758302.19 39758302.37 0.0493 0.0341 Neptune 104143-05-06 02:52 G 39758634.47 39758634.62 39758634.79 0.0088 0.0069 Neptune 104144-05-07 14:23 G 39759001.91 39759002.10 39759002.34 0.0088 0.0050 Neptune 104145-05-10 02:23 G 39759369.37 39759369.60 39759369.86 0.0088 0.0030 Neptune 104146-05-12 14:23 G 39759736.85 39759737.10 39759737.36 0.0088 0.0010 Neptune 104147-05-15 02:09 G 39760104.34 39760104.59 39760104.86 0.0088 0.0010 Neptune 104148-05-16 13:40 G 39760471.84 39760472.07 39760472.33 0.0088 0.0030 Neptune 104149-05-19 01:54 G 39760839.37 39760839.58 39760839.80 0.0088 0.0049 Neptune 104150-05-21 13:25 G 39761206.92 39761207.06 39761207.24 0.0088 0.0069 Saturn 104151-06-20 11:30 G 39761601.76 39761601.98 39761602.21 0.0270 0.0116 Saturn 104152-07-01 19:40 G 39761979.10 39761979.32 39761979.55 0.0266 0.0104 Uranus 104160-05-02 18:13 G 39764841.16 39764841.26 39764841.41 0.0143 0.0125 Uranus 104161-05-07 19:11 G 39765211.05 39765211.30 39765211.56 0.0143 0.0015 Uranus 104162-05-12 19:54 G 39765581.15 39765581.33 39765581.53 0.0143 0.0096 Saturn 104166-12-14 13:11 G 39767257.90 39767258.05 39767258.22 0.0291 0.0218 Saturn 104167-12-28 12:13 G 39767636.78 39767637.01 39767637.25 0.0295 0.0062 Jupiter 104171-11-29 22:47 G 39769069.28 39769069.45 39769069.64 0.0532 0.0327 Saturn 104180-06-14 11:45 G 39772188.85 39772188.99 39772189.15 0.0271 0.0214 Saturn 104181-06-26 23:45 G 39772566.25 39772566.49 39772566.74 0.0268 0.0011 Saturn 104182-07-09 03:49 G 39772943.53 39772943.66 39772943.80 0.0265 0.0222 Jupiter 104183-12-04 17:30 G 39773457.00 39773457.23 39773457.45 0.0533 0.0104 Saturn 104196-12-21 21:49 G 39778223.18 39778223.41 39778223.65 0.0292 0.0059

Saturn 104198-01-05 01:54 G 39778602.43 39778602.58 39778602.73 0.0296 0.0229 Jupiter 104201-05-29 20:37 G 39779842.25 39779842.36 39779842.47 0.0494 0.0437 Uranus 104201-11-04 12:57 G 39780000.93 39780001.04 39780001.19 0.0135 0.0115 Uranus 104202-11-08 20:52 G 39780370.12 39780370.37 39780370.62 0.0135 0.0024 Uranus 104203-11-13 03:35 G 39780739.45 39780739.65 39780739.89 0.0135 0.0066 Saturn 104210-06-22 21:21 G 39783153.16 39783153.39 39783153.63 0.0269 0.0090 Saturn 104211-07-05 04:47 G 39783530.49 39783530.70 39783530.92 0.0266 0.0129 Jupiter 104213-06-03 07:40 G 39784229.59 39784229.82 39784230.06 0.0494 0.0080 Neptune 104224-11-05 14:09 G 39788403.01 39788403.09 39788403.24 0.0090 0.0080 Jupiter 104225-06-07 18:57 G 39788617.10 39788617.29 39788617.49 0.0494 0.0282 Neptune 104225-11-08 02:09 G 39788770.41 39788770.59 39788770.79 0.0090 0.0059 Saturn 104225-12-17 05:45 G 39788809.56 39788809.74 39788809.94 0.0291 0.0182 Neptune 104226-11-10 13:40 G 39789137.85 39789138.07 39789138.31 0.0090 0.0039 Saturn 104226-12-31 05:45 G 39789188.52 39789188.74 39789188.98 0.0295 0.0099 Neptune 104227-11-13 01:25 G 39789505.31 39789505.56 39789505.81 0.0090 0.0018 Neptune 104228-11-14 12:57 G 39789872.78 39789873.04 39789873.29 0.0090 0.0003 Neptune 104229-11-17 00:13 G 39790240.28 39790240.51 39790240.77 0.0090 0.0024 Neptune 104230-11-19 11:59 G 39790607.78 39790608.00 39790608.23 0.0090 0.0044 Neptune 104231-11-21 23:01 G 39790975.31 39790975.46 39790975.66 0.0090 0.0065 Neptune 104232-11-23 10:33 G 39791342.88 39791342.94 39791343.04 0.0090 0.0085 Saturn 104239-06-17 22:47 G 39793740.28 39793740.45 39793740.64 0.0271 0.0186 Saturn 104240-06-29 10:04 G 39794117.67 39794117.92 39794118.17 0.0268 0.0037 Saturn 104241-07-11 13:25 G 39794494.98 39794495.06 39794495.15 0.0265 0.0247 Uranus 104244-05-04 05:16 G 39795522.59 39795522.72 39795522.88 0.0143 0.0119 Uranus 104245-05-09 06:13 G 39795892.51 39795892.76 39795893.02 0.0143 0.0008 Uranus 104246-05-14 06:57 G 39796262.62 39796262.79 39796262.98 0.0143 0.0102 Jupiter 104254-11-29 17:16 G 39799384.09 39799384.22 39799384.37 0.0532 0.0426 Saturn 104255-12-25 17:16 G 39799774.98 39799775.22 39799775.46 0.0293 0.0020 Saturn 104257-01-07 22:18 G 39800154.33 39800154.43 39800154.53 0.0296 0.0268 Pluto 104263-11-17 10:04 G 39802658.75 39802658.92 39802659.14 0.0064 0.0042

Pluto 104264-11-17 21:49 G 39803025.21 39803025.41 39803025.64 0.0064 0.0033 Jupiter 104266-12-04 18:57 G 39803772.06 39803772.29 39803772.52 0.0533 0.0031 Saturn 104269-06-24 10:04 G 39804704.68 39804704.92 39804705.17 0.0269 0.0060 Saturn 104270-07-06 16:04 G 39805081.98 39805082.17 39805082.38 0.0266 0.0157 Jupiter 104278-12-09 17:30 G 39808160.14 39808160.23 39808160.34 0.0533 0.0477 Saturn 104284-12-19 00:13 G 39810361.31 39810361.51 39810361.72 0.0292 0.0145 Uranus 104285-11-04 22:47 G 39810682.33 39810682.45 39810682.61 0.0135 0.0111 Saturn 104286-01-02 01:40 G 39810740.36 39810740.57 39810740.78 0.0296 0.0138 Uranus 104286-11-09 06:28 G 39811051.53 39811051.77 39811052.02 0.0135 0.0021 Uranus 104287-11-13 13:25 G 39811420.86 39811421.06 39811421.29 0.0135 0.0070 Jupiter 104296-06-02 10:18 G 39814544.71 39814544.93 39814545.16 0.0494 0.0136 Saturn 104298-06-19 11:59 G 39815291.80 39815292.00 39815292.21 0.0270 0.0156 Saturn 104299-07-01 21:49 G 39815669.18 39815669.41 39815669.66 0.0267 0.0066 Mars 104301-09-05 23:59 G 39816465.31 39816465.50 39816465.69 0.1749 0.0297 Neptune 104307-05-07 11:30 G 39818534.87 39818534.98 39818535.14 0.0088 0.0076 Neptune 104308-05-08 23:30 G 39818902.29 39818902.48 39818902.70 0.0088 0.0056 Jupiter 104308-06-07 22:04 G 39818932.21 39818932.42 39818932.63 0.0494 0.0224 Neptune 104309-05-11 11:45 G 39819269.75 39819269.99 39819270.23 0.0088 0.0036 Neptune 104310-05-13 23:01 G 39819637.22 39819637.46 39819637.73 0.0088 0.0017 Neptune 104311-05-16 11:16 G 39820004.71 39820004.97 39820005.23 0.0088 0.0003 Neptune 104312-05-17 22:47 G 39820372.21 39820372.45 39820372.71 0.0088 0.0024 Neptune 104313-05-20 10:33 G 39820739.72 39820739.94 39820740.18 0.0088 0.0043 Saturn 104313-12-14 15:35 G 39820948.05 39820948.15 39820948.27 0.0290 0.0255 Neptune 104314-05-22 22:04 G 39821107.26 39821107.42 39821107.63 0.0088 0.0063 Saturn 104314-12-28 12:42 G 39821326.79 39821327.03 39821327.27 0.0294 0.0019 Neptune 104315-05-25 10:18 G 39821474.85 39821474.93 39821475.02 0.0088 0.0082 Saturn 104327-06-15 11:01 G 39825878.88 39825878.96 39825879.05 0.0272 0.0254 Uranus 104328-05-05 16:47 G 39826204.06 39826204.20 39826204.37 0.0143 0.0113 Saturn 104328-06-26 23:59 G 39826256.25 39826256.50 39826256.75 0.0268 0.0030 Uranus 104329-05-10 17:59 G 39826573.99 39826574.25 39826574.51 0.0143 0.0002

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Saturn 104402-12-24 09:06 G 39853464.65 39853464.88 39853465.12 0.0293 0.0074 Saturn 104404-01-07 12:57 G 39853843.88 39853844.04 39853844.21 0.0297 0.0213 Uranus 104412-05-06 03:49 G 39856885.50 39856885.66 39856885.84 0.0143 0.0107 Uranus 104413-05-11 05:16 G 39857255.46 39857255.72 39857255.97 0.0143 0.0004 Uranus 104414-05-16 06:13 G 39857625.62 39857625.76 39857625.92 0.0143 0.0116 Saturn 104416-06-23 14:23 G 39858394.87 39858395.10 39858395.34 0.0269 0.0095 Saturn 104417-07-05 21:49 G 39858772.20 39858772.41 39858772.64 0.0266 0.0123 Saturn 104431-12-18 21:06 G 39864051.20 39864051.38 39864051.57 0.0291 0.0189 Jupiter 104432-12-03 10:33 G 39864401.72 39864401.94 39864402.16 0.0532 0.0156 Saturn 104432-12-31 20:52 G 39864430.15 39864430.37 39864430.61 0.0295 0.0092 Jupiter 104444-12-08 12:13 G 39868789.82 39868790.01 39868790.20 0.0533 0.0301 Saturn 104445-06-18 15:21 G 39868981.96 39868982.14 39868982.31 0.0271 0.0193 Saturn 104446-07-01 01:25 G 39869359.32 39869359.56 39869359.81 0.0268 0.0029 Saturn 104447-07-13 04:18 G 39869736.59 39869736.68 39869736.80 0.0265 0.0239 Uranus 104453-11-06 20:09 G 39872045.20 39872045.34 39872045.53 0.0135 0.0101 Uranus 104454-11-11 04:04 G 39872414.42 39872414.67 39872414.92 0.0135 0.0010 Uranus 104455-11-15 10:47 G 39872783.76 39872783.95 39872784.16 0.0135 0.0080 Saturn 104461-12-25 20:52 G 39875016.14 39875016.37 39875016.62 0.0293 0.0042 Jupiter 104462-06-02 10:33 G 39875174.75 39875174.94 39875175.14 0.0495 0.0267 Saturn 104463-01-09 01:40 G 39875395.45 39875395.57 39875395.71 0.0297 0.0246 Neptune 104471-05-06 20:09 G 39878435.26 39878435.34 39878435.44 0.0088 0.0082 Neptune 104472-05-08 07:40 G 39878802.66 39878802.82 39878803.02 0.0088 0.0063 Neptune 104473-05-10 19:40 G 39879170.10 39879170.32 39879170.56 0.0088 0.0043 Neptune 104474-05-13 07:40 G 39879537.57 39879537.82 39879538.08 0.0088 0.0023 Jupiter 104474-06-06 23:45 G 39879562.26 39879562.49 39879562.73 0.0494 0.0097 Neptune 104475-05-15 19:25 G 39879905.06 39879905.31 39879905.58 0.0088 0.0004 Saturn 104475-06-26 00:57 G 39879946.30 39879946.54 39879946.78 0.0269 0.0068 Neptune 104476-05-17 07:25 G 39880272.56 39880272.81 39880273.07 0.0088 0.0017 Saturn 104476-07-07 07:11 G 39880323.60 39880323.80 39880324.01 0.0266 0.0149 Neptune 104477-05-19 18:57 G 39880640.07 39880640.29 39880640.54 0.0088 0.0037

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Neptune 104555-11-13 19:25 G 39909306.07 39909306.31 39909306.55 0.0090 0.0032 Neptune 104556-11-15 06:42 G 39909673.54 39909673.78 39909674.04 0.0090 0.0012 Jupiter 104557-06-07 03:21 G 39909877.41 39909877.64 39909877.88 0.0494 0.0045 Neptune 104557-11-17 18:13 G 39910041.01 39910041.26 39910041.52 0.0090 0.0010 Neptune 104558-11-20 05:45 G 39910408.51 39910408.74 39910408.99 0.0090 0.0030 Neptune 104559-11-22 16:33 G 39910776.00 39910776.19 39910776.42 0.0090 0.0051 Neptune 104560-11-24 04:33 G 39911143.54 39911143.69 39911143.85 0.0090 0.0071 Saturn 104563-06-23 07:40 G 39912084.61 39912084.82 39912085.03 0.0270 0.0145 Saturn 104564-07-04 16:33 G 39912461.95 39912462.19 39912462.43 0.0267 0.0076 Jupiter 104569-06-11 15:49 G 39914265.03 39914265.16 39914265.30 0.0493 0.0405 Saturn 104578-12-16 10:33 G 39917739.84 39917739.94 39917740.03 0.0289 0.0265 Saturn 104579-12-30 06:57 G 39918118.55 39918118.79 39918119.03 0.0294 0.0008 Uranus 104580-05-07 22:04 G 39918248.24 39918248.42 39918248.61 0.0143 0.0099 Saturn 104581-01-12 12:57 G 39918498.04 39918498.04 39918498.06 0.0297 0.0297 Uranus 104581-05-12 23:16 G 39918618.22 39918618.47 39918618.73 0.0143 0.0013 Uranus 104582-05-18 00:42 G 39918988.41 39918988.53 39918988.65 0.0143 0.0125 Mars 104585-09-07 13:40 G 39920196.90 39920197.07 39920197.25 0.1740 0.0676 Saturn 104592-06-16 22:18 G 39922671.34 39922671.43 39922671.53 0.0272 0.0248 Saturn 104593-06-29 11:45 G 39923048.74 39923048.99 39923049.24 0.0268 0.0023 Saturn 104594-07-11 17:01 G 39923426.04 39923426.21 39923426.39 0.0265 0.0192 Jupiter 104598-12-03 18:42 G 39925032.09 39925032.28 39925032.48 0.0531 0.0273 Pluto 104602-05-23 18:13 G 39926298.03 39926298.26 39926298.52 0.0079 0.0029 Saturn 104608-12-24 10:33 G 39928704.73 39928704.94 39928705.17 0.0292 0.0118 Saturn 104610-01-07 12:42 G 39929083.84 39929084.03 39929084.24 0.0296 0.0168 Jupiter 104610-12-09 17:59 G 39929420.03 39929420.25 39929420.47 0.0532 0.0170 Uranus 104621-11-09 19:54 G 39933408.15 39933408.33 39933408.53 0.0135 0.0088 Saturn 104622-06-25 10:18 G 39933635.71 39933635.93 39933636.15 0.0270 0.0125 Uranus 104622-11-14 03:35 G 39933777.40 39933777.65 39933777.90 0.0135 0.0003 Saturn 104623-07-07 18:57 G 39934013.06 39934013.29 39934013.53 0.0267 0.0096 Uranus 104623-11-18 10:04 G 39934146.76 39934146.92 39934147.12 0.0135 0.0093

Jupiter 104628-06-03 00:13 G 39935805.35 39935805.51 39935805.68 0.0494 0.0348 Neptune 104636-05-09 15:21 G 39938703.01 39938703.14 39938703.33 0.0088 0.0070 Neptune 104637-05-12 03:21 G 39939070.44 39939070.64 39939070.87 0.0088 0.0050 Saturn 104637-12-18 09:21 G 39939290.77 39939290.89 39939291.02 0.0289 0.0247 Neptune 104638-05-14 15:21 G 39939437.90 39939438.14 39939438.39 0.0088 0.0030 Saturn 104639-01-01 05:45 G 39939669.50 39939669.74 39939669.98 0.0294 0.0027 Neptune 104639-05-17 03:06 G 39939805.37 39939805.63 39939805.89 0.0088 0.0010 Neptune 104640-05-18 14:52 G 39940172.87 39940173.12 39940173.39 0.0088 0.0010 Jupiter 104640-06-07 12:28 G 39940192.78 39940193.02 39940193.25 0.0494 0.0014 Neptune 104641-05-21 02:37 G 39940540.37 39940540.61 39940540.86 0.0088 0.0030 Neptune 104642-05-23 14:09 G 39940907.90 39940908.09 39940908.33 0.0088 0.0050 Neptune 104643-05-26 01:54 G 39941275.45 39941275.58 39941275.77 0.0088 0.0070 Saturn 104651-06-19 22:33 G 39944222.33 39944222.44 39944222.59 0.0272 0.0231 Jupiter 104652-06-12 01:11 G 39944580.41 39944580.55 39944580.72 0.0494 0.0372 Saturn 104652-07-01 11:59 G 39944599.75 39944600.00 39944600.25 0.0268 0.0005 Saturn 104653-07-13 17:01 G 39944977.07 39944977.21 39944977.37 0.0265 0.0209 Uranus 104664-05-09 07:11 G 39948929.62 39948929.80 39948930.00 0.0143 0.0094 Uranus 104665-05-14 08:23 G 39949299.59 39949299.85 39949300.10 0.0143 0.0017 Uranus 104666-05-19 09:21 G 39949669.80 39949669.89 39949670.01 0.0143 0.0130 Saturn 104667-12-26 08:23 G 39950255.62 39950255.85 39950256.08 0.0292 0.0100 Saturn 104669-01-08 10:18 G 39950634.76 39950634.93 39950635.13 0.0296 0.0186 Saturn 104681-06-26 09:21 G 39955186.67 39955186.89 39955187.12 0.0270 0.0108 Jupiter 104681-12-04 02:23 G 39955347.42 39955347.60 39955347.78 0.0532 0.0316 Saturn 104682-07-08 17:59 G 39955564.03 39955564.25 39955564.48 0.0267 0.0112 Mars 104686-03-07 03:06 G 39956901.47 39956901.63 39956901.80 0.1806 0.0917 Jupiter 104693-12-09 04:33 G 39959735.47 39959735.69 39959735.92 0.0533 0.0139 Saturn 104696-12-19 05:59 G 39960841.61 39960841.75 39960841.90 0.0289 0.0230 Saturn 104698-01-02 02:23 G 39961220.36 39961220.60 39961220.84 0.0294 0.0044 Uranus 104705-11-11 07:11 G 39964089.61 39964089.80 39964090.01 0.0135 0.0082 Uranus 104706-11-15 14:37 G 39964458.86 39964459.11 39964459.36 0.0135 0.0009

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Jupiter 104776-12-09 12:57 G 39990050.81 39990051.04 39990051.26 0.0532 0.0095 Saturn 104785-12-28 23:01 G 39993357.23 39993357.46 39993357.70 0.0292 0.0071 Saturn 104787-01-12 00:28 G 39993736.37 39993736.52 39993736.70 0.0296 0.0215 Uranus 104789-11-11 18:42 G 39994771.07 39994771.28 39994771.49 0.0135 0.0076 Mars 104790-09-07 16:18 G 39995071.05 39995071.18 39995071.31 0.1726 0.1266 Uranus 104790-11-16 01:40 G 39995140.33 39995140.57 39995140.83 0.0135 0.0015 Uranus 104791-11-20 08:37 G 39995509.71 39995509.86 39995510.02 0.0135 0.0105 Jupiter 104794-06-03 22:33 G 39996436.31 39996436.44 39996436.58 0.0494 0.0399 Saturn 104799-06-30 01:11 G 39998288.32 39998288.55 39998288.79 0.0270 0.0080 Neptune 104800-05-09 23:01 G 39998603.37 39998603.46 39998603.62 0.0088 0.0077 Saturn 104800-07-11 10:18 G 39998665.73 39998665.93 39998666.15 0.0267 0.0140 Neptune 104801-05-12 11:01 G 39998970.78 39998970.96 39998971.17 0.0088 0.0057 Neptune 104802-05-14 22:47 G 39999338.22 39999338.45 39999338.69 0.0088 0.0037 Neptune 104803-05-17 10:33 G 39999705.69 39999705.94 39999706.21 0.0088 0.0017 Neptune 104804-05-18 22:18 G 40000073.17 40000073.43 40000073.69 0.0088 0.0003 Neptune 104805-05-21 10:04 G 40000440.68 40000440.92 40000441.18 0.0088 0.0023 Neptune 104806-05-23 21:49 G 40000808.20 40000808.41 40000808.65 0.0088 0.0043 Jupiter 104806-06-08 12:28 G 40000823.78 40000824.02 40000824.26 0.0494 0.0037 Neptune 104807-05-26 09:21 G 40001175.73 40001175.89 40001176.10 0.0088 0.0063 Neptune 104808-05-27 21:06 G 40001543.33 40001543.38 40001543.50 0.0088 0.0083 Saturn 104814-12-22 22:47 G 40003943.28 40003943.45 40003943.63 0.0289 0.0198 Saturn 104816-01-05 18:42 G 40004322.05 40004322.28 40004322.52 0.0293 0.0076 Jupiter 104818-06-12 23:45 G 40005211.31 40005211.49 40005211.67 0.0493 0.0318 Saturn 104828-06-23 10:18 G 40008874.76 40008874.93 40008875.12 0.0272 0.0189 Saturn 104829-07-06 00:28 G 40009252.27 40009252.52 40009252.77 0.0269 0.0038 Saturn 104830-07-18 05:45 G 40009629.68 40009629.74 40009629.84 0.0265 0.0251 Uranus 104832-05-11 05:45 G 40010292.54 40010292.74 40010292.96 0.0143 0.0081 Uranus 104833-05-16 06:42 G 40010662.54 40010662.78 40010663.04 0.0143 0.0031 Uranus 104834-05-21 07:54 G 40011032.82 40011032.83 40011032.85 0.0143 0.0143 Saturn 104844-12-29 19:40 G 40014908.09 40014908.32 40014908.56 0.0292 0.0054

Saturn 104846-01-12 20:52 G 40015287.24 40015287.37 40015287.54 0.0296 0.0231 Jupiter 104847-12-04 21:06 G 40015978.23 40015978.38 40015978.54 0.0532 0.0394 Pluto 104850-05-25 01:40 G 40016880.50 40016880.57 40016880.67 0.0080 0.0075 Pluto 104851-05-27 06:57 G 40017247.72 40017247.79 40017247.92 0.0079 0.0074 Saturn 104858-06-30 20:23 G 40019839.12 40019839.35 40019839.60 0.0270 0.0066 Saturn 104859-07-13 05:59 G 40020216.55 40020216.75 40020216.96 0.0267 0.0154 Jupiter 104859-12-09 18:28 G 40020366.05 40020366.27 40020366.50 0.0533 0.0045 Mars 104869-09-10 04:18 G 40023928.53 40023928.68 40023928.83 0.1732 0.1068 Jupiter 104871-12-14 21:21 G 40024754.31 40024754.39 40024754.47 0.0534 0.0498 Uranus 104873-11-12 05:30 G 40025452.54 40025452.73 40025452.97 0.0135 0.0071 Saturn 104873-12-23 21:35 G 40025494.23 40025494.40 40025494.60 0.0289 0.0180 Uranus 104874-11-16 12:57 G 40025821.80 40025822.04 40025822.30 0.0135 0.0021 Saturn 104875-01-06 17:30 G 40025873.01 40025873.23 40025873.46 0.0293 0.0096 Uranus 104875-11-20 19:40 G 40026191.19 40026191.32 40026191.47 0.0135 0.0111 Jupiter 104877-06-03 10:04 G 40026751.81 40026751.92 40026752.04 0.0494 0.0426 Neptune 104881-11-09 09:49 G 40028371.91 40028371.91 40028371.95 0.0090 0.0090 Neptune 104882-11-11 21:49 G 40028739.26 40028739.41 40028739.59 0.0090 0.0069 Neptune 104883-11-14 09:49 G 40029106.70 40029106.91 40029107.13 0.0090 0.0048 Neptune 104884-11-15 21:49 G 40029474.17 40029474.41 40029474.65 0.0090 0.0027 Neptune 104885-11-18 09:21 G 40029841.63 40029841.89 40029842.14 0.0090 0.0006 Neptune 104886-11-20 20:37 G 40030209.12 40030209.36 40030209.62 0.0090 0.0015 Saturn 104887-06-25 06:13 G 40030425.57 40030425.76 40030425.95 0.0272 0.0174 Neptune 104887-11-23 07:54 G 40030576.62 40030576.83 40030577.08 0.0090 0.0036 Saturn 104888-07-06 20:09 G 40030803.10 40030803.34 40030803.59 0.0269 0.0052 Neptune 104888-11-24 19:40 G 40030944.13 40030944.32 40030944.52 0.0090 0.0056 Jupiter 104889-06-07 22:33 G 40031139.21 40031139.44 40031139.68 0.0494 0.0069 Saturn 104889-07-19 01:54 G 40031180.57 40031180.58 40031180.62 0.0266 0.0264 Neptune 104889-11-27 06:42 G 40031311.67 40031311.78 40031311.93 0.0090 0.0077 Jupiter 104901-06-13 11:01 G 40035526.77 40035526.96 40035527.15 0.0494 0.0291 Saturn 104904-01-01 19:25 G 40036459.07 40036459.31 40036459.55 0.0292 0.0035

Saturn 104905-01-14 20:37 G 40036838.23 40036838.36 40036838.49 0.0295 0.0249 Uranus 104916-05-12 17:30 G 40040974.02 40040974.23 40040974.46 0.0143 0.0075 Uranus 104917-05-17 18:28 G 40041344.03 40041344.27 40041344.53 0.0143 0.0038 Saturn 104917-07-02 17:16 G 40041389.97 40041390.22 40041390.46 0.0271 0.0050 Saturn 104918-07-15 02:37 G 40041767.43 40041767.61 40041767.82 0.0267 0.0170 Jupiter 104930-12-05 02:37 G 40046293.49 40046293.61 40046293.74 0.0532 0.0447 Saturn 104932-12-25 23:59 G 40047045.30 40047045.50 40047045.70 0.0289 0.0157 Saturn 104934-01-08 19:40 G 40047424.10 40047424.32 40047424.54 0.0293 0.0118 Jupiter 104942-12-10 04:47 G 40050681.47 40050681.70 40050681.93 0.0533 0.0008 Saturn 104946-06-27 04:04 G 40051976.48 40051976.67 40051976.88 0.0272 0.0157 Saturn 104947-07-09 18:13 G 40052354.02 40052354.26 40052354.50 0.0269 0.0069 Jupiter 104954-12-15 03:35 G 40055069.53 40055069.65 40055069.78 0.0533 0.0446 Uranus 104957-11-13 18:13 G 40056134.06 40056134.26 40056134.50 0.0135 0.0064 Uranus 104958-11-18 01:25 G 40056503.32 40056503.56 40056503.82 0.0135 0.0027 Uranus 104959-11-22 07:54 G 40056872.73 40056872.83 40056872.98 0.0135 0.0118 Jupiter 104960-06-03 19:11 G 40057067.22 40057067.30 40057067.39 0.0495 0.0461 Saturn 104961-12-20 07:11 G 40057631.75 40057631.80 40057631.88 0.0288 0.0277 Saturn 104963-01-02 23:01 G 40058010.21 40058010.46 40058010.70 0.0292 0.0012 Saturn 104964-01-17 00:13 G 40058389.42 40058389.51 40058389.61 0.0295 0.0271 Neptune 104964-05-10 06:13 G 40058503.71 40058503.76 40058503.87 0.0088 0.0084 Neptune 104965-05-12 18:13 G 40058871.10 40058871.26 40058871.45 0.0088 0.0064 Neptune 104966-05-15 05:30 G 40059238.53 40059238.73 40059238.98 0.0088 0.0045 Neptune 104967-05-17 17:16 G 40059605.98 40059606.22 40059606.48 0.0088 0.0025 Neptune 104968-05-19 05:16 G 40059973.46 40059973.72 40059973.98 0.0088 0.0005 Neptune 104969-05-21 16:47 G 40060340.95 40060341.20 40060341.46 0.0088 0.0016 Mars 104970-03-09 06:13 G 40060632.59 40060632.76 40060632.92 0.1815 0.0899 Neptune 104970-05-24 04:18 G 40060708.46 40060708.68 40060708.93 0.0088 0.0036 Neptune 104971-05-26 15:49 G 40061075.99 40061076.16 40061076.39 0.0088 0.0056 Neptune 104972-05-28 04:18 G 40061443.55 40061443.68 40061443.82 0.0088 0.0075 Jupiter 104972-06-08 08:52 G 40061454.64 40061454.87 40061455.10 0.0494 0.0096

Saturn 104975-06-21 21:49 G 40062563.34 40062563.41 40062563.49 0.0274 0.0261
Saturn 104976-07-03 16:04 G 40062940.93 40062941.17 40062941.42 0.0271 0.0032
Saturn 104977-07-16 01:54 G 40063318.41 40063318.58 40063318.76 0.0267 0.0187
Jupiter 104984-06-12 21:49 G 40065842.21 40065842.41 40065842.61 0.0493 0.0261
Saturn 104991-12-28 06:13 G 40068596.55 40068596.76 40068596.98 0.0289 0.0132
Saturn 104993-01-10 02:23 G 40068975.39 40068975.60 40068975.81 0.0293 0.0143
Uranus 105000-05-14 05:59 G 40071655.54 40071655.75 40071655.99 0.0143 0.0067

# 106TH MILLENNIUM CE

#### This is a list of transits of Earth in the 106th millennium CE.

FROM	MAX-	С	START	MAX	END	SUNRAD	DEPTH	S
	TRANSIT							
	TIME							

Uranus 105001-05-19 07:11 G 40072025.57 40072025.80 40072026.05 0.0143 0.0046
Saturn 105005-06-29 05:16 G 40073527.52 40073527.72 40073527.95 0.0272 0.0138
Saturn 105006-07-11 19:11 G 40073905.07 40073905.30 40073905.54 0.0269 0.0088
Pluto 105009-11-27 23:30 G 40075140.31 40075140.48 40075140.68 0.0064 0.0044
Pluto 105010-11-29 10:47 G 40075506.75 40075506.95 40075507.20 0.0064 0.0031
Jupiter 105013-12-05 08:09 G 40076608.77 40076608.84 40076608.92 0.0532 0.0499
Saturn 105020-12-22 14:23 G 40079182.99 40079183.10 40079183.22 0.0288 0.0251
Saturn 105025-12-10 06:28 G 40080996.54 40080996.77 40080997.00 0.0532 0.0065
Saturn 105034-06-24 00:57 G 40084114.43 40084114.54 40084114.66 0.0274 0.0239
Saturn 105035-07-06 18:57 G 40084492.04 40084492.29 40084492.54 0.0270 0.0010

Jupiter 105037-12-15 01:25 G 40085384.40 40085384.56 40085384.74 0.0533 0.0363 Uranus 105041-11-15 07:54 G 40086815.60 40086815.83 40086816.06 0.0135 0.0056 Uranus 105042-11-19 14:23 G 40087184.87 40087185.10 40087185.36 0.0135 0.0035 Jupiter 105043-06-05 04:47 G 40087382.69 40087382.70 40087382.70 0.0495 0.0494 Uranus 105043-11-23 21:06 G 40087554.30 40087554.38 40087554.49 0.0135 0.0125 Neptune 105046-11-13 03:06 G 40088639.54 40088639.63 40088639.79 0.0090 0.0078 Neptune 105047-11-15 15:21 G 40089006.96 40089007.14 40089007.36 0.0090 0.0057 Neptune 105048-11-17 03:06 G 40089374.41 40089374.63 40089374.88 0.0090 0.0036 Neptune 105049-11-19 15:21 G 40089741.89 40089742.14 40089742.40 0.0090 0.0015 Neptune 105050-11-22 03:06 G 40090109.38 40090109.63 40090109.89 0.0090 0.0006 Saturn 105050-12-30 17:01 G 40090147.98 40090148.21 40090148.43 0.0289 0.0102 Neptune 105051-11-24 14:52 G 40090476.88 40090477.12 40090477.36 0.0090 0.0027 Saturn 105052-01-13 13:40 G 40090526.88 40090527.07 40090527.27 0.0293 0.0174 Neptune 105052-11-26 02:23 G 40090844.39 40090844.60 40090844.81 0.0090 0.0048 Neptune 105053-11-28 13:25 G 40091211.91 40091212.06 40091212.24 0.0090 0.0069 Neptune 105054-12-01 00:57 G 40091579.54 40091579.54 40091579.57 0.0090 0.0090 Jupiter 105055-06-09 14:23 G 40091769.87 40091770.10 40091770.32 0.0494 0.0146 Saturn 105064-06-30 10:33 G 40095078.72 40095078.94 40095079.17 0.0272 0.0113 Saturn 105065-07-12 23:45 G 40095456.27 40095456.49 40095456.72 0.0269 0.0110 Jupiter 105067-06-14 01:40 G 40096157.35 40096157.57 40096157.78 0.0493 0.0207 Mars 105074-09-10 07:40 G 40098802.65 40098802.82 40098802.99 0.1718 0.0820 Saturn 105079-12-25 02:09 G 40100734.45 40100734.59 40100734.76 0.0288 0.0221 Saturn 105081-01-06 18:57 G 40101113.06 40101113.29 40101113.53 0.0292 0.0048 Uranus 105084-05-14 15:21 G 40102336.92 40102337.14 40102337.38 0.0143 0.0063 Uranus 105085-05-19 16:47 G 40102706.96 40102707.20 40102707.44 0.0143 0.0050 Saturn 105093-06-25 07:54 G 40105665.68 40105665.83 40105665.98 0.0274 0.0213 Saturn 105094-07-08 01:11 G 40106043.30 40106043.55 40106043.79 0.0270 0.0016 Saturn 105095-07-20 09:49 G 40106420.80 40106420.91 40106421.05 0.0267 0.0230 Pluto 105099-05-29 19:25 G 40107830.06 40107830.31 40107830.57 0.0079 0.0018 Jupiter 105108-12-10 03:21 G 40111311.42 40111311.64 40111311.86 0.0533 0.0153

Saturn 105110-01-02 07:11 G 40111699.56 40111699.80 40111700.03 0.0290 0.0068 Saturn 105111-01-16 04:33 G 40112078.54 40112078.69 40112078.87 0.0294 0.0210 Jupiter 105120-12-15 05:16 G 40115699.53 40115699.72 40115699.91 0.0533 0.0298 Saturn 105123-07-03 19:54 G 40116630.10 40116630.33 40116630.57 0.0272 0.0087 Saturn 105124-07-15 08:09 G 40117007.63 40117007.84 40117008.06 0.0268 0.0136 Uranus 105125-11-16 21:21 G 40117497.16 40117497.39 40117497.63 0.0135 0.0048 Uranus 105126-11-21 04:18 G 40117866.45 40117866.68 40117866.93 0.0135 0.0043 Uranus 105127-11-25 10:33 G 40118235.92 40118235.94 40118236.00 0.0135 0.0133 Neptune 105129-05-14 00:57 G 40118771.42 40118771.54 40118771.72 0.0088 0.0072 Neptune 105130-05-16 12:42 G 40119138.84 40119139.03 40119139.26 0.0088 0.0052 Neptune 105131-05-19 00:13 G 40119506.28 40119506.51 40119506.77 0.0088 0.0032 Neptune 105132-05-20 11:59 G 40119873.75 40119874.00 40119874.27 0.0088 0.0012 Neptune 105133-05-22 23:30 G 40120241.23 40120241.48 40120241.75 0.0088 0.0009 Neptune 105134-05-25 11:01 G 40120608.73 40120608.96 40120609.22 0.0088 0.0029 Neptune 105135-05-27 22:47 G 40120976.24 40120976.45 40120976.67 0.0088 0.0048 Neptune 105136-05-29 10:33 G 40121343.78 40121343.94 40121344.11 0.0088 0.0068 Jupiter 105138-06-09 16:47 G 40122084.99 40122085.20 40122085.42 0.0494 0.0202 Saturn 105138-12-27 17:01 G 40122286.03 40122286.21 40122286.40 0.0289 0.0187 Saturn 105140-01-10 10:47 G 40122664.72 40122664.95 40122665.19 0.0293 0.0083 Jupiter 105150-06-14 05:59 G 40126472.53 40126472.75 40126472.98 0.0494 0.0157 Saturn 105152-06-27 18:13 G 40127217.09 40127217.26 40127217.46 0.0273 0.0185 Saturn 105153-07-10 10:47 G 40127594.70 40127594.95 40127595.20 0.0270 0.0042 Mars 105153-09-13 18:57 G 40127660.19 40127660.29 40127660.39 0.1724 0.1459 Saturn 105154-07-22 18:57 G 40127972.23 40127972.29 40127972.37 0.0267 0.0255 Uranus 105168-05-16 01:40 G 40133018.35 40133018.57 40133018.82 0.0143 0.0057 Saturn 105169-01-04 00:57 G 40133251.30 40133251.54 40133251.78 0.0290 0.0031 Uranus 105169-05-21 02:52 G 40133388.39 40133388.62 40133388.87 0.0143 0.0056 Saturn 105170-01-17 23:30 G 40133630.36 40133630.48 40133630.62 0.0294 0.0247 Saturn 105182-07-05 08:09 G 40138181.60 40138181.84 40138182.08 0.0271 0.0057 Saturn 105183-07-17 19:11 G 40138559.11 40138559.30 40138559.51 0.0268 0.0163

Jupiter 105191-12-10 04:18 G 40141626.47 40141626.68 40141626.89 0.0532 0.0223 Saturn 105197-12-29 09:35 G 40143837.70 40143837.90 40143838.11 0.0289 0.0152 Saturn 105199-01-12 04:33 G 40144216.48 40144216.69 40144216.92 0.0293 0.0120 Jupiter 105203-12-15 01:54 G 40146014.37 40146014.58 40146014.79 0.0533 0.0210 Uranus 105208-11-13 03:21 G 40147809.60 40147809.64 40147809.72 0.0135 0.0131 Uranus 105209-11-17 10:47 G 40148178.72 40148178.95 40148179.20 0.0135 0.0040 Neptune 105210-11-13 09:06 G 40148539.82 40148539.88 40148539.96 0.0090 0.0086 Uranus 105210-11-21 17:30 G 40148548.01 40148548.23 40148548.47 0.0135 0.0051 Saturn 105211-06-30 07:40 G 40148768.63 40148768.82 40148769.04 0.0273 0.0155 Neptune 105211-11-15 21:06 G 40148907.20 40148907.38 40148907.55 0.0090 0.0065 Saturn 105212-07-11 23:01 G 40149146.22 40149146.46 40149146.70 0.0269 0.0071 Neptune 105212-11-17 08:09 G 40149274.64 40149274.84 40149275.08 0.0090 0.0045 Neptune 105213-11-19 20:09 G 40149642.11 40149642.34 40149642.60 0.0090 0.0024 Neptune 105214-11-22 08:23 G 40150009.59 40150009.85 40150010.10 0.0090 0.0003 Neptune 105215-11-24 19:54 G 40150377.09 40150377.33 40150377.58 0.0090 0.0019 Neptune 105216-11-26 07:11 G 40150744.59 40150744.80 40150745.05 0.0090 0.0040 Neptune 105217-11-28 18:42 G 40151112.12 40151112.28 40151112.49 0.0090 0.0061 Neptune 105218-12-01 06:42 G 40151479.68 40151479.78 40151479.89 0.0090 0.0081 Jupiter 105221-06-08 20:37 G 40152400.16 40152400.36 40152400.56 0.0494 0.0256 Saturn 105226-12-24 04:04 G 40154424.58 40154424.67 40154424.79 0.0287 0.0258 Saturn 105228-01-06 19:11 G 40154803.06 40154803.30 40154803.54 0.0291 0.0007 Saturn 105229-01-19 19:11 G 40155182.25 40155182.30 40155182.37 0.0295 0.0285 Jupiter 105233-06-13 05:16 G 40156787.49 40156787.72 40156787.95 0.0494 0.0089 Saturn 105240-06-24 04:18 G 40159355.60 40159355.68 40159355.77 0.0274 0.0256 Saturn 105241-07-06 22:33 G 40159733.20 40159733.44 40159733.69 0.0271 0.0027 Saturn 105242-07-19 08:23 G 40160110.69 40160110.85 40160111.03 0.0268 0.0192 Jupiter 105245-06-17 16:04 G 40161175.06 40161175.17 40161175.28 0.0493 0.0437 Uranus 105252-05-16 10:47 G 40163699.72 40163699.95 40163700.20 0.0143 0.0052 Uranus 105253-05-21 11:59 G 40164069.78 40164070.00 40164070.24 0.0143 0.0060 Mars 105254-03-11 07:25 G 40164363.64 40164363.81 40164363.99 0.1825 0.0805

Saturn 105256-12-31 02:52 G 40165389.41 40165389.62 40165389.85 0.0290 0.0117 Saturn 105258-01-13 23:16 G 40165768.27 40165768.47 40165768.68 0.0294 0.0158 Pluto 105258-12-01 07:54 G 40166089.60 40166089.83 40166090.09 0.0064 0.0020 Pluto 105259-12-02 19:11 G 40166456.19 40166456.30 40166456.45 0.0064 0.0056 Saturn 105270-07-01 22:04 G 40170320.20 40170320.42 40170320.65 0.0272 0.0123 Saturn 105271-07-14 11:59 G 40170697.77 40170698.00 40170698.23 0.0269 0.0101 Jupiter 105274-12-08 20:23 G 40171941.18 40171941.35 40171941.54 0.0532 0.0327 Saturn 105285-12-25 20:23 G 40175976.21 40175976.35 40175976.51 0.0288 0.0225 Jupiter 105286-12-13 19:25 G 40176329.09 40176329.31 40176329.54 0.0533 0.0108 Saturn 105287-01-08 12:42 G 40176354.80 40176355.03 40176355.27 0.0292 0.0043 Uranus 105292-11-13 16:04 G 40178491.10 40178491.17 40178491.29 0.0135 0.0124 Neptune 105293-05-13 07:25 G 40178671.72 40178671.81 40178671.95 0.0088 0.0079 Uranus 105293-11-17 23:45 G 40178860.25 40178860.49 40178860.74 0.0135 0.0033 Neptune 105294-05-15 19:25 G 40179039.13 40179039.31 40179039.51 0.0088 0.0059 Uranus 105294-11-22 06:28 G 40179229.56 40179229.77 40179230.01 0.0135 0.0059 Neptune 105295-05-18 06:57 G 40179406.56 40179406.79 40179407.03 0.0088 0.0039 Neptune 105296-05-19 18:13 G 40179774.02 40179774.26 40179774.53 0.0088 0.0020 Neptune 105297-05-22 06:13 G 40180141.50 40180141.76 40180142.02 0.0088 0.0001 Neptune 105298-05-24 17:30 G 40180508.98 40180509.23 40180509.49 0.0088 0.0021 Neptune 105299-05-27 05:16 G 40180876.50 40180876.72 40180876.96 0.0088 0.0041 Saturn 105299-06-26 20:09 G 40180907.21 40180907.34 40180907.49 0.0274 0.0224 Neptune 105300-05-29 16:33 G 40181244.02 40181244.19 40181244.40 0.0088 0.0061 Saturn 105300-07-09 13:25 G 40181284.81 40181285.06 40181285.31 0.0270 0.0005 Neptune 105301-06-01 04:18 G 40181611.60 40181611.68 40181611.80 0.0088 0.0081 Saturn 105301-07-21 21:49 G 40181662.28 40181662.41 40181662.56 0.0267 0.0220 Jupiter 105304-06-08 18:42 G 40182715.11 40182715.28 40182715.46 0.0494 0.0326 Saturn 105316-01-03 18:13 G 40186941.03 40186941.26 40186941.50 0.0290 0.0083 Jupiter 105316-06-13 05:45 G 40187102.50 40187102.74 40187102.98 0.0494 0.0025 Saturn 105317-01-16 16:04 G 40187319.99 40187320.17 40187320.35 0.0294 0.0194 Jupiter 105328-06-17 18:13 G 40191490.11 40191490.26 40191490.41 0.0494 0.0381

Saturn 105329-07-04 12:13 G 40191871.78 40191872.01 40191872.24 0.0272 0.0093 Saturn 105330-07-17 00:42 G 40192249.32 40192249.53 40192249.75 0.0268 0.0129 Uranus 105336-05-17 23:45 G 40194381.25 40194381.49 40194381.74 0.0143 0.0044 Uranus 105337-05-23 00:57 G 40194751.32 40194751.54 40194751.77 0.0143 0.0069 Saturn 105344-12-28 10:18 G 40197527.76 40197527.93 40197528.12 0.0288 0.0193 Saturn 105346-01-11 04:04 G 40197906.44 40197906.67 40197906.90 0.0292 0.0077 Pluto 105348-06-02 10:47 G 40198779.73 40198779.95 40198780.20 0.0079 0.0035 Jupiter 105357-12-08 21:35 G 40202256.25 40202256.40 40202256.56 0.0532 0.0395 Saturn 105358-06-29 10:47 G 40202458.78 40202458.95 40202459.13 0.0273 0.0194 Mars 105358-09-13 00:13 G 40202534.32 40202534.51 40202534.69 0.1710 0.0355 Saturn 105359-07-12 02:37 G 40202836.37 40202836.61 40202836.86 0.0270 0.0033 Saturn 105360-07-23 10:18 G 40203213.85 40203213.93 40203214.03 0.0267 0.0247 Jupiter 105369-12-13 22:04 G 40206644.19 40206644.42 40206644.65 0.0533 0.0047 Saturn 105375-01-05 06:57 G 40208492.55 40208492.79 40208493.03 0.0291 0.0051 Neptune 105375-11-16 02:09 G 40208807.45 40208807.59 40208807.73 0.0090 0.0074 Saturn 105376-01-19 05:16 G 40208871.58 40208871.72 40208871.89 0.0294 0.0227 Uranus 105376-11-15 04:47 G 40209172.59 40209172.70 40209172.84 0.0135 0.0117 Neptune 105376-11-17 13:54 G 40209174.87 40209175.08 40209175.28 0.0090 0.0053 Uranus 105377-11-19 12:13 G 40209541.77 40209542.01 40209542.27 0.0135 0.0026 Neptune 105377-11-20 01:11 G 40209542.33 40209542.55 40209542.80 0.0090 0.0033 Neptune 105378-11-22 13:11 G 40209909.80 40209910.05 40209910.31 0.0090 0.0012 Uranus 105378-11-23 19:25 G 40209911.10 40209911.31 40209911.54 0.0135 0.0066 Neptune 105379-11-25 00:42 G 40210277.28 40210277.53 40210277.79 0.0090 0.0010 Neptune 105380-11-26 12:28 G 40210644.79 40210645.02 40210645.27 0.0090 0.0031 Neptune 105381-11-28 23:59 G 40211012.31 40211012.50 40211012.73 0.0090 0.0052 Jupiter 105381-12-18 20:37 G 40211032.27 40211032.36 40211032.46 0.0533 0.0481 Neptune 105382-12-01 11:30 G 40211379.85 40211379.98 40211380.15 0.0090 0.0073 Jupiter 105387-06-08 20:52 G 40213030.23 40213030.37 40213030.53 0.0495 0.0383 Saturn 105388-07-05 23:59 G 40213423.26 40213423.50 40213423.74 0.0271 0.0065 Saturn 105389-07-18 11:30 G 40213800.78 40213800.98 40213801.18 0.0268 0.0155

Jupiter 105399-06-13 09:49 G 40217417.67 40217417.91 40217418.14 0.0494 0.0027 Saturn 105403-12-31 20:09 G 40219079.15 40219079.34 40219079.54 0.0289 0.0165 Saturn 105405-01-13 14:52 G 40219457.90 40219458.12 40219458.35 0.0293 0.0108 Jupiter 105411-06-18 18:42 G 40221805.11 40221805.28 40221805.47 0.0493 0.0321 Saturn 105417-07-01 22:18 G 40224010.25 40224010.43 40224010.64 0.0273 0.0167 Saturn 105418-07-14 13:25 G 40224387.82 40224388.06 40224388.31 0.0269 0.0059 Uranus 105420-05-19 11:59 G 40225062.76 40225063.00 40225063.25 0.0143 0.0037 Uranus 105421-05-24 13:11 G 40225432.84 40225433.05 40225433.27 0.0143 0.0076 Saturn 105432-12-25 01:25 G 40229665.55 40229665.56 40229665.60 0.0287 0.0285 Saturn 105434-01-07 15:21 G 40230043.90 40230044.14 40230044.38 0.0291 0.0024 Saturn 105435-01-21 14:52 G 40230423.01 40230423.12 40230423.24 0.0295 0.0255 Jupiter 105440-12-09 00:28 G 40232571.41 40232571.52 40232571.64 0.0531 0.0457 Saturn 105446-06-26 13:11 G 40234597.02 40234597.05 40234597.10 0.0275 0.0271 Saturn 105447-07-09 08:52 G 40234974.62 40234974.87 40234975.11 0.0271 0.0040 Saturn 105448-07-20 19:40 G 40235352.13 40235352.32 40235352.50 0.0267 0.0179 Jupiter 105452-12-13 20:23 G 40236959.12 40236959.35 40236959.58 0.0532 0.0034 Neptune 105457-05-14 13:40 G 40238572.06 40238572.07 40238572.14 0.0088 0.0087 Neptune 105458-05-17 01:11 G 40238939.40 40238939.55 40238939.74 0.0088 0.0067 Neptune 105459-05-19 13:11 G 40239306.84 40239307.05 40239307.28 0.0088 0.0047 Neptune 105460-05-21 00:42 G 40239674.29 40239674.53 40239674.79 0.0088 0.0027 Uranus 105460-11-16 17:45 G 40239854.12 40239854.24 40239854.41 0.0135 0.0110 Neptune 105461-05-23 12:28 G 40240041.76 40240042.02 40240042.28 0.0088 0.0007 Uranus 105461-11-21 01:54 G 40240223.33 40240223.58 40240223.83 0.0135 0.0018 Neptune 105462-05-25 23:45 G 40240409.24 40240409.49 40240409.76 0.0088 0.0014 Uranus 105462-11-25 08:37 G 40240592.66 40240592.86 40240593.08 0.0135 0.0073 Saturn 105463-01-02 02:09 G 40240630.38 40240630.59 40240630.81 0.0289 0.0141 Neptune 105463-05-28 11:16 G 40240776.74 40240776.97 40240777.22 0.0088 0.0034 Saturn 105464-01-15 21:35 G 40241009.19 40241009.40 40241009.62 0.0293 0.0133 Neptune 105464-05-29 22:33 G 40241144.26 40241144.44 40241144.67 0.0088 0.0054 Jupiter 105464-12-18 19:25 G 40241347.17 40241347.31 40241347.47 0.0533 0.0403

Neptune 105465-06-01 09:49 G 40241511.80 40241511.91 40241512.09 0.0088 0.0074 Jupiter 105470-06-09 00:13 G 40243345.41 40243345.51 40243345.64 0.0495 0.0431 Saturn 105476-07-03 06:13 G 40245561.56 40245561.76 40245561.98 0.0273 0.0143 Saturn 105477-07-15 20:37 G 40245939.12 40245939.36 40245939.60 0.0269 0.0082 Jupiter 105482-06-13 13:25 G 40247732.82 40247733.06 40247733.29 0.0494 0.0075 Saturn 105491-12-27 05:16 G 40251216.64 40251216.72 40251216.82 0.0287 0.0263 Saturn 105493-01-08 19:40 G 40251595.08 40251595.32 40251595.56 0.0291 0.0000 Saturn 105494-01-22 19:25 G 40251974.25 40251974.31 40251974.40 0.0295 0.0279 Jupiter 105494-06-18 00:42 G 40252120.34 40252120.53 40252120.73 0.0494 0.0275 Uranus 105503-05-17 01:25 G 40255374.53 40255374.56 40255374.63 0.0143 0.0140 Uranus 105504-05-21 02:37 G 40255744.36 40255744.61 40255744.86 0.0143 0.0028 Uranus 105505-05-26 03:49 G 40256114.47 40256114.66 40256114.88 0.0143 0.0085 Saturn 105505-06-28 18:28 G 40256148.18 40256148.27 40256148.39 0.0274 0.0249 Saturn 105506-07-11 13:40 G 40256525.82 40256526.07 40256526.32 0.0271 0.0018 Pluto 105506-12-05 07:40 G 40256672.80 40256672.82 40256672.93 0.0064 0.0062 Saturn 105507-07-23 23:45 G 40256903.34 40256903.49 40256903.67 0.0267 0.0200 Pluto 105507-12-06 19:40 G 40257039.08 40257039.32 40257039.58 0.0064 0.0014 Saturn 105522-01-04 03:35 G 40262181.43 40262181.65 40262181.87 0.0289 0.0121 Saturn 105523-01-17 23:30 G 40262560.28 40262560.48 40262560.69 0.0293 0.0155 Jupiter 105523-12-10 02:09 G 40262886.55 40262886.59 40262886.63 0.0531 0.0522 Saturn 105535-07-06 10:33 G 40267112.72 40267112.94 40267113.17 0.0273 0.0121 Jupiter 105535-12-15 01:40 G 40267274.34 40267274.57 40267274.80 0.0533 0.0086 Saturn 105536-07-18 00:28 G 40267490.29 40267490.52 40267490.75 0.0269 0.0103 Mars 105538-03-14 06:28 G 40268094.59 40268094.77 40268094.95 0.1836 0.0621 Neptune 105539-11-17 06:28 G 40268707.68 40268707.77 40268707.87 0.0090 0.0083 Neptune 105540-11-18 17:45 G 40269075.08 40269075.24 40269075.45 0.0090 0.0063 Neptune 105541-11-21 05:45 G 40269442.53 40269442.74 40269442.98 0.0090 0.0042 Neptune 105542-11-23 17:30 G 40269809.99 40269810.23 40269810.49 0.0090 0.0021 Neptune 105543-11-26 05:30 G 40270177.47 40270177.73 40270177.98 0.0090 0.0001 Uranus 105544-11-18 07:54 G 40270535.69 40270535.83 40270536.02 0.0135 0.0102

Neptune 105544-11-27 16:47 G 40270544.97 40270545.20 40270545.46 0.0090 0.0022 Uranus 105545-11-22 15:49 G 40270904.91 40270905.16 40270905.41 0.0135 0.0010 Neptune 105545-11-30 04:33 G 40270912.48 40270912.69 40270912.93 0.0090 0.0043 Uranus 105546-11-26 23:01 G 40271274.26 40271274.46 40271274.66 0.0135 0.0081 Neptune 105546-12-02 16:04 G 40271280.01 40271280.17 40271280.37 0.0090 0.0064 Neptune 105547-12-05 03:35 G 40271647.59 40271647.65 40271647.76 0.0090 0.0085 Jupiter 105547-12-20 03:49 G 40271662.50 40271662.66 40271662.83 0.0533 0.0363 Saturn 105550-12-29 05:45 G 40272767.62 40272767.74 40272767.87 0.0287 0.0244 Saturn 105552-01-11 20:09 G 40273146.10 40273146.34 40273146.58 0.0291 0.0021 Jupiter 105553-06-09 08:23 G 40273660.78 40273660.85 40273660.93 0.0495 0.0468 Saturn 105564-06-29 19:54 G 40277699.21 40277699.33 40277699.48 0.0274 0.0230 Jupiter 105565-06-13 21:21 G 40278048.16 40278048.39 40278048.62 0.0494 0.0112 Saturn 105565-07-12 14:52 G 40278076.87 40278077.12 40278077.37 0.0270 0.0002 Saturn 105566-07-25 01:11 G 40278454.41 40278454.55 40278454.69 0.0267 0.0218 Jupiter 105577-06-18 10:18 G 40282435.73 40282435.93 40282436.14 0.0494 0.0244 Saturn 105581-01-05 02:09 G 40283732.37 40283732.59 40283732.82 0.0289 0.0103 Saturn 105582-01-18 22:04 G 40284111.23 40284111.42 40284111.62 0.0293 0.0173 Uranus 105587-05-17 12:42 G 40286055.96 40286056.03 40286056.14 0.0143 0.0134 Uranus 105588-05-21 14:23 G 40286425.85 40286426.10 40286426.36 0.0143 0.0021 Uranus 105589-05-26 15:35 G 40286795.95 40286796.15 40286796.35 0.0143 0.0092 Saturn 105594-07-07 10:33 G 40288663.72 40288663.94 40288664.18 0.0273 0.0104 Saturn 105595-07-20 00:28 G 40289041.30 40289041.52 40289041.75 0.0269 0.0120 Pluto 105596-06-05 02:37 G 40289362.42 40289362.61 40289362.86 0.0080 0.0044 Saturn 105609-12-30 03:06 G 40294318.50 40294318.63 40294318.79 0.0287 0.0227 Saturn 105611-01-12 17:45 G 40294697.00 40294697.24 40294697.48 0.0291 0.0038 Jupiter 105618-12-14 12:13 G 40297589.78 40297590.01 40297590.23 0.0532 0.0121 Neptune 105622-05-17 07:11 G 40298839.69 40298839.80 40298839.96 0.0088 0.0075 Neptune 105623-05-19 18:57 G 40299207.11 40299207.29 40299207.51 0.0088 0.0055 Saturn 105623-07-01 18:42 G 40299250.14 40299250.28 40299250.45 0.0274 0.0213 Neptune 105624-05-21 06:42 G 40299574.55 40299574.78 40299575.03 0.0088 0.0035 Saturn 105624-07-13 13:40 G 40299627.82 40299628.07 40299628.32 0.0271 0.0017 Neptune 105625-05-23 18:28 G 40299942.02 40299942.27 40299942.53 0.0088 0.0015 Saturn 105625-07-25 23:30 G 40300005.37 40300005.48 40300005.61 0.0267 0.0233 Neptune 105626-05-26 06:13 G 40300309.50 40300309.76 40300310.02 0.0088 0.0006 Neptune 105627-05-28 17:45 G 40300676.99 40300677.24 40300677.49 0.0088 0.0026 Neptune 105628-05-30 05:16 G 40301044.51 40301044.72 40301044.95 0.0088 0.0046 Uranus 105628-11-18 22:47 G 40301217.28 40301217.45 40301217.64 0.0135 0.0093 Neptune 105629-06-01 16:47 G 40301412.04 40301412.20 40301412.38 0.0088 0.0066 Uranus 105629-11-23 06:28 G 40301586.52 40301586.77 40301587.03 0.0135 0.0002 Neptune 105630-06-04 04:18 G 40301779.65 40301779.68 40301779.75 0.0088 0.0086 Uranus 105630-11-27 13:25 G 40301955.88 40301956.06 40301956.25 0.0135 0.0090 Jupiter 105630-12-19 10:18 G 40301977.74 40301977.93 40301978.11 0.0533 0.0312 Jupiter 105636-06-08 19:11 G 40303976.30 40303976.30 40303976.30 0.0495 0.0495 Saturn 105640-01-06 22:18 G 40305283.20 40305283.43 40305283.66 0.0289 0.0087 Saturn 105641-01-19 18:28 G 40305662.09 40305662.27 40305662.46 0.0293 0.0189 Mars 105642-09-15 17:59 G 40306266.06 40306266.25 40306266.44 0.1703 0.0141 Jupiter 105648-06-13 07:54 G 40308363.60 40308363.83 40308364.05 0.0494 0.0138 Saturn 105653-07-08 08:09 G 40310214.60 40310214.84 40310215.07 0.0273 0.0088 Saturn 105654-07-20 22:04 G 40310592.21 40310592.42 40310592.64 0.0269 0.0136 Jupiter 105660-06-17 21:21 G 40312751.19 40312751.39 40312751.61 0.0493 0.0219 Saturn 105668-12-30 23:59 G 40315869.35 40315869.50 40315869.67 0.0287 0.0210 Saturn 105670-01-13 14:23 G 40316247.86 40316248.10 40316248.34 0.0291 0.0054 Uranus 105671-05-18 00:57 G 40316737.44 40316737.54 40316737.67 0.0143 0.0127 Uranus 105672-05-22 02:09 G 40317107.34 40317107.59 40317107.85 0.0143 0.0015 Uranus 105673-05-27 03:35 G 40317477.47 40317477.65 40317477.84 0.0143 0.0099 Saturn 105682-07-02 14:52 G 40320800.95 40320801.12 40320801.29 0.0274 0.0199 Saturn 105683-07-15 09:49 G 40321178.66 40321178.91 40321179.15 0.0271 0.0032 Saturn 105684-07-26 20:09 G 40321556.25 40321556.34 40321556.43 0.0267 0.0248 Saturn 105699-01-07 17:30 G 40326834.00 40326834.23 40326834.47 0.0289 0.0072 Saturn 105700-01-21 13:11 G 40327212.88 40327213.05 40327213.23 0.0293 0.0203

Jupiter 105701-12-14 18:42 G 40327905.07 40327905.28 40327905.50 0.0532 0.0168 Neptune 105704-11-18 22:47 G 40328975.33 40328975.45 40328975.63 0.0090 0.0072 Neptune 105705-11-21 10:33 G 40329342.75 40329342.94 40329343.17 0.0090 0.0051 Neptune 105706-11-23 22:47 G 40329710.21 40329710.45 40329710.69 0.0090 0.0029 Neptune 105707-11-26 10:18 G 40330077.68 40330077.93 40330078.19 0.0090 0.0008 Neptune 105708-11-27 22:04 G 40330445.17 40330445.42 40330445.67 0.0090 0.0013 Neptune 105709-11-30 09:21 G 40330812.67 40330812.89 40330813.14 0.0090 0.0034 Neptune 105710-12-02 20:52 G 40331180.18 40331180.37 40331180.58 0.0090 0.0055 Neptune 105711-12-05 08:23 G 40331547.73 40331547.85 40331548.00 0.0090 0.0076 Saturn 105712-07-10 04:04 G 40331765.43 40331765.67 40331765.91 0.0273 0.0073 Uranus 105712-11-20 13:25 G 40331898.88 40331899.06 40331899.27 0.0135 0.0084 Saturn 105713-07-22 18:13 G 40332143.06 40332143.26 40332143.47 0.0269 0.0150 Uranus 105713-11-24 21:06 G 40332268.13 40332268.38 40332268.63 0.0135 0.0008 Jupiter 105713-12-19 16:33 G 40332293.00 40332293.19 40332293.40 0.0533 0.0266 Uranus 105714-11-29 04:04 G 40332637.51 40332637.67 40332637.85 0.0135 0.0099 Saturn 105728-01-02 20:37 G 40337420.19 40337420.36 40337420.55 0.0286 0.0194 Saturn 105729-01-15 10:47 G 40337798.72 40337798.95 40337799.18 0.0291 0.0071 Jupiter 105731-06-14 19:54 G 40338679.11 40338679.33 40338679.56 0.0494 0.0162 Saturn 105741-07-04 10:04 G 40342351.75 40342351.92 40342352.11 0.0275 0.0185 Saturn 105742-07-17 05:16 G 40342729.47 40342729.72 40342729.97 0.0271 0.0046 Jupiter 105743-06-19 08:37 G 40343066.64 40343066.86 40343067.08 0.0494 0.0190 Saturn 105743-07-29 15:21 G 40343107.11 40343107.14 40343107.21 0.0267 0.0262 Uranus 105755-05-19 10:18 G 40347418.81 40347418.93 40347419.08 0.0143 0.0122 Pluto 105755-12-08 20:23 G 40347622.13 40347622.35 40347622.59 0.0064 0.0028 Uranus 105756-05-23 11:30 G 40347788.73 40347788.98 40347789.24 0.0143 0.0010 Pluto 105756-12-09 07:54 G 40347988.67 40347988.83 40347989.02 0.0065 0.0048 Uranus 105757-05-28 12:28 G 40348158.85 40348159.02 40348159.20 0.0143 0.0104 Saturn 105758-01-09 14:23 G 40348384.86 40348385.10 40348385.34 0.0289 0.0055 Saturn 105759-01-23 09:49 G 40348763.76 40348763.91 40348764.07 0.0293 0.0219 Saturn 105771-07-11 23:16 G 40353316.23 40353316.47 40353316.72 0.0273 0.0059

Saturn 105772-07-23 13:54 G 40353693.88 40353694.08 40353694.28 0.0269 0.0164 Jupiter 105784-12-14 02:23 G 40358220.40 40358220.60 40358220.82 0.0533 0.0212 Neptune 105786-05-17 13:11 G 40358739.99 40358740.05 40358740.16 0.0088 0.0083 Saturn 105787-01-03 18:42 G 40358971.10 40358971.28 40358971.48 0.0286 0.0176 Neptune 105787-05-20 00:28 G 40359107.37 40359107.52 40359107.73 0.0088 0.0063 Saturn 105788-01-17 08:37 G 40359349.64 40359349.86 40359350.10 0.0291 0.0089 Neptune 105788-05-21 12:13 G 40359474.80 40359475.01 40359475.26 0.0088 0.0043 Neptune 105789-05-23 23:59 G 40359842.26 40359842.50 40359842.76 0.0088 0.0023 Neptune 105790-05-26 11:59 G 40360209.74 40360210.00 40360210.26 0.0088 0.0002 Neptune 105791-05-28 23:16 G 40360577.23 40360577.47 40360577.74 0.0088 0.0019 Neptune 105792-05-30 11:16 G 40360944.74 40360944.97 40360945.21 0.0088 0.0038 Neptune 105793-06-01 22:18 G 40361312.26 40361312.43 40361312.65 0.0088 0.0059 Neptune 105794-06-04 10:04 G 40361679.83 40361679.92 40361680.06 0.0088 0.0079 Uranus 105796-11-21 03:06 G 40362580.43 40362580.63 40362580.84 0.0135 0.0075 Jupiter 105796-12-19 04:47 G 40362608.50 40362608.70 40362608.91 0.0533 0.0234 Uranus 105797-11-25 10:47 G 40362949.70 40362949.95 40362950.20 0.0135 0.0016 Uranus 105798-11-29 17:16 G 40363319.09 40363319.22 40363319.39 0.0135 0.0108 Saturn 105800-07-06 05:44 G 40363902.56 40363902.74 40363902.95 0.0275 0.0170 Saturn 105801-07-19 01:11 G 40364280.31 40364280.55 40364280.80 0.0271 0.0061 Jupiter 105814-06-15 06:56 G 40368994.57 40368994.79 40368995.01 0.0495 0.0189 Saturn 105817-01-11 12:56 G 40369935.80 40369936.04 40369936.28 0.0289 0.0037 Saturn 105818-01-25 07:54 G 40370314.71 40370314.83 40370314.99 0.0293 0.0237 Mars 105822-03-16 04:47 G 40371825.51 40371825.70 40371825.89 0.1846 0.0378 Jupiter 105826-06-19 20:37 G 40373382.14 40373382.36 40373382.59 0.0493 0.0167 Saturn 105830-07-13 19:40 G 40374867.08 40374867.32 40374867.57 0.0273 0.0043 Saturn 105831-07-26 10:18 G 40375244.76 40375244.93 40375245.12 0.0269 0.0180 Uranus 105839-05-20 22:04 G 40378100.29 40378100.42 40378100.59 0.0143 0.0115 Uranus 105840-05-24 23:16 G 40378470.21 40378470.47 40378470.72 0.0143 0.0003 Uranus 105841-05-30 00:13 G 40378840.35 40378840.51 40378840.67 0.0143 0.0111 Pluto 105845-06-10 01:11 G 40380312.33 40380312.55 40380312.81 0.0079 0.0030

Saturn 105846-01-05 20:08 G 40380522.14 40380522.34 40380522.55 0.0286 0.0154 Saturn 105847-01-19 10:04 G 40380900.70 40380900.92 40380901.14 0.0291 0.0111 Mars 105847-09-16 04:18 G 40381140.58 40381140.68 40381140.78 0.1690 0.1430 Saturn 105859-07-08 03:06 G 40385453.44 40385453.63 40385453.85 0.0275 0.0153 Saturn 105860-07-19 22:32 G 40385831.21 40385831.44 40385831.68 0.0271 0.0077 Jupiter 105867-12-15 10:32 G 40388535.75 40388535.94 40388536.15 0.0532 0.0255 Neptune 105868-11-19 03:35 G 40388875.57 40388875.65 40388875.79 0.0090 0.0081 Neptune 105869-11-21 15:35 G 40389242.98 40389243.15 40389243.36 0.0090 0.0060 Neptune 105870-11-24 03:20 G 40389610.43 40389610.64 40389610.89 0.0090 0.0039 Neptune 105871-11-26 15:35 G 40389977.90 40389978.15 40389978.40 0.0090 0.0017 Neptune 105872-11-28 03:20 G 40390345.38 40390345.64 40390345.89 0.0090 0.0004 Neptune 105873-11-30 14:37 G 40390712.87 40390713.11 40390713.36 0.0090 0.0025 Neptune 105874-12-03 02:23 G 40391080.39 40391080.60 40391080.82 0.0090 0.0046 Saturn 105874-12-31 05:30 G 40391108.66 40391108.73 40391108.80 0.0285 0.0270 Neptune 105875-12-05 13:54 G 40391447.92 40391448.08 40391448.25 0.0090 0.0067 Saturn 105876-01-13 14:52 G 40391486.88 40391487.12 40391487.36 0.0289 0.0015 Neptune 105876-12-07 01:25 G 40391815.52 40391815.56 40391815.61 0.0090 0.0088 Saturn 105877-01-26 10:04 G 40391865.81 40391865.92 40391866.04 0.0293 0.0258 Jupiter 105879-12-20 09:20 G 40392923.68 40392923.89 40392924.11 0.0533 0.0177 Uranus 105880-11-22 15:49 G 40393261.95 40393262.16 40393262.38 0.0135 0.0068 Uranus 105881-11-26 23:16 G 40393631.23 40393631.47 40393631.72 0.0135 0.0024 Uranus 105882-12-01 06:28 G 40394000.64 40394000.77 40394000.90 0.0135 0.0115 Saturn 105888-07-01 18:13 G 40396040.18 40396040.26 40396040.35 0.0277 0.0259 Saturn 105889-07-14 17:59 G 40396418.00 40396418.25 40396418.50 0.0273 0.0025 Saturn 105890-07-27 08:52 G 40396795.70 40396795.87 40396796.04 0.0269 0.0197 Jupiter 105897-06-14 19:11 G 40399310.09 40399310.30 40399310.51 0.0494 0.0213 Saturn 105905-01-08 00:42 G 40402073.32 40402073.53 40402073.75 0.0286 0.0130 Saturn 105906-01-21 14:37 G 40402451.90 40402452.11 40402452.33 0.0291 0.0135 Jupiter 105909-06-20 05:30 G 40403697.51 40403697.73 40403697.96 0.0493 0.0132 Saturn 105918-07-10 03:35 G 40407004.44 40407004.65 40407004.88 0.0275 0.0134

Saturn 105919-07-22 22:32 G 40407382.21 40407382.44 40407382.68 0.0271 0.0096 Jupiter 105921-06-24 16:47 G 40408085.15 40408085.20 40408085.26 0.0493 0.0477 Uranus 105923-05-22 09:49 G 40408781.76 40408781.91 40408782.09 0.0143 0.0108 Uranus 105924-05-26 10:32 G 40409151.69 40409151.94 40409152.20 0.0143 0.0005 Uranus 105925-05-31 11:16 G 40409521.83 40409521.97 40409522.12 0.0143 0.0118 105926-09-19 12:56 G 40409997.87 40409998.04 40409998.22 0.1696 0.0659 Mars Saturn 105934-01-02 10:47 G 40412659.84 40412659.95 40412660.08 0.0285 0.0247 Saturn 105935-01-15 21:06 G 40413038.14 40413038.38 40413038.62 0.0289 0.0011 Saturn 105936-01-29 16:32 G 40413417.14 40413417.19 40413417.26 0.0293 0.0283 Saturn 105947-07-04 19:54 G 40417591.21 40417591.33 40417591.46 0.0276 0.0238 Saturn 105948-07-16 19:25 G 40417969.06 40417969.31 40417969.56 0.0273 0.0004 Saturn 105949-07-29 10:04 G 40418346.78 40418346.92 40418347.07 0.0269 0.0217 Jupiter 105950-12-15 08:52 G 40418850.69 40418850.87 40418851.05 0.0532 0.0334 Neptune 105951-05-21 06:56 G 40419007.66 40419007.79 40419007.97 0.0088 0.0071 Neptune 105952-05-22 18:28 G 40419375.08 40419375.27 40419375.50 0.0088 0.0051 Neptune 105953-05-25 06:13 G 40419742.53 40419742.76 40419743.02 0.0088 0.0031 Neptune 105954-05-27 17:59 G 40420110.00 40420110.25 40420110.52 0.0088 0.0010 Neptune 105955-05-30 05:30 G 40420477.48 40420477.73 40420478.00 0.0088 0.0011 Neptune 105956-05-31 17:01 G 40420844.98 40420845.21 40420845.47 0.0088 0.0031 Neptune 105957-06-03 04:47 G 40421212.51 40421212.70 40421212.93 0.0088 0.0051 Neptune 105958-06-05 16:32 G 40421580.05 40421580.19 40421580.36 0.0088 0.0071 Jupiter 105962-12-20 09:35 G 40423238.68 40423238.90 40423239.13 0.0533 0.0103 Saturn 105964-01-10 09:35 G 40423624.68 40423624.90 40423625.13 0.0287 0.0102 Uranus 105964-11-24 03:20 G 40423943.43 40423943.64 40423943.88 0.0135 0.0063 Saturn 105965-01-22 23:59 G 40424003.31 40424003.50 40424003.70 0.0291 0.0164 Uranus 105965-11-28 11:16 G 40424312.73 40424312.97 40424313.22 0.0135 0.0030 Uranus 105966-12-02 17:59 G 40424682.17 40424682.25 40424682.38 0.0135 0.0122 Saturn 105977-07-11 07:25 G 40428555.59 40428555.81 40428556.04 0.0274 0.0110 Saturn 105978-07-24 01:54 G 40428933.36 40428933.58 40428933.81 0.0271 0.0118 Jupiter 105980-06-14 23:44 G 40429625.29 40429625.49 40429625.69 0.0494 0.0264

Jupiter 105992-06-19 11:01 G 40434012.73 40434012.96 40434013.20 0.0494 0.0085

Saturn 105993-01-03 20:37 G 40434211.21 40434211.36 40434211.52 0.0285 0.0218

Saturn 105994-01-17 06:56 G 40434589.56 40434589.79 40434590.04 0.0290 0.0041

# 107TH MILLENNIUM CE

This is a list of transits of Earth in the 107th millennium CE.

FROM MAX- C START MAX END SUNRAD DEPTH S

TRANSIT

TIME

Pluto 106003-12-12 01:11 G 40438205.47 40438205.55 40438205.65 0.0064 0.0060 Jupiter 106004-06-24 00:13 G 40438400.41 40438400.51 40438400.62 0.0493 0.0437 Pluto 106004-12-12 12:28 G 40438571.79 40438572.02 40438572.28 0.0064 0.0016 Saturn 106006-07-06 01:11 G 40439142.41 40439142.55 40439142.72 0.0276 0.0213 Uranus 106007-05-22 23:59 G 40439463.32 40439463.50 40439463.69 0.0143 0.0099 Saturn 106007-07-19 00:13 G 40439520.26 40439520.51 40439520.76 0.0272 0.0020 Uranus 106008-05-27 00:28 G 40439833.26 40439833.52 40439833.77 0.0143 0.0013 Saturn 106008-07-30 14:08 G 40439897.99 40439898.09 40439898.21 0.0269 0.0239 Uranus 106009-06-01 00:42 G 40440203.43 40440203.53 40440203.67 0.0143 0.0127 Saturn 106023-01-11 22:18 G 40445176.19 40445176.43 40445176.66 0.0287 0.0071 Saturn 106024-01-25 13:25 G 40445554.89 40445555.06 40445555.25 0.0291 0.0197 Neptune 106032-11-19 09:35 G 40448775.90 40448775.90 40448775.91 0.0090 0.0090 Neptune 106033-11-21 20:52 G 40449143.23 40449143.37 40449143.56 0.0090 0.0069 Jupiter 106033-12-14 13:11 G 40449165.91 40449166.05 40449166.21 0.0532 0.0392 Neptune 106034-11-24 08:52 G 40449510.68 40449510.87 40449511.11 0.0090 0.0048 Neptune 106035-11-26 21:06 G 40449878.14 40449878.38 40449878.63 0.0090 0.0026 Saturn 106036-07-12 15:35 G 40450106.92 40450107.15 40450107.39 0.0274 0.0084 Neptune 106036-11-28 08:37 G 40450245.61 40450245.86 40450246.12 0.0090 0.0005 Saturn 106037-07-25 09:06 G 40450484.68 40450484.88 40450485.10 0.0271 0.0142 Neptune 106037-11-30 20:08 G 40450613.10 40450613.34 40450613.60 0.0090 0.0017 Neptune 106038-12-03 07:25 G 40450980.60 40450980.81 40450981.06 0.0090 0.0038 Neptune 106039-12-05 19:11 G 40451348.12 40451348.30 40451348.51 0.0090 0.0059 Neptune 106040-12-07 06:13 G 40451715.68 40451715.76 40451715.91 0.0090 0.0080 Jupiter 106045-12-19 12:42 G 40453553.81 40453554.03 40453554.26 0.0533 0.0043 Uranus 106048-11-24 16:18 G 40454624.96 40454625.18 40454625.41 0.0135 0.0055 Uranus 106049-11-28 23:30 G 40454994.25 40454994.48 40454994.73 0.0135 0.0038 Uranus 106050-12-03 06:28 G 40455363.72 40455363.77 40455363.87 0.0135 0.0129 Saturn 106052-01-06 09:35 G 40455762.72 40455762.90 40455763.09 0.0286 0.0186 Saturn 106053-01-18 21:06 G 40456141.15 40456141.38 40456141.62 0.0290 0.0074 Jupiter 106057-12-24 10:47 G 40457941.85 40457941.95 40457942.06 0.0533 0.0469 Jupiter 106063-06-15 04:32 G 40459940.51 40459940.69 40459940.88 0.0495 0.0311 Saturn 106065-07-07 10:18 G 40460693.76 40460693.93 40460694.13 0.0276 0.0186 Saturn 106066-07-20 08:37 G 40461071.61 40461071.86 40461072.10 0.0272 0.0046 Saturn 106067-08-01 22:04 G 40461449.37 40461449.42 40461449.47 0.0269 0.0263 Jupiter 106075-06-19 17:01 G 40464327.98 40464328.21 40464328.45 0.0494 0.0041 Saturn 106082-01-13 13:40 G 40466727.83 40466728.07 40466728.31 0.0288 0.0036 Saturn 106083-01-27 05:59 G 40467106.61 40467106.75 40467106.90 0.0291 0.0232 Jupiter 106087-06-24 02:08 G 40468715.44 40468715.59 40468715.74 0.0493 0.0377 Uranus 106091-05-23 11:59 G 40470144.82 40470145.00 40470145.21 0.0143 0.0092 Uranus 106092-05-27 12:42 G 40470514.78 40470515.03 40470515.29 0.0143 0.0020 Uranus 106093-06-01 13:11 G 40470884.97 40470885.05 40470885.15 0.0143 0.0133 Pluto 106093-06-12 00:56 G 40470895.29 40470895.54 40470895.79 0.0079 0.0026 Saturn 106095-07-15 02:52 G 40471658.37 40471658.62 40471658.86 0.0274 0.0056 Saturn 106096-07-26 19:25 G 40472036.12 40472036.31 40472036.51 0.0270 0.0168 Mars 106106-03-18 01:54 G 40475556.38 40475556.58 40475556.77 0.1856 0.0067 Saturn 106111-01-09 00:42 G 40477314.33 40477314.53 40477314.74 0.0286 0.0153

Saturn 106112-01-22 13:11 G 40477692.84 40477693.05 40477693.29 0.0290 0.0110 Neptune 106115-05-21 12:56 G 40478907.96 40478908.04 40478908.19 0.0088 0.0079 Neptune 106116-05-23 00:42 G 40479275.36 40479275.53 40479275.74 0.0088 0.0059 Jupiter 106116-12-14 11:30 G 40479480.88 40479480.98 40479481.08 0.0531 0.0470 Neptune 106117-05-25 12:13 G 40479642.80 40479643.01 40479643.27 0.0088 0.0039 Neptune 106118-05-28 00:13 G 40480010.25 40480010.51 40480010.76 0.0088 0.0018 Neptune 106119-05-30 11:44 G 40480377.73 40480377.99 40480378.26 0.0088 0.0003 Neptune 106120-05-31 23:16 G 40480745.23 40480745.47 40480745.73 0.0088 0.0023 Neptune 106121-06-03 11:01 G 40481112.74 40481112.96 40481113.20 0.0088 0.0043 Neptune 106122-06-05 23:01 G 40481480.28 40481480.46 40481480.64 0.0088 0.0063 Neptune 106123-06-08 10:04 G 40481847.87 40481847.92 40481848.03 0.0088 0.0084 Saturn 106124-07-09 23:30 G 40482245.28 40482245.48 40482245.69 0.0275 0.0155 Saturn 106125-07-22 20:08 G 40482623.10 40482623.34 40482623.58 0.0271 0.0075 Jupiter 106128-12-19 05:16 G 40483868.49 40483868.72 40483868.95 0.0532 0.0062 Mars 106131-09-19 01:54 G 40484872.42 40484872.58 40484872.75 0.1684 0.0830 Uranus 106132-11-26 04:32 G 40485306.46 40485306.69 40485306.93 0.0135 0.0049 Uranus 106133-11-30 12:13 G 40485675.78 40485676.01 40485676.25 0.0135 0.0044 Saturn 106140-01-03 21:49 G 40487901.32 40487901.41 40487901.53 0.0284 0.0255 Jupiter 106140-12-24 04:18 G 40488256.52 40488256.68 40488256.85 0.0533 0.0369 Saturn 106141-01-16 06:42 G 40488279.54 40488279.78 40488280.03 0.0288 0.0005 Saturn 106142-01-30 00:42 G 40488658.45 40488658.53 40488658.63 0.0292 0.0269 Jupiter 106146-06-15 04:47 G 40490255.55 40490255.70 40490255.86 0.0495 0.0373 Saturn 106153-07-04 16:47 G 40492832.12 40492832.20 40492832.29 0.0277 0.0259 Saturn 106154-07-17 16:47 G 40493209.96 40493210.20 40493210.45 0.0273 0.0025 Saturn 106155-07-30 07:54 G 40493587.68 40493587.83 40493588.01 0.0270 0.0198 Jupiter 106158-06-19 16:04 G 40494642.93 40494643.17 40494643.41 0.0494 0.0027 Saturn 106170-01-10 16:47 G 40498865.98 40498866.20 40498866.42 0.0287 0.0119 Jupiter 106170-06-24 02:37 G 40499030.43 40499030.61 40499030.79 0.0494 0.0317 Saturn 106171-01-24 06:56 G 40499244.58 40499244.79 40499245.00 0.0291 0.0145 Uranus 106175-05-25 00:13 G 40500826.32 40500826.51 40500826.73 0.0143 0.0085

Uranus 106176-05-29 00:42 G 40501196.28 40501196.53 40501196.79 0.0143 0.0027 Uranus 106177-06-03 01:11 G 40501566.52 40501566.55 40501566.62 0.0143 0.0141 Saturn 106183-07-12 13:40 G 40503796.86 40503797.07 40503797.30 0.0274 0.0124 Saturn 106184-07-24 09:06 G 40504174.66 40504174.88 40504175.12 0.0271 0.0105 Neptune 106197-11-22 02:52 G 40509043.52 40509043.62 40509043.77 0.0090 0.0078 Neptune 106198-11-24 14:52 G 40509410.94 40509411.12 40509411.34 0.0090 0.0057 Saturn 106199-01-05 13:25 G 40509452.91 40509453.06 40509453.21 0.0285 0.0222 Neptune 106199-11-27 03:06 G 40509778.40 40509778.63 40509778.87 0.0090 0.0035 Saturn 106200-01-18 23:30 G 40509831.24 40509831.48 40509831.72 0.0289 0.0035 Neptune 106200-11-29 14:52 G 40510145.88 40510146.12 40510146.38 0.0090 0.0014 Neptune 106201-12-02 02:52 G 40510513.37 40510513.62 40510513.87 0.0090 0.0008 Neptune 106202-12-04 14:23 G 40510880.87 40510881.10 40510881.35 0.0090 0.0029 Neptune 106203-12-07 02:08 G 40511248.38 40511248.59 40511248.80 0.0090 0.0050 Neptune 106204-12-08 12:56 G 40511615.91 40511616.04 40511616.22 0.0090 0.0072 Mars 106210-09-22 09:35 G 40513729.77 40513729.90 40513730.04 0.1689 0.1213 Jupiter 106211-12-20 05:44 G 40514183.52 40514183.74 40514183.96 0.0532 0.0132 Saturn 106212-07-07 09:35 G 40514383.77 40514383.90 40514384.05 0.0276 0.0226 Saturn 106213-07-20 08:23 G 40514761.60 40514761.85 40514762.10 0.0273 0.0007 Saturn 106214-08-01 22:04 G 40515139.30 40515139.42 40515139.57 0.0269 0.0226 Uranus 106215-11-24 09:49 G 40515618.89 40515618.91 40515618.97 0.0135 0.0134 Uranus 106216-11-27 17:44 G 40515988.01 40515988.24 40515988.49 0.0135 0.0042 Uranus 106217-12-02 01:11 G 40516357.33 40516357.55 40516357.80 0.0135 0.0052 Jupiter 106223-12-25 05:44 G 40518571.55 40518571.74 40518571.93 0.0533 0.0302 Saturn 106229-01-13 08:08 G 40520417.61 40520417.84 40520418.07 0.0288 0.0085 Jupiter 106229-06-15 04:32 G 40520570.59 40520570.69 40520570.80 0.0495 0.0437 Saturn 106230-01-26 23:30 G 40520796.30 40520796.48 40520796.67 0.0291 0.0181 Jupiter 106241-06-19 17:16 G 40524957.99 40524958.22 40524958.46 0.0495 0.0087 Saturn 106242-07-15 04:32 G 40525348.47 40525348.69 40525348.94 0.0274 0.0093 Saturn 106243-07-27 22:47 G 40525726.24 40525726.45 40525726.67 0.0270 0.0134 Pluto 106252-12-15 17:16 G 40529154.98 40529155.22 40529155.48 0.0064 0.0015

Jupiter 106253-06-24 05:16 G 40529345.53 40529345.72 40529345.93 0.0494 0.0262 Pluto 106253-12-17 04:32 G 40529521.64 40529521.69 40529521.80 0.0065 0.0062 Saturn 106258-01-08 03:35 G 40531004.47 40531004.65 40531004.83 0.0286 0.0191 Saturn 106259-01-21 14:52 G 40531382.89 40531383.12 40531383.36 0.0290 0.0070 Uranus 106259-05-26 09:49 G 40531507.72 40531507.91 40531508.14 0.0143 0.0080 Uranus 106260-05-30 10:32 G 40531877.69 40531877.94 40531878.20 0.0143 0.0033 Saturn 106271-07-10 01:11 G 40535935.39 40535935.55 40535935.74 0.0276 0.0196 Saturn 106272-07-21 23:01 G 40536313.22 40536313.46 40536313.71 0.0272 0.0036 Saturn 106273-08-03 11:59 G 40536690.92 40536691.00 40536691.08 0.0269 0.0253 Neptune 106279-05-21 19:54 G 40538808.32 40538808.33 40538808.41 0.0088 0.0087 Neptune 106280-05-23 08:08 G 40539175.68 40539175.84 40539176.01 0.0088 0.0066 Neptune 106281-05-25 19:25 G 40539543.09 40539543.31 40539543.54 0.0088 0.0046 Neptune 106282-05-28 06:56 G 40539910.55 40539910.79 40539911.05 0.0088 0.0026 Neptune 106283-05-30 18:28 G 40540278.01 40540278.27 40540278.53 0.0088 0.0006 Neptune 106284-06-01 05:59 G 40540645.50 40540645.75 40540646.02 0.0088 0.0015 Neptune 106285-06-03 17:44 G 40541013.00 40541013.24 40541013.48 0.0088 0.0035 Neptune 106286-06-06 04:47 G 40541380.52 40541380.70 40541380.93 0.0088 0.0056 Neptune 106287-06-08 16:32 G 40541748.09 40541748.19 40541748.35 0.0088 0.0076 Saturn 106288-01-15 20:52 G 40541969.13 40541969.37 40541969.61 0.0288 0.0054 Saturn 106289-01-28 13:11 G 40542347.90 40542348.05 40542348.22 0.0292 0.0214 Jupiter 106294-12-19 05:30 G 40544498.52 40544498.73 40544498.94 0.0532 0.0204 Uranus 106299-11-24 21:49 G 40546300.34 40546300.41 40546300.52 0.0135 0.0127 Uranus 106300-11-29 05:44 G 40546669.51 40546669.74 40546670.00 0.0135 0.0035 Saturn 106301-07-17 18:28 G 40546900.03 40546900.27 40546900.51 0.0273 0.0063 Uranus 106301-12-03 13:25 G 40547038.85 40547039.06 40547039.30 0.0135 0.0059 Saturn 106302-07-30 11:30 G 40547277.78 40547277.98 40547278.18 0.0270 0.0161 Jupiter 106306-12-25 00:42 G 40548886.32 40548886.53 40548886.74 0.0532 0.0211 Jupiter 106312-06-15 07:25 G 40550885.78 40550885.81 40550885.85 0.0496 0.0489 Saturn 106317-01-10 14:08 G 40552555.90 40552556.09 40552556.29 0.0286 0.0163 Saturn 106318-01-24 02:52 G 40552934.40 40552934.62 40552934.85 0.0290 0.0100

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Uranus 106467-11-26 18:56 G 40607663.18 40607663.29 40607663.44 0.0136 0.0117 Uranus 106468-11-30 03:35 G 40608032.41 40608032.65 40608032.90 0.0135 0.0023 Uranus 106469-12-04 11:16 G 40608401.77 40608401.97 40608402.20 0.0135 0.0071 Jupiter 106472-12-23 10:18 G 40609516.71 40609516.93 40609517.16 0.0532 0.0104 Saturn 106477-07-09 15:20 G 40611176.00 40611176.14 40611176.28 0.0277 0.0228 Saturn 106478-07-22 15:49 G 40611553.91 40611554.16 40611554.41 0.0273 0.0007 Saturn 106479-08-04 07:11 G 40611931.67 40611931.80 40611931.93 0.0269 0.0228 Jupiter 106484-12-28 08:08 G 40613904.81 40613904.84 40613904.87 0.0533 0.0526 Jupiter 106490-06-19 06:42 G 40615903.57 40615903.78 40615903.99 0.0495 0.0226 Saturn 106494-01-15 00:28 G 40617209.30 40617209.52 40617209.75 0.0287 0.0099 Saturn 106495-01-28 14:23 G 40617587.91 40617588.10 40617588.31 0.0291 0.0167 Pluto 106500-12-19 01:25 G 40619738.37 40619738.56 40619738.79 0.0064 0.0038 Pluto 106501-12-20 13:40 G 40620104.87 40620105.07 40620105.27 0.0065 0.0039 Jupiter 106502-06-24 18:56 G 40620291.07 40620291.29 40620291.52 0.0494 0.0124 Saturn 106507-07-18 10:04 G 40622140.69 40622140.92 40622141.16 0.0275 0.0099 Saturn 106508-07-30 05:01 G 40622518.50 40622518.71 40622518.94 0.0271 0.0130 Uranus 106511-05-29 18:13 G 40623552.04 40623552.26 40623552.50 0.0143 0.0062 Uranus 106512-06-02 18:28 G 40623922.04 40623922.27 40623922.52 0.0143 0.0051 Jupiter 106514-06-29 08:08 G 40624678.78 40624678.84 40624678.91 0.0493 0.0471 Saturn 106523-01-10 05:44 G 40627795.59 40627795.74 40627795.90 0.0284 0.0217 Saturn 106524-01-23 14:08 G 40628173.86 40628174.09 40628174.34 0.0288 0.0039 Neptune 106526-11-26 05:44 G 40629211.60 40629211.74 40629211.90 0.0090 0.0073 Neptune 106527-11-28 17:16 G 40629579.02 40629579.22 40629579.44 0.0090 0.0052 Neptune 106528-11-30 05:01 G 40629946.48 40629946.71 40629946.96 0.0090 0.0031 Neptune 106529-12-02 17:01 G 40630313.96 40630314.21 40630314.47 0.0090 0.0009 Neptune 106530-12-05 04:32 G 40630681.44 40630681.69 40630681.95 0.0090 0.0012 Neptune 106531-12-07 16:04 G 40631048.95 40631049.17 40631049.42 0.0090 0.0034 Neptune 106532-12-09 04:04 G 40631416.47 40631416.67 40631416.88 0.0090 0.0055 Neptune 106533-12-11 15:49 G 40631784.03 40631784.16 40631784.30 0.0090 0.0076 Saturn 106536-07-11 15:20 G 40632726.99 40632727.14 40632727.31 0.0277 0.0211

Saturn 106537-07-24 15:35 G 40633104.91 40633105.15 40633105.40 0.0273 0.0025 Saturn 106538-08-06 06:42 G 40633482.69 40633482.78 40633482.90 0.0269 0.0245 Jupiter 106543-12-19 16:04 G 40635444.02 40635444.17 40635444.34 0.0531 0.0373 Uranus 106551-11-28 05:30 G 40638344.60 40638344.73 40638344.88 0.0136 0.0112 Uranus 106552-12-01 14:08 G 40638713.84 40638714.09 40638714.34 0.0135 0.0018 Saturn 106553-01-16 22:04 G 40638760.20 40638760.42 40638760.66 0.0287 0.0083 Uranus 106553-12-05 22:04 G 40639083.22 40639083.42 40639083.64 0.0135 0.0075 Saturn 106554-01-30 12:13 G 40639138.82 40639139.01 40639139.20 0.0291 0.0183 Jupiter 106555-12-24 15:06 G 40639831.90 40639832.13 40639832.36 0.0532 0.0050 Saturn 106566-07-19 08:37 G 40643691.62 40643691.86 40643692.10 0.0275 0.0082 Saturn 106567-08-01 03:35 G 40644069.46 40644069.65 40644069.87 0.0271 0.0147 Jupiter 106567-12-29 13:40 G 40644219.97 40644220.07 40644220.17 0.0534 0.0477 Jupiter 106573-06-19 18:13 G 40646219.06 40646219.26 40646219.47 0.0495 0.0248 Saturn 106582-01-11 03:06 G 40649346.47 40649346.63 40649346.81 0.0284 0.0200 Saturn 106583-01-24 11:30 G 40649724.74 40649724.98 40649725.22 0.0288 0.0055 Jupiter 106585-06-24 05:59 G 40650606.52 40650606.75 40650606.99 0.0494 0.0096 Pluto 106590-06-20 11:30 G 40652428.76 40652428.98 40652429.24 0.0079 0.0033 Uranus 106595-05-30 06:56 G 40654233.57 40654233.79 40654234.04 0.0142 0.0055 Saturn 106595-07-13 12:13 G 40654277.84 40654278.01 40654278.19 0.0277 0.0195 Uranus 106596-06-03 07:11 G 40654603.56 40654603.80 40654604.03 0.0143 0.0058 Saturn 106596-07-25 12:42 G 40654655.79 40654656.03 40654656.28 0.0273 0.0040 Jupiter 106597-06-28 18:13 G 40654994.16 40654994.26 40654994.37 0.0493 0.0440 Saturn 106597-08-07 03:49 G 40655033.61 40655033.66 40655033.74 0.0269 0.0260 Neptune 106608-05-24 22:04 G 40658976.35 40658976.42 40658976.53 0.0088 0.0082 Neptune 106609-05-27 09:35 G 40659343.74 40659343.90 40659344.11 0.0088 0.0062 Neptune 106610-05-29 21:35 G 40659711.18 40659711.40 40659711.64 0.0088 0.0041 Neptune 106611-06-01 09:06 G 40660078.64 40660078.88 40660079.15 0.0088 0.0021 Saturn 106612-01-19 18:13 G 40660311.03 40660311.26 40660311.50 0.0287 0.0067 Neptune 106612-06-02 20:52 G 40660446.11 40660446.37 40660446.63 0.0088 0.0000 Saturn 106613-02-01 07:54 G 40660689.67 40660689.83 40660690.02 0.0291 0.0199

Neptune 106613-06-05 08:23 G 40660813.60 40660813.85 40660814.11 0.0088 0.0020 Neptune 106614-06-07 19:40 G 40661181.11 40661181.32 40661181.57 0.0088 0.0041 Neptune 106615-06-10 07:25 G 40661548.63 40661548.81 40661549.01 0.0088 0.0061 Neptune 106616-06-11 19:25 G 40661916.21 40661916.31 40661916.41 0.0088 0.0081 Mars 106620-09-21 14:52 G 40663479.06 40663479.12 40663479.17 0.1666 0.1578 Saturn 106625-07-21 04:47 G 40665242.46 40665242.70 40665242.95 0.0275 0.0066 Saturn 106626-08-03 00:13 G 40665620.32 40665620.51 40665620.72 0.0271 0.0162 Jupiter 106626-12-19 20:52 G 40665759.24 40665759.37 40665759.51 0.0531 0.0427 Uranus 106635-11-29 15:20 G 40669026.00 40669026.14 40669026.31 0.0136 0.0108 Uranus 106636-12-03 00:13 G 40669395.26 40669395.51 40669395.76 0.0135 0.0013 Uranus 106637-12-07 07:54 G 40669764.65 40669764.83 40669765.05 0.0135 0.0080 Jupiter 106638-12-24 23:16 G 40670147.24 40670147.47 40670147.70 0.0533 0.0012 Saturn 106641-01-13 00:28 G 40670897.34 40670897.52 40670897.71 0.0284 0.0183 Saturn 106642-01-26 08:37 G 40671275.63 40671275.86 40671276.10 0.0288 0.0073 Jupiter 106650-12-30 01:40 G 40674535.45 40674535.57 40674535.70 0.0533 0.0447 Saturn 106654-07-15 07:40 G 40675828.64 40675828.82 40675829.01 0.0277 0.0180 Saturn 106655-07-28 08:08 G 40676206.60 40676206.84 40676207.09 0.0273 0.0055 Jupiter 106656-06-20 04:47 G 40676534.51 40676534.70 40676534.90 0.0495 0.0278 Jupiter 106668-06-24 17:16 G 40680921.99 40680922.22 40680922.46 0.0494 0.0071 Saturn 106671-01-20 14:37 G 40681861.87 40681862.11 40681862.35 0.0287 0.0050 Saturn 106672-02-03 04:18 G 40682240.52 40682240.68 40682240.84 0.0291 0.0215 Mars 106674-03-21 13:11 G 40683017.88 40683018.05 40683018.22 0.1875 0.0932 Uranus 106679-05-31 18:56 G 40684915.06 40684915.29 40684915.54 0.0142 0.0048 Uranus 106680-06-04 19:11 G 40685285.08 40685285.30 40685285.54 0.0143 0.0065 Jupiter 106680-06-29 06:42 G 40685309.66 40685309.78 40685309.91 0.0493 0.0419 Saturn 106684-07-21 23:59 G 40686793.26 40686793.50 40686793.74 0.0275 0.0051 Saturn 106685-08-03 19:40 G 40687171.14 40687171.32 40687171.52 0.0271 0.0176 Neptune 106690-11-26 13:54 G 40689111.98 40689112.08 40689112.19 0.0090 0.0081 Neptune 106691-11-29 01:25 G 40689479.39 40689479.56 40689479.76 0.0090 0.0060 Neptune 106692-11-30 13:11 G 40689846.83 40689847.05 40689847.29 0.0090 0.0039

Neptune 106693-12-03 00:56 G 40690214.30 40690214.54 40690214.80 0.0090 0.0018 Neptune 106694-12-05 12:42 G 40690581.78 40690582.03 40690582.29 0.0090 0.0004 Neptune 106695-12-08 00:13 G 40690949.28 40690949.51 40690949.77 0.0090 0.0026 Neptune 106696-12-09 12:13 G 40691316.80 40691317.01 40691317.23 0.0090 0.0047 Neptune 106697-12-11 23:30 G 40691684.34 40691684.48 40691684.67 0.0090 0.0069 Neptune 106698-12-14 11:16 G 40692051.97 40692051.97 40692052.00 0.0090 0.0090 Mars 106699-09-24 21:49 G 40692336.23 40692336.41 40692336.60 0.1671 0.0381 Saturn 106700-01-14 22:04 G 40692448.23 40692448.42 40692448.62 0.0284 0.0165 Saturn 106701-01-28 06:13 G 40692826.53 40692826.76 40692826.99 0.0288 0.0091 Jupiter 106709-12-20 09:20 G 40696074.77 40696074.89 40696075.01 0.0531 0.0454 Saturn 106713-07-17 03:06 G 40697379.44 40697379.63 40697379.83 0.0277 0.0165 Saturn 106714-07-30 03:49 G 40697757.42 40697757.66 40697757.90 0.0273 0.0070 Uranus 106719-12-01 02:52 G 40699707.47 40699707.62 40699707.80 0.0136 0.0102 Uranus 106720-12-04 11:44 G 40700076.74 40700076.99 40700077.24 0.0135 0.0008 Uranus 106721-12-08 19:54 G 40700446.14 40700446.33 40700446.53 0.0135 0.0086 Jupiter 106721-12-25 08:52 G 40700462.65 40700462.87 40700463.10 0.0532 0.0030 Saturn 106729-01-09 08:52 G 40703034.84 40703034.87 40703034.92 0.0282 0.0277 Saturn 106730-01-22 12:42 G 40703412.79 40703413.03 40703413.27 0.0287 0.0032 Saturn 106731-02-05 01:54 G 40703791.45 40703791.58 40703791.73 0.0291 0.0233 Jupiter 106733-12-30 07:54 G 40704850.68 40704850.83 40704850.99 0.0533 0.0397 Jupiter 106739-06-21 17:01 G 40706850.03 40706850.21 40706850.40 0.0495 0.0299 Saturn 106742-07-11 14:08 G 40707966.06 40707966.09 40707966.14 0.0279 0.0274 Saturn 106743-07-24 19:25 G 40708344.06 40708344.31 40708344.56 0.0275 0.0035 Saturn 106744-08-05 15:35 G 40708721.97 40708722.15 40708722.32 0.0271 0.0191 Pluto 106748-12-22 09:20 G 40710321.82 40710321.89 40710322.02 0.0064 0.0060 Pluto 106749-12-23 21:49 G 40710688.16 40710688.41 40710688.66 0.0065 0.0017 Jupiter 106751-06-26 07:11 G 40711237.56 40711237.80 40711238.03 0.0494 0.0052 Saturn 106759-01-16 22:18 G 40713999.23 40713999.43 40713999.65 0.0284 0.0145 Saturn 106760-01-30 06:28 G 40714377.55 40714377.77 40714378.00 0.0288 0.0111 Uranus 106763-06-02 06:13 G 40715596.52 40715596.76 40715597.01 0.0142 0.0041

Jupiter 106763-06-30 17:59 G 40715625.12 40715625.25 40715625.40 0.0493 0.0392 Uranus 106764-06-06 06:13 G 40715966.54 40715966.76 40715966.98 0.0143 0.0071 Saturn 106772-07-17 23:44 G 40718930.29 40718930.49 40718930.71 0.0277 0.0148 Neptune 106773-05-27 17:44 G 40719244.10 40719244.24 40719244.41 0.0088 0.0069 Saturn 106773-07-31 00:13 G 40719308.28 40719308.51 40719308.76 0.0273 0.0087 Neptune 106774-05-30 05:30 G 40719611.53 40719611.73 40719611.96 0.0088 0.0049 Neptune 106775-06-01 17:30 G 40719978.98 40719979.23 40719979.47 0.0088 0.0028 Neptune 106776-06-03 05:01 G 40720346.46 40720346.71 40720346.98 0.0088 0.0008 Neptune 106777-06-05 16:32 G 40720713.94 40720714.19 40720714.46 0.0088 0.0013 Neptune 106778-06-08 04:04 G 40721081.44 40721081.67 40721081.93 0.0088 0.0034 Neptune 106779-06-10 15:49 G 40721448.97 40721449.16 40721449.38 0.0088 0.0054 Neptune 106780-06-12 03:35 G 40721816.52 40721816.65 40721816.79 0.0088 0.0074 Saturn 106788-01-11 09:06 G 40724585.79 40724585.88 40724585.98 0.0282 0.0258 Saturn 106789-01-23 13:11 G 40724963.80 40724964.05 40724964.29 0.0287 0.0012 Saturn 106790-02-06 02:08 G 40725342.49 40725342.59 40725342.73 0.0291 0.0253 Jupiter 106792-12-19 15:06 G 40726390.06 40726390.13 40726390.20 0.0531 0.0502 Saturn 106801-07-12 11:44 G 40729516.91 40729516.99 40729517.10 0.0279 0.0256 Saturn 106802-07-25 17:16 G 40729894.97 40729895.22 40729895.47 0.0275 0.0017 Saturn 106803-08-07 13:11 G 40730272.90 40730273.05 40730273.21 0.0271 0.0209 Uranus 106803-12-01 13:54 G 40730388.91 40730389.08 40730389.27 0.0136 0.0096 Uranus 106804-12-04 22:32 G 40730758.19 40730758.44 40730758.70 0.0135 0.0003 Jupiter 106804-12-24 10:04 G 40730777.69 40730777.92 40730778.15 0.0532 0.0096 Uranus 106805-12-09 06:28 G 40731127.60 40731127.77 40731127.97 0.0135 0.0092 Jupiter 106816-12-29 11:30 G 40735165.80 40735165.98 40735166.16 0.0533 0.0336 Saturn 106818-01-18 01:25 G 40735550.34 40735550.56 40735550.78 0.0284 0.0121 Saturn 106819-01-31 09:35 G 40735928.69 40735928.90 40735929.12 0.0288 0.0135 Jupiter 106822-06-21 02:52 G 40737165.45 40737165.62 40737165.80 0.0495 0.0331 Saturn 106831-07-19 23:01 G 40740481.25 40740481.46 40740481.69 0.0277 0.0129 Saturn 106832-07-31 23:30 G 40740859.25 40740859.48 40740859.71 0.0273 0.0105 Jupiter 106834-06-25 14:52 G 40741552.89 40741553.12 40741553.36 0.0494 0.0016

Pluto 106838-06-23 18:56 G 40743012.03 40743012.29 40743012.55 0.0079 0.0001 Jupiter 106846-06-30 02:23 G 40745940.44 40745940.60 40745940.77 0.0494 0.0355 Saturn 106847-01-12 13:25 G 40746136.93 40746137.06 40746137.19 0.0283 0.0234 Uranus 106847-06-02 15:35 G 40746277.90 40746278.15 40746278.40 0.0142 0.0037 Saturn 106848-01-25 17:30 G 40746514.99 40746515.23 40746515.48 0.0287 0.0014 Uranus 106848-06-06 15:06 G 40746647.93 40746648.13 40746648.36 0.0143 0.0076 Saturn 106849-02-07 06:56 G 40746893.73 40746893.79 40746893.87 0.0291 0.0277 Neptune 106854-11-26 22:47 G 40749012.43 40749012.45 40749012.49 0.0090 0.0089 Neptune 106855-11-29 10:32 G 40749379.79 40749379.94 40749380.12 0.0090 0.0068 Neptune 106856-11-30 22:04 G 40749747.22 40749747.42 40749747.66 0.0090 0.0047 Neptune 106857-12-03 10:04 G 40750114.68 40750114.92 40750115.17 0.0090 0.0025 Neptune 106858-12-05 21:49 G 40750482.16 40750482.41 40750482.66 0.0090 0.0003 Neptune 106859-12-08 09:20 G 40750849.64 40750849.89 40750850.14 0.0090 0.0018 Saturn 106860-07-13 12:13 G 40751067.89 40751068.01 40751068.16 0.0279 0.0235 Neptune 106860-12-09 20:37 G 40751217.15 40751217.36 40751217.61 0.0090 0.0040 Saturn 106861-07-26 17:16 G 40751445.98 40751446.22 40751446.47 0.0275 0.0006 Neptune 106861-12-12 08:08 G 40751584.67 40751584.84 40751585.04 0.0090 0.0061 Saturn 106862-08-08 13:11 G 40751823.92 40751824.05 40751824.19 0.0271 0.0228 Neptune 106862-12-14 19:54 G 40751952.24 40751952.33 40751952.44 0.0090 0.0082 Saturn 106877-01-19 07:54 G 40757101.61 40757101.83 40757102.07 0.0284 0.0095 Saturn 106878-02-01 16:32 G 40757480.00 40757480.19 40757480.40 0.0288 0.0162 Uranus 106887-12-02 01:11 G 40761070.37 40761070.55 40761070.74 0.0136 0.0090 Jupiter 106887-12-24 17:44 G 40761093.02 40761093.24 40761093.46 0.0532 0.0142 Uranus 106888-12-05 09:49 G 40761439.66 40761439.91 40761440.17 0.0136 0.0005 Uranus 106889-12-09 17:44 G 40761809.08 40761809.24 40761809.42 0.0135 0.0098 Saturn 106890-07-21 02:23 G 40762032.38 40762032.60 40762032.83 0.0277 0.0106 Saturn 106891-08-03 02:08 G 40762410.37 40762410.59 40762410.81 0.0273 0.0126 Jupiter 106899-12-29 17:30 G 40765481.04 40765481.23 40765481.43 0.0533 0.0287 106904-09-24 14:08 G 40767210.94 40767211.09 40767211.25 0.1660 0.0944 Jupiter 106905-06-21 08:37 G 40767480.71 40767480.86 40767481.02 0.0496 0.0374

Saturn 106906-01-14 20:37 G 40767688.20 40767688.36 40767688.53 0.0283 0.0207 Saturn 106907-01-28 01:25 G 40768066.33 40768066.56 40768066.81 0.0287 0.0042 Jupiter 106917-06-25 22:47 G 40771868.21 40771868.45 40771868.69 0.0495 0.0024 Saturn 106919-07-16 16:47 G 40772619.05 40772619.20 40772619.38 0.0278 0.0212 Saturn 106920-07-28 21:20 G 40772997.14 40772997.39 40772997.64 0.0275 0.0026 Saturn 106921-08-10 16:32 G 40773375.11 40773375.19 40773375.30 0.0271 0.0250 Jupiter 106929-06-30 11:30 G 40776255.81 40776255.98 40776256.16 0.0494 0.0321 Uranus 106931-06-04 00:56 G 40776959.29 40776959.54 40776959.79 0.0142 0.0032 Uranus 106932-06-08 00:13 G 40777329.31 40777329.51 40777329.74 0.0143 0.0081 Saturn 106936-01-22 18:56 G 40778653.05 40778653.29 40778653.53 0.0285 0.0065 Saturn 106937-02-04 04:04 G 40779031.50 40779031.67 40779031.86 0.0288 0.0193 Neptune 106937-05-28 01:40 G 40779144.48 40779144.57 40779144.73 0.0088 0.0077 Neptune 106938-05-30 13:40 G 40779511.88 40779512.07 40779512.28 0.0088 0.0056 Neptune 106939-06-02 01:11 G 40779879.33 40779879.55 40779879.81 0.0088 0.0036 Neptune 106940-06-03 13:11 G 40780246.79 40780247.05 40780247.31 0.0088 0.0015 Neptune 106941-06-06 00:56 G 40780614.28 40780614.54 40780614.81 0.0088 0.0006 Neptune 106942-06-08 12:13 G 40780981.78 40780982.01 40780982.28 0.0088 0.0027 Neptune 106943-06-10 23:59 G 40781349.30 40781349.50 40781349.74 0.0088 0.0047 Neptune 106944-06-12 11:16 G 40781716.84 40781716.97 40781717.17 0.0088 0.0068 Neptune 106945-06-14 23:30 G 40782084.48 40782084.48 40782084.51 0.0088 0.0088 Saturn 106949-07-23 09:20 G 40783583.65 40783583.89 40783584.13 0.0276 0.0081 Saturn 106950-08-05 08:08 G 40783961.64 40783961.84 40783962.06 0.0273 0.0150 Mars 106958-03-23 02:37 G 40786748.52 40786748.61 40786748.70 0.1885 0.1678 Saturn 106965-01-16 07:25 G 40789239.63 40789239.81 40789240.01 0.0283 0.0179 Saturn 106966-01-29 13:11 G 40789617.82 40789618.05 40789618.29 0.0287 0.0073 Jupiter 106970-12-24 17:59 G 40791408.05 40791408.25 40791408.47 0.0531 0.0212 Uranus 106971-12-03 10:18 G 40791751.74 40791751.93 40791752.13 0.0136 0.0086 Uranus 106972-12-06 18:56 G 40792121.04 40792121.29 40792121.54 0.0136 0.0008 Uranus 106973-12-11 02:37 G 40792490.47 40792490.61 40792490.79 0.0135 0.0103 Saturn 106978-07-18 01:40 G 40794170.39 40794170.57 40794170.76 0.0278 0.0184

Saturn 106979-07-31 05:01 G 40794548.47 40794548.71 40794548.95 0.0274 0.0052

Jupiter 106982-12-29 11:59 G 40795795.79 40795796.00 40795796.22 0.0532 0.0192

Mars 106983-09-27 20:37 G 40796068.20 40796068.36 40796068.51 0.1665 0.0972

Jupiter 106988-06-20 15:20 G 40797796.02 40797796.14 40797796.27 0.0496 0.0416

Saturn 106994-01-11 06:42 G 40799826.73 40799826.78 40799826.82 0.0281 0.0276

Saturn 106995-01-24 08:08 G 40800204.61 40800204.84 40800205.09 0.0285 0.0034

Saturn 106996-02-06 18:42 G 40800583.14 40800583.28 40800583.44 0.0289 0.0226

Pluto 106997-12-26 09:35 G 40801271.64 40801271.90 40801272.15 0.0065 0.0004

Jupiter 107000-06-26 01:40 G 40802183.34 40802183.57 40802183.81 0.0495 0.0077

## 108TH MILLENNIUM CE

## This is a list of transits of Earth in the 108th millennium CE.

FROM	MAX-	С	START	MAX	END	SUNRAD	DEPTH	S
	TRANSIT							
	TIME							

Saturn 107008-07-25 20:23 G 40805135.11 40805135.35 40805135.59 0.0276 0.0052

Saturn 107009-08-07 18:13 G 40805513.08 40805513.26 40805513.45 0.0272 0.0176

Jupiter 107012-06-30 12:56 G 40806570.84 40806571.04 40806571.24 0.0494 0.0263

Uranus 107014-05-31 11:01 G 40807270.93 40807270.96 40807271.04 0.0142 0.0139

Uranus 107015-06-05 10:47 G 40807640.69 40807640.95 40807641.20 0.0142 0.0027

Uranus 107016-06-09 09:49 G 40808010.72 40808010.91 40808011.13 0.0143 0.0086

Neptune 107019-11-30 19:25 G 40809280.20 40809280.31 40809280.47 0.0090 0.0076

Neptune 107020-12-02 07:54 G 40809647.63 40809647.83 40809648.04 0.0090 0.0054

Neptune 107021-12-04 19:11 G 40810015.08 40810015.30 40810015.55 0.0090 0.0033

Neptune 107022-12-07 07:25 G 40810382.55 40810382.81 40810383.06 0.0090 0.0011

Neptune 107023-12-09 18:56 G 40810750.04 40810750.29 40810750.55 0.0090 0.0011 Saturn 107024-01-19 21:20 G 40810791.19 40810791.39 40810791.60 0.0284 0.0147 Neptune 107024-12-11 06:13 G 40811117.54 40811117.76 40811118.01 0.0090 0.0032 Saturn 107025-02-01 04:04 G 40811169.45 40811169.67 40811169.90 0.0288 0.0106 Neptune 107025-12-13 17:44 G 40811485.06 40811485.24 40811485.46 0.0090 0.0054 Neptune 107026-12-16 05:16 G 40811852.60 40811852.72 40811852.88 0.0090 0.0075 Saturn 107037-07-20 13:40 G 40815721.87 40815722.07 40815722.28 0.0277 0.0154 Saturn 107038-08-02 15:49 G 40816099.92 40816100.16 40816100.40 0.0274 0.0081 Saturn 107053-01-13 20:52 G 40821378.26 40821378.37 40821378.50 0.0282 0.0245 Jupiter 107053-12-24 12:13 G 40821722.82 40821723.01 40821723.20 0.0531 0.0302 Saturn 107054-01-26 23:59 G 40821756.25 40821756.50 40821756.74 0.0286 0.0005 Saturn 107055-02-09 11:30 G 40822134.89 40822134.98 40822135.10 0.0289 0.0262 Uranus 107055-12-04 19:11 G 40822433.12 40822433.30 40822433.51 0.0136 0.0083 Uranus 107056-12-08 04:04 G 40822802.42 40822802.67 40822802.92 0.0136 0.0012 Uranus 107057-12-12 11:59 G 40823171.85 40823172.00 40823172.17 0.0136 0.0106 Jupiter 107065-12-29 13:11 G 40826110.83 40826111.05 40826111.28 0.0532 0.0127 Saturn 107066-07-15 04:04 G 40826308.60 40826308.67 40826308.77 0.0279 0.0261 Saturn 107067-07-28 09:49 G 40826686.66 40826686.91 40826687.16 0.0276 0.0022 Saturn 107068-08-09 06:42 G 40827064.62 40827064.78 40827064.94 0.0272 0.0204 Jupiter 107071-06-21 15:06 G 40828111.07 40828111.13 40828111.20 0.0496 0.0476 Saturn 107083-01-21 12:13 G 40832342.79 40832343.01 40832343.23 0.0284 0.0114 Jupiter 107083-06-26 02:08 G 40832498.36 40832498.59 40832498.82 0.0495 0.0137 Saturn 107084-02-03 19:54 G 40832721.13 40832721.33 40832721.55 0.0288 0.0142 Pluto 107086-06-27 04:47 G 40833595.46 40833595.70 40833595.97 0.0079 0.0019 Jupiter 107095-06-30 14:52 G 40836885.91 40836886.12 40836886.34 0.0495 0.0207 Saturn 107096-07-22 04:04 G 40837273.45 40837273.67 40837273.90 0.0277 0.0123 Saturn 107097-08-04 04:47 G 40837651.48 40837651.70 40837651.94 0.0273 0.0110 Uranus 107098-05-31 22:18 G 40837952.36 40837952.43 40837952.54 0.0142 0.0132 Uranus 107099-06-05 21:35 G 40838322.15 40838322.40 40838322.66 0.0142 0.0021 Uranus 107100-06-10 20:52 G 40838692.19 40838692.37 40838692.58 0.0142 0.0092

Neptune 107101-05-29 11:01 G 40839044.92 40839044.96 40839045.08 0.0088 0.0084 Neptune 107102-05-31 23:01 G 40839412.29 40839412.46 40839412.65 0.0088 0.0063 Neptune 107103-06-03 10:18 G 40839779.72 40839779.93 40839780.18 0.0088 0.0043 Neptune 107104-06-04 22:18 G 40840147.18 40840147.43 40840147.68 0.0088 0.0022 Neptune 107105-06-07 10:04 G 40840514.66 40840514.92 40840515.18 0.0088 0.0001 Neptune 107106-06-09 21:35 G 40840882.15 40840882.40 40840882.66 0.0088 0.0019 Neptune 107107-06-12 09:06 G 40841249.66 40841249.88 40841250.12 0.0088 0.0040 Neptune 107108-06-13 20:37 G 40841617.20 40841617.36 40841617.57 0.0088 0.0061 Neptune 107109-06-16 08:23 G 40841984.77 40841984.85 40841984.97 0.0088 0.0081 Saturn 107112-01-17 11:44 G 40842929.84 40842929.99 40842930.15 0.0282 0.0214 Saturn 107113-01-29 16:04 G 40843307.93 40843308.17 40843308.41 0.0286 0.0035 Saturn 107125-07-17 20:52 G 40847860.24 40847860.37 40847860.52 0.0279 0.0229 Saturn 107126-07-31 01:25 G 40848238.31 40848238.56 40848238.81 0.0275 0.0009 Saturn 107127-08-12 20:52 G 40848616.25 40848616.37 40848616.50 0.0272 0.0233 Jupiter 107136-12-24 13:40 G 40852037.91 40852038.07 40852038.24 0.0531 0.0365 Uranus 107139-12-06 03:20 G 40853114.44 40853114.64 40853114.85 0.0136 0.0080 Uranus 107140-12-09 11:59 G 40853483.75 40853484.00 40853484.25 0.0136 0.0015 Uranus 107141-12-13 19:54 G 40853853.20 40853853.33 40853853.49 0.0136 0.0109 Saturn 107142-01-24 03:06 G 40853894.40 40853894.63 40853894.86 0.0285 0.0082 Saturn 107143-02-06 12:13 G 40854272.82 40854273.01 40854273.21 0.0289 0.0176 Jupiter 107148-12-29 11:44 G 40856425.76 40856425.99 40856426.22 0.0532 0.0051 Saturn 107155-07-25 18:56 G 40858825.06 40858825.29 40858825.53 0.0276 0.0093 Saturn 107156-08-06 18:42 G 40859203.07 40859203.28 40859203.49 0.0273 0.0139 Jupiter 107161-01-03 06:28 G 40860813.65 40860813.77 40860813.89 0.0532 0.0455 Jupiter 107166-06-26 04:18 G 40862813.46 40862813.68 40862813.90 0.0496 0.0191 Saturn 107171-01-19 01:11 G 40864481.38 40864481.55 40864481.74 0.0283 0.0185 Saturn 107172-02-01 06:56 G 40864859.55 40864859.79 40864860.02 0.0287 0.0067 Jupiter 107178-06-30 14:37 G 40867200.88 40867201.11 40867201.33 0.0495 0.0147 Uranus 107182-06-02 09:20 G 40868633.79 40868633.89 40868634.02 0.0142 0.0126 Uranus 107183-06-07 08:37 G 40869003.61 40869003.86 40869004.12 0.0142 0.0015

Neptune 107183-12-01 04:47 G 40869180.64 40869180.70 40869180.82 0.0090 0.0084 Uranus 107184-06-11 07:40 G 40869373.65 40869373.82 40869374.02 0.0142 0.0098 Saturn 107184-07-19 13:25 G 40869411.90 40869412.06 40869412.24 0.0278 0.0198 Neptune 107184-12-02 16:47 G 40869548.04 40869548.20 40869548.41 0.0090 0.0062 Saturn 107185-08-01 16:32 G 40869789.95 40869790.19 40869790.44 0.0274 0.0040 Neptune 107185-12-05 04:47 G 40869915.49 40869915.70 40869915.95 0.0090 0.0041 Saturn 107186-08-14 10:47 G 40870167.89 40870167.95 40870168.02 0.0271 0.0261 Neptune 107186-12-07 16:47 G 40870282.96 40870283.20 40870283.46 0.0090 0.0019 Neptune 107187-12-10 04:32 G 40870650.44 40870650.69 40870650.95 0.0090 0.0003 Mars 107188-09-27 14:08 G 40870942.90 40870943.09 40870943.28 0.1655 0.0306 Neptune 107188-12-11 16:04 G 40871017.93 40871018.17 40871018.42 0.0090 0.0025 Neptune 107189-12-14 03:35 G 40871385.44 40871385.65 40871385.88 0.0090 0.0046 Jupiter 107190-07-05 02:08 G 40871588.55 40871588.59 40871588.64 0.0494 0.0484 Neptune 107190-12-16 14:52 G 40871752.98 40871753.12 40871753.31 0.0090 0.0068 Neptune 107191-12-19 02:23 G 40872120.59 40872120.60 40872120.66 0.0090 0.0089 Saturn 107201-01-25 16:04 G 40875445.93 40875446.17 40875446.41 0.0285 0.0051 Saturn 107202-02-08 02:37 G 40875824.44 40875824.61 40875824.78 0.0289 0.0207 Saturn 107214-07-27 09:35 G 40880376.65 40880376.90 40880377.14 0.0276 0.0062 Saturn 107215-08-09 07:54 G 40880754.64 40880754.83 40880755.03 0.0272 0.0168 Jupiter 107219-12-24 09:20 G 40882352.77 40882352.89 40882353.01 0.0530 0.0448 Uranus 107223-12-06 12:28 G 40883795.83 40883796.02 40883796.25 0.0136 0.0077 Uranus 107224-12-09 21:06 G 40884165.14 40884165.38 40884165.64 0.0136 0.0019 Uranus 107225-12-14 05:30 G 40884534.60 40884534.73 40884534.88 0.0136 0.0112 Saturn 107230-01-20 12:28 G 40886032.83 40886033.02 40886033.23 0.0284 0.0157 Saturn 107231-02-02 19:11 G 40886411.08 40886411.30 40886411.53 0.0287 0.0098 Jupiter 107231-12-29 06:56 G 40886740.56 40886740.79 40886741.02 0.0531 0.0039 Saturn 107243-07-22 04:04 G 40890963.48 40890963.67 40890963.88 0.0278 0.0168 Jupiter 107244-01-03 06:42 G 40891128.62 40891128.78 40891128.94 0.0533 0.0387 Saturn 107244-08-03 06:13 G 40891341.53 40891341.76 40891342.01 0.0274 0.0068 Pluto 107245-12-29 21:20 G 40891855.14 40891855.39 40891855.65 0.0065 0.0008

Jupiter 107249-06-25 05:30 G 40893128.53 40893128.73 40893128.94 0.0496 0.0246 Saturn 107259-01-15 00:28 G 40896619.46 40896619.52 40896619.61 0.0282 0.0267 Saturn 107260-01-28 02:23 G 40896997.36 40896997.60 40896997.85 0.0286 0.0024 Saturn 107261-02-09 13:40 G 40897375.94 40897376.07 40897376.21 0.0290 0.0237 Jupiter 107261-06-29 16:32 G 40897515.96 40897516.19 40897516.42 0.0495 0.0092 Neptune 107266-05-31 08:23 G 40899312.71 40899312.85 40899313.02 0.0088 0.0070 Uranus 107266-06-02 20:23 G 40899315.22 40899315.35 40899315.49 0.0142 0.0121 Neptune 107267-06-02 19:40 G 40899680.13 40899680.32 40899680.56 0.0088 0.0050 Uranus 107267-06-07 19:25 G 40899685.06 40899685.31 40899685.57 0.0142 0.0010 Mars 107267-09-30 19:25 G 40899800.26 40899800.31 40899800.37 0.1659 0.1567 Neptune 107268-06-04 07:40 G 40900047.58 40900047.82 40900048.07 0.0088 0.0029 Uranus 107268-06-11 18:42 G 40900055.11 40900055.28 40900055.47 0.0142 0.0103 Neptune 107269-06-06 19:11 G 40900415.04 40900415.30 40900415.56 0.0088 0.0009 Neptune 107270-06-09 06:42 G 40900782.53 40900782.78 40900783.05 0.0088 0.0013 Neptune 107271-06-11 18:13 G 40901150.03 40901150.26 40901150.52 0.0088 0.0033 Neptune 107272-06-13 05:59 G 40901517.56 40901517.75 40901517.97 0.0088 0.0054 Saturn 107272-07-15 14:23 G 40901550.07 40901550.10 40901550.15 0.0280 0.0275 Neptune 107273-06-15 17:59 G 40901885.12 40901885.25 40901885.40 0.0088 0.0074 Jupiter 107273-07-04 04:47 G 40901903.59 40901903.70 40901903.82 0.0494 0.0432 Saturn 107273-07-28 21:20 G 40901928.14 40901928.39 40901928.64 0.0276 0.0034 Saturn 107274-08-10 18:42 G 40902306.12 40902306.28 40902306.46 0.0272 0.0194 Saturn 107289-01-21 20:23 G 40907584.14 40907584.35 40907584.56 0.0284 0.0131 Saturn 107290-02-04 04:04 G 40907962.45 40907962.67 40907962.89 0.0288 0.0124 Saturn 107302-07-24 16:04 G 40912514.97 40912515.17 40912515.39 0.0277 0.0140 Jupiter 107302-12-24 09:35 G 40912667.85 40912667.90 40912667.96 0.0530 0.0513 Saturn 107303-08-06 17:30 G 40912893.00 40912893.23 40912893.47 0.0274 0.0094 Uranus 107307-12-07 21:35 G 40914477.20 40914477.40 40914477.63 0.0136 0.0073 Uranus 107308-12-11 06:28 G 40914846.53 40914846.77 40914847.02 0.0136 0.0022 Uranus 107309-12-15 14:23 G 40915215.99 40915216.10 40915216.24 0.0136 0.0116 Jupiter 107314-12-29 10:47 G 40917055.73 40917055.95 40917056.18 0.0532 0.0091

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Saturn 107390-07-20 05:16 G 40944652.59 40944652.72 40944652.87 0.0279 0.0228 Saturn 107391-08-02 11:16 G 40945030.72 40945030.97 40945031.22 0.0275 0.0013 Uranus 107391-12-08 08:08 G 40945158.63 40945158.84 40945159.07 0.0136 0.0068 Saturn 107392-08-14 07:40 G 40945408.71 40945408.82 40945408.95 0.0272 0.0238 Uranus 107392-12-11 16:32 G 40945527.95 40945528.19 40945528.44 0.0136 0.0027 Mars 107393-09-27 09:20 G 40945817.81 40945817.89 40945817.97 0.1645 0.1481 Uranus 107393-12-16 00:42 G 40945897.43 40945897.53 40945897.66 0.0136 0.0121 Jupiter 107397-12-28 14:08 G 40947370.87 40947371.09 40947371.31 0.0531 0.0147 Saturn 107407-01-27 01:54 G 40950686.35 40950686.58 40950686.81 0.0284 0.0090 Saturn 107408-02-09 10:04 G 40951064.74 40951064.92 40951065.13 0.0288 0.0168 Jupiter 107410-01-03 12:28 G 40951758.82 40951759.02 40951759.22 0.0532 0.0268 Jupiter 107415-06-26 16:04 G 40953759.00 40953759.17 40953759.35 0.0496 0.0329 Saturn 107420-07-28 03:49 G 40955617.43 40955617.66 40955617.90 0.0277 0.0095 Saturn 107421-08-10 04:18 G 40955995.48 40955995.68 40955995.91 0.0273 0.0139 Jupiter 107427-07-01 06:28 G 40958146.53 40958146.77 40958147.00 0.0495 0.0019 Neptune 107430-06-01 18:28 G 40959213.17 40959213.27 40959213.41 0.0088 0.0077 Neptune 107431-06-04 05:44 G 40959580.57 40959580.74 40959580.96 0.0088 0.0057 Neptune 107432-06-05 17:30 G 40959948.00 40959948.23 40959948.48 0.0088 0.0036 Neptune 107433-06-08 05:16 G 40960315.46 40960315.72 40960315.97 0.0088 0.0015 Uranus 107434-06-05 13:25 G 40960677.93 40960678.06 40960678.23 0.0142 0.0113 Neptune 107434-06-10 16:32 G 40960682.93 40960683.19 40960683.45 0.0088 0.0005 Uranus 107435-06-10 12:56 G 40961047.79 40961048.04 40961048.30 0.0142 0.0003 Neptune 107435-06-13 04:18 G 40961050.43 40961050.68 40961050.93 0.0088 0.0026 Saturn 107436-01-21 10:32 G 40961272.78 40961272.94 40961273.11 0.0282 0.0203 Uranus 107436-06-14 12:13 G 40961417.86 40961418.01 40961418.18 0.0142 0.0111 Neptune 107436-06-14 15:20 G 40961417.94 40961418.14 40961418.38 0.0088 0.0047 \* Saturn 107437-02-02 13:40 G 40961650.83 40961651.07 40961651.31 0.0286 0.0044 Neptune 107437-06-17 02:52 G 40961785.48 40961785.62 40961785.81 0.0088 0.0068 Jupiter 107439-07-05 17:59 G 40962534.08 40962534.25 40962534.41 0.0494 0.0353 Saturn 107449-07-22 06:42 G 40966203.62 40966203.78 40966203.95 0.0279 0.0208

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Uranus 107520-06-15 20:37 G 40992099.22 40992099.36 40992099.52 0.0142 0.0115 Jupiter 107522-07-06 03:49 G 40992849.48 40992849.66 40992849.84 0.0495 0.0326 Saturn 107525-01-29 21:49 G 40993788.17 40993788.41 40993788.65 0.0284 0.0055 Saturn 107526-02-12 05:44 G 40994166.58 40994166.74 40994166.93 0.0288 0.0202 Saturn 107538-08-01 01:39 G 40998719.33 40998719.57 40998719.82 0.0277 0.0059 Saturn 107539-08-14 02:23 G 40999097.42 40999097.60 40999097.80 0.0273 0.0173 Saturn 107554-01-24 06:42 G 41004374.59 41004374.78 41004374.98 0.0281 0.0167 Saturn 107555-02-06 09:20 G 41004752.66 41004752.89 41004753.13 0.0286 0.0080 Uranus 107559-12-11 01:39 G 41006521.36 41006521.57 41006521.81 0.0136 0.0061 Uranus 107560-12-14 10:32 G 41006890.70 41006890.94 41006891.19 0.0136 0.0034 Uranus 107561-12-18 18:42 G 41007260.22 41007260.28 41007260.37 0.0136 0.0129 Jupiter 107563-12-30 05:15 G 41008001.52 41008001.72 41008001.93 0.0531 0.0232 Saturn 107567-07-26 02:08 G 41009305.39 41009305.59 41009305.78 0.0279 0.0176 Saturn 107568-08-07 07:54 G 41009683.58 41009683.83 41009684.07 0.0275 0.0064 Jupiter 107576-01-04 04:47 G 41012389.49 41012389.70 41012389.92 0.0532 0.0187 Jupiter 107581-06-26 12:27 G 41014389.88 41014390.02 41014390.18 0.0497 0.0386 Pluto 107582-07-04 10:32 G 41014762.70 41014762.94 41014763.18 0.0079 0.0032 Saturn 107583-01-18 19:39 G 41014961.30 41014961.32 41014961.37 0.0280 0.0277 Saturn 107584-01-31 18:27 G 41015339.03 41015339.27 41015339.51 0.0284 0.0039 Saturn 107585-02-13 02:23 G 41015717.45 41015717.60 41015717.76 0.0288 0.0217 Jupiter 107593-07-01 03:20 G 41018777.41 41018777.64 41018777.88 0.0495 0.0038 Neptune 107594-06-02 04:18 G 41019113.63 41019113.68 41019113.78 0.0088 0.0084 Neptune 107595-06-04 15:49 G 41019481.01 41019481.16 41019481.37 0.0088 0.0064 Neptune 107596-06-06 03:35 G 41019848.44 41019848.65 41019848.89 0.0088 0.0043 Neptune 107597-06-08 15:20 G 41020215.89 41020216.14 41020216.40 0.0088 0.0022 Saturn 107597-08-01 21:35 G 41020270.16 41020270.40 41020270.65 0.0277 0.0043 Neptune 107598-06-11 02:51 G 41020583.36 41020583.62 41020583.88 0.0088 0.0002 Saturn 107598-08-14 22:47 G 41020648.27 41020648.45 41020648.63 0.0274 0.0188 Neptune 107599-06-13 14:08 G 41020950.85 41020951.09 41020951.36 0.0088 0.0020 Neptune 107600-06-15 01:54 G 41021318.35 41021318.58 41021318.82 0.0088 0.0040

Neptune 107601-06-17 13:11 G 41021685.88 41021686.05 41021686.26 0.0088 0.0061 Uranus 107602-06-07 07:11 G 41022040.65 41022040.80 41022040.99 0.0142 0.0106 Neptune 107602-06-20 00:42 G 41022053.46 41022053.53 41022053.65 0.0088 0.0082 Uranus 107603-06-12 06:42 G 41022410.53 41022410.78 41022411.04 0.0142 0.0007 Uranus 107604-06-16 05:44 G 41022780.62 41022780.74 41022780.90 0.0142 0.0119 107605-03-30 10:18 G 41023067.74 41023067.93 41023068.11 0.1897 0.0700 Jupiter 107605-07-05 17:30 G 41023165.06 41023165.23 41023165.42 0.0494 0.0309 Saturn 107613-01-25 05:15 G 41025925.52 41025925.72 41025925.93 0.0281 0.0149 Saturn 107614-02-07 07:39 G 41026303.60 41026303.82 41026304.06 0.0286 0.0099 Saturn 107626-07-26 22:03 G 41030856.22 41030856.42 41030856.62 0.0279 0.0159 Saturn 107627-08-09 03:49 G 41031234.42 41031234.66 41031234.90 0.0275 0.0080 Saturn 107642-01-19 17:44 G 41036512.16 41036512.24 41036512.34 0.0280 0.0259 Saturn 107643-02-01 16:18 G 41036889.94 41036890.18 41036890.42 0.0284 0.0021 Uranus 107643-12-11 09:06 G 41037202.66 41037202.88 41037203.12 0.0136 0.0059 Saturn 107644-02-15 00:13 G 41037268.37 41037268.51 41037268.65 0.0288 0.0234 Uranus 107644-12-14 17:59 G 41037572.02 41037572.25 41037572.50 0.0136 0.0037 Uranus 107645-12-19 02:37 G 41037941.56 41037941.61 41037941.68 0.0136 0.0131 Jupiter 107646-12-29 12:13 G 41038316.82 41038317.01 41038317.21 0.0530 0.0276 Saturn 107655-07-21 06:13 G 41041442.71 41041442.76 41041442.84 0.0281 0.0271 Saturn 107656-08-02 17:15 G 41041820.97 41041821.22 41041821.47 0.0277 0.0027 Saturn 107657-08-15 18:42 G 41042199.12 41042199.28 41042199.45 0.0274 0.0204 Jupiter 107659-01-03 07:25 G 41042704.59 41042704.81 41042705.04 0.0532 0.0125 Jupiter 107664-06-26 03:06 G 41044705.49 41044705.63 41044705.77 0.0497 0.0401 Saturn 107672-01-27 04:47 G 41047476.49 41047476.70 41047476.92 0.0281 0.0129 Saturn 107673-02-08 07:11 G 41047854.59 41047854.80 41047855.03 0.0285 0.0119 Jupiter 107676-06-30 15:06 G 41049092.90 41049093.13 41049093.37 0.0495 0.0062 Neptune 107676-12-03 22:47 G 41049249.40 41049249.45 41049249.56 0.0090 0.0085 107677-09-30 11:15 G 41049549.80 41049549.97 41049550.13 0.1640 0.0811 Neptune 107677-12-06 11:01 G 41049616.79 41049616.96 41049617.16 0.0090 0.0063 Neptune 107678-12-08 22:32 G 41049984.23 41049984.44 41049984.68 0.0090 0.0042

Neptune 107679-12-11 10:32 G 41050351.71 41050351.94 41050352.20 0.0090 0.0020 Neptune 107680-12-12 22:32 G 41050719.19 41050719.44 41050719.70 0.0090 0.0003 Neptune 107681-12-15 10:03 G 41051086.69 41051086.92 41051087.18 0.0090 0.0025 Neptune 107682-12-17 21:49 G 41051454.21 41051454.41 41051454.65 0.0090 0.0046 Neptune 107683-12-20 09:20 G 41051821.75 41051821.89 41051822.08 0.0090 0.0068 Neptune 107684-12-21 21:20 G 41052189.38 41052189.39 41052189.43 0.0090 0.0089 Saturn 107685-07-27 18:13 G 41052407.06 41052407.26 41052407.49 0.0279 0.0143 Uranus 107686-06-07 17:44 G 41052722.07 41052722.24 41052722.44 0.0142 0.0100 Saturn 107686-08-10 00:13 G 41052785.28 41052785.51 41052785.75 0.0275 0.0096 Uranus 107687-06-12 17:15 G 41053091.96 41053092.22 41053092.48 0.0142 0.0012 Uranus 107688-06-16 16:18 G 41053462.07 41053462.18 41053462.32 0.0142 0.0124 Jupiter 107688-07-05 03:20 G 41053480.45 41053480.64 41053480.84 0.0494 0.0275 Saturn 107701-01-21 17:44 G 41058063.13 41058063.24 41058063.37 0.0280 0.0239 Saturn 107702-02-03 16:32 G 41058440.94 41058441.19 41058441.43 0.0284 0.0005 Saturn 107703-02-16 23:59 G 41058819.40 41058819.50 41058819.62 0.0288 0.0255 Saturn 107714-07-23 03:35 G 41062993.55 41062993.65 41062993.77 0.0281 0.0252 Saturn 107715-08-05 14:08 G 41063371.84 41063372.09 41063372.34 0.0277 0.0009 Saturn 107716-08-17 15:20 G 41063750.01 41063750.14 41063750.30 0.0274 0.0221 Uranus 107727-12-12 17:30 G 41067884.01 41067884.23 41067884.47 0.0136 0.0056 Uranus 107728-12-16 02:37 G 41068253.37 41068253.61 41068253.86 0.0136 0.0039 Uranus 107729-12-20 10:47 G 41068622.93 41068622.95 41068623.00 0.0136 0.0134 Jupiter 107729-12-29 15:20 G 41068631.97 41068632.14 41068632.32 0.0531 0.0336 Saturn 107731-01-29 07:11 G 41069027.58 41069027.80 41069028.03 0.0282 0.0106 Saturn 107732-02-11 09:49 G 41069405.71 41069405.91 41069406.13 0.0286 0.0142 Jupiter 107742-01-03 17:44 G 41073020.01 41073020.24 41073020.47 0.0532 0.0090 Pluto 107742-01-06 05:44 G 41073022.50 41073022.74 41073023.01 0.0065 0.0010 Saturn 107744-07-29 17:01 G 41073957.99 41073958.21 41073958.43 0.0279 0.0123 Saturn 107745-08-11 22:32 G 41074336.22 41074336.44 41074336.67 0.0275 0.0114 Jupiter 107747-06-27 11:15 G 41075020.87 41075020.97 41075021.09 0.0497 0.0437 Jupiter 107754-01-08 17:59 G 41077408.19 41077408.25 41077408.32 0.0533 0.0510

107756-10-03 16:18 G 41078407.03 41078407.18 41078407.33 0.1644 0.0995 Mars Neptune 107759-06-05 02:23 G 41079381.45 41079381.60 41079381.76 0.0088 0.0070 Jupiter 107759-07-01 23:15 G 41079408.24 41079408.47 41079408.71 0.0496 0.0097 Saturn 107760-01-23 20:23 G 41079614.21 41079614.35 41079614.52 0.0280 0.0216 Neptune 107760-06-06 13:25 G 41079748.87 41079749.06 41079749.30 0.0088 0.0050 Saturn 107761-02-04 19:25 G 41079992.07 41079992.31 41079992.55 0.0284 0.0024 Neptune 107761-06-09 01:11 G 41080116.32 41080116.55 41080116.81 0.0088 0.0029 Saturn 107762-02-18 03:20 G 41080370.58 41080370.64 41080370.71 0.0288 0.0277 Neptune 107762-06-11 12:56 G 41080483.79 41080484.04 41080484.31 0.0088 0.0008 Neptune 107763-06-14 00:13 G 41080851.26 41080851.51 41080851.78 0.0088 0.0013 Neptune 107764-06-15 11:44 G 41081218.76 41081218.99 41081219.24 0.0088 0.0034 Neptune 107765-06-17 23:30 G 41081586.28 41081586.48 41081586.69 0.0088 0.0054 Neptune 107766-06-20 10:47 G 41081953.83 41081953.95 41081954.10 0.0088 0.0075 Uranus 107770-06-09 04:18 G 41083403.51 41083403.68 41083403.89 0.0142 0.0095 Uranus 107771-06-14 03:49 G 41083773.40 41083773.66 41083773.91 0.0142 0.0017 Jupiter 107771-07-06 13:25 G 41083795.86 41083796.06 41083796.27 0.0495 0.0247 Uranus 107772-06-18 03:06 G 41084143.54 41084143.63 41084143.75 0.0142 0.0130 Saturn 107773-07-24 03:06 G 41084544.50 41084544.63 41084544.78 0.0281 0.0232 Saturn 107774-08-06 13:25 G 41084922.81 41084923.06 41084923.31 0.0277 0.0012 Saturn 107775-08-19 14:37 G 41085301.00 41085301.11 41085301.23 0.0274 0.0240 Saturn 107790-01-30 12:27 G 41090578.79 41090579.02 41090579.26 0.0282 0.0081 Saturn 107791-02-12 15:20 G 41090956.96 41090957.14 41090957.35 0.0286 0.0168 Saturn 107803-08-01 19:11 G 41095509.07 41095509.30 41095509.53 0.0279 0.0101 Saturn 107804-08-14 00:13 G 41095887.30 41095887.51 41095887.73 0.0275 0.0135 Uranus 107811-12-14 02:08 G 41098565.37 41098565.59 41098565.83 0.0136 0.0053 Uranus 107812-12-17 11:15 G 41098934.73 41098934.97 41098935.21 0.0136 0.0042 Jupiter 107812-12-29 23:01 G 41098947.31 41098947.46 41098947.63 0.0530 0.0376 Saturn 107819-01-26 02:37 G 41101165.44 41101165.61 41101165.79 0.0281 0.0191 Saturn 107820-02-08 02:08 G 41101543.35 41101543.59 41101543.83 0.0285 0.0050 Jupiter 107825-01-03 21:06 G 41103335.15 41103335.38 41103335.61 0.0531 0.0031

Jupiter 107830-06-27 18:42 G 41105336.22 41105336.28 41105336.36 0.0497 0.0474 Pluto 107830-07-08 07:11 G 41105346.56 41105346.80 41105347.07 0.0079 0.0018 Saturn 107832-07-26 06:42 G 41106095.61 41106095.78 41106095.94 0.0281 0.0208 Saturn 107833-08-08 16:03 G 41106473.93 41106474.17 41106474.42 0.0277 0.0035 Saturn 107834-08-21 16:32 G 41106852.14 41106852.19 41106852.28 0.0273 0.0262 Jupiter 107837-01-08 15:06 G 41107722.99 41107723.13 41107723.26 0.0533 0.0427 Neptune 107841-12-07 20:51 G 41109517.24 41109517.37 41109517.55 0.0090 0.0071 Jupiter 107842-07-02 09:06 G 41109723.66 41109723.88 41109724.12 0.0496 0.0130 Neptune 107842-12-10 08:51 G 41109884.67 41109884.87 41109885.10 0.0090 0.0049 Neptune 107843-12-12 21:06 G 41110252.14 41110252.38 41110252.62 0.0090 0.0027 Neptune 107844-12-14 08:51 G 41110619.62 41110619.87 41110620.13 0.0090 0.0005 Neptune 107845-12-16 20:23 G 41110987.11 41110987.35 41110987.61 0.0090 0.0017 Neptune 107846-12-19 08:08 G 41111354.62 41111354.84 41111355.08 0.0090 0.0039 Neptune 107847-12-21 20:08 G 41111722.16 41111722.34 41111722.53 0.0090 0.0060 Neptune 107848-12-23 07:54 G 41112089.74 41112089.83 41112089.94 0.0090 0.0082 Saturn 107849-02-01 21:20 G 41112130.15 41112130.39 41112130.63 0.0282 0.0053 Saturn 107850-02-15 01:11 G 41112508.38 41112508.55 41112508.73 0.0286 0.0196 Uranus 107854-06-10 14:23 G 41114084.92 41114085.10 41114085.32 0.0142 0.0090 Jupiter 107854-07-06 19:54 G 41114111.12 41114111.33 41114111.55 0.0495 0.0206 Uranus 107855-06-15 13:54 G 41114454.84 41114455.08 41114455.34 0.0142 0.0023 Uranus 107856-06-19 12:56 G 41114824.98 41114825.04 41114825.14 0.0142 0.0135 Saturn 107862-08-03 00:56 G 41117060.30 41117060.54 41117060.78 0.0279 0.0076 Saturn 107863-08-16 05:15 G 41117438.52 41117438.72 41117438.93 0.0275 0.0159 Saturn 107878-01-27 11:30 G 41122716.78 41122716.98 41122717.18 0.0281 0.0163 Saturn 107879-02-09 11:44 G 41123094.76 41123094.99 41123095.22 0.0285 0.0080 Mars 107889-03-31 19:54 G 41126798.13 41126798.33 41126798.53 0.1907 0.0248 Saturn 107891-07-28 14:08 G 41127646.90 41127647.09 41127647.28 0.0280 0.0181 Saturn 107892-08-09 22:47 G 41128025.21 41128025.45 41128025.70 0.0276 0.0060 Uranus 107895-12-14 12:13 G 41129246.78 41129247.01 41129247.25 0.0136 0.0049 Jupiter 107895-12-29 18:42 G 41129262.18 41129262.28 41129262.40 0.0529 0.0459

Uranus 107896-12-17 21:06 G 41129616.15 41129616.38 41129616.62 0.0136 0.0047 Saturn 107907-01-23 12:27 G 41133303.94 41133304.02 41133304.12 0.0279 0.0258 Jupiter 107908-01-04 17:30 G 41133650.00 41133650.23 41133650.46 0.0531 0.0052 Saturn 107908-02-05 09:06 G 41133681.64 41133681.88 41133682.12 0.0283 0.0023 Saturn 107909-02-17 13:54 G 41134059.94 41134060.08 41134060.23 0.0286 0.0228 Jupiter 107920-01-09 18:42 G 41138038.12 41138038.28 41138038.45 0.0533 0.0371 Saturn 107921-08-05 10:47 G 41138611.71 41138611.95 41138612.20 0.0278 0.0048 Saturn 107922-08-18 14:08 G 41138989.91 41138990.09 41138990.27 0.0275 0.0185 Neptune 107923-06-06 11:44 G 41139281.90 41139281.99 41139282.14 0.0088 0.0078 Neptune 107924-06-07 23:44 G 41139649.31 41139649.49 41139649.71 0.0088 0.0057 Neptune 107925-06-10 11:30 G 41140016.75 41140016.98 41140017.23 0.0088 0.0036 Jupiter 107925-07-02 11:30 G 41140038.76 41140038.98 41140039.20 0.0496 0.0182 Neptune 107926-06-12 23:15 G 41140384.21 41140384.47 41140384.73 0.0088 0.0015 Neptune 107927-06-15 10:47 G 41140751.70 41140751.95 41140752.22 0.0088 0.0006 Neptune 107928-06-16 22:03 G 41141119.18 41141119.42 41141119.68 0.0088 0.0027 Neptune 107929-06-19 09:35 G 41141486.70 41141486.90 41141487.14 0.0088 0.0048 Neptune 107930-06-21 20:51 G 41141854.24 41141854.37 41141854.56 0.0088 0.0069 Saturn 107937-01-29 23:44 G 41144268.28 41144268.49 41144268.70 0.0282 0.0133 Jupiter 107937-07-06 22:18 G 41144426.21 41144426.43 41144426.66 0.0495 0.0152 Saturn 107938-02-12 00:56 G 41144646.32 41144646.54 41144646.76 0.0285 0.0112 Uranus 107938-06-11 23:15 G 41144766.28 41144766.47 41144766.69 0.0142 0.0086 Uranus 107939-06-16 22:32 G 41145136.19 41145136.44 41145136.70 0.0142 0.0026 Uranus 107940-06-20 22:03 G 41145506.38 41145506.42 41145506.48 0.0142 0.0139 Jupiter 107949-07-11 11:15 G 41148813.95 41148813.97 41148814.02 0.0494 0.0489 Saturn 107950-07-31 01:11 G 41149198.35 41149198.55 41149198.77 0.0280 0.0153 Saturn 107951-08-13 08:51 G 41149576.64 41149576.87 41149577.11 0.0276 0.0087 Mars 107961-10-04 13:39 G 41153281.88 41153282.07 41153282.26 0.1635 0.0120 Saturn 107966-01-25 01:11 G 41154855.41 41154855.55 41154855.68 0.0280 0.0229 Saturn 107967-02-06 22:47 G 41155233.21 41155233.45 41155233.69 0.0283 0.0010 Saturn 107968-02-20 05:01 G 41155611.62 41155611.71 41155611.81 0.0287 0.0261

Jupiter 107978-12-29 20:23 G 41159577.32 41159577.35 41159577.39 0.0529 0.0520 Saturn 107979-07-25 13:25 G 41159784.97 41159785.06 41159785.15 0.0282 0.0262 Uranus 107979-12-15 22:03 G 41159928.19 41159928.42 41159928.66 0.0136 0.0044 Saturn 107980-08-07 00:27 G 41160163.27 41160163.52 41160163.77 0.0278 0.0018 Uranus 107980-12-19 06:27 G 41160297.55 41160297.77 41160298.02 0.0136 0.0052 Saturn 107981-08-20 02:23 G 41160541.46 41160541.60 41160541.77 0.0274 0.0213 Pluto 107990-01-10 03:06 G 41163606.37 41163606.63 41163606.89 0.0065 0.0003 Jupiter 107991-01-03 20:08 G 41163605.12 41163965.34 41163965.57 0.0531 0.0110 Saturn 107996-02-01 13:11 G 41165819.83 41165820.05 41165820.28 0.0282 0.0102 Saturn 107997-02-13 15:20 G 41166197.94 41166198.14 41166198.36 0.0286 0.0145

## 109TH MILLENNIUM CE

## This is a list of transits of Earth in the 109th millennium CE.

FROM MAX- C START MAX END SUNRAD DEPTH S

TRANSIT

TIME

Jupiter 108003-01-08 17:44 G 41168353.06 41168353.24 41168353.44 0.0532 0.0298

Neptune 108005-12-08 07:25 G 41169417.70 41169417.81 41169417.95 0.0090 0.0078

Neptune 108006-12-10 19:39 G 41169785.12 41169785.32 41169785.52 0.0090 0.0056

Neptune 108007-12-13 06:56 G 41170152.57 41170152.79 41170153.05 0.0090 0.0035

Jupiter 108008-07-01 12:56 G 41170353.83 41170354.04 41170354.25 0.0497 0.0237

Neptune 108008-12-14 19:11 G 41170520.05 41170520.30 41170520.55 0.0090 0.0013

Saturn 108009-08-01 15:35 G 41170749.93 41170750.15 41170750.38 0.0279 0.0122

Neptune 108009-12-17 06:42 G 41170887.53 41170887.78 41170888.04 0.0090 0.0009

Saturn 108010-08-14 21:49 G 41171128.19 41171128.41 41171128.64 0.0276 0.0117

Neptune 108010-12-19 18:27 G 41171255.04 41171255.27 41171255.52 0.0090 0.0031 Neptune 108011-12-22 05:59 G 41171622.56 41171622.75 41171622.97 0.0090 0.0053 Neptune 108012-12-23 17:15 G 41171990.11 41171990.22 41171990.39 0.0090 0.0075 Jupiter 108020-07-06 01:39 G 41174741.34 41174741.57 41174741.81 0.0496 0.0103 Uranus 108022-06-12 07:39 G 41175447.62 41175447.82 41175448.04 0.0142 0.0082 Uranus 108023-06-17 06:42 G 41175817.54 41175817.78 41175818.04 0.0142 0.0031 Saturn 108025-01-26 15:06 G 41176406.96 41176407.13 41176407.30 0.0280 0.0200 Saturn 108026-02-08 14:08 G 41176784.85 41176785.09 41176785.33 0.0284 0.0042 Jupiter 108032-07-10 11:59 G 41179128.89 41179129.00 41179129.11 0.0495 0.0433 Saturn 108038-07-27 05:59 G 41181336.62 41181336.75 41181336.90 0.0281 0.0230 Saturn 108039-08-09 15:49 G 41181714.91 41181715.16 41181715.41 0.0277 0.0013 Saturn 108040-08-21 16:32 G 41182093.09 41182093.19 41182093.32 0.0274 0.0242 Saturn 108055-02-03 03:06 G 41187371.40 41187371.63 41187371.86 0.0282 0.0071 Saturn 108056-02-16 06:27 G 41187749.59 41187749.77 41187749.97 0.0286 0.0178 Uranus 108062-12-11 22:18 G 41190240.43 41190240.43 41190240.49 0.0136 0.0135 Uranus 108063-12-16 08:08 G 41190609.60 41190609.84 41190610.08 0.0136 0.0039 Uranus 108064-12-19 16:32 G 41190978.96 41190979.19 41190979.42 0.0136 0.0056 Saturn 108068-08-03 07:25 G 41192301.57 41192301.81 41192302.04 0.0279 0.0090 Saturn 108069-08-16 12:27 G 41192679.81 41192680.02 41192680.23 0.0275 0.0146 Jupiter 108074-01-02 14:08 G 41194279.88 41194280.09 41194280.30 0.0530 0.0197 Pluto 108078-07-11 08:23 G 41195930.60 41195930.85 41195931.12 0.0079 0.0008 Saturn 108084-01-29 04:03 G 41197958.48 41197958.67 41197958.86 0.0281 0.0171 Saturn 108085-02-10 04:03 G 41198336.44 41198336.67 41198336.91 0.0285 0.0074 Jupiter 108086-01-07 11:30 G 41198667.77 41198667.98 41198668.19 0.0531 0.0206 Neptune 108087-06-05 21:35 G 41199182.37 41199182.40 41199182.50 0.0088 0.0085 Neptune 108088-06-07 09:20 G 41199549.73 41199549.89 41199550.08 0.0088 0.0064 Neptune 108089-06-09 21:06 G 41199917.16 41199917.38 41199917.62 0.0088 0.0043 Neptune 108090-06-12 08:37 G 41200284.62 41200284.86 41200285.13 0.0088 0.0023 Neptune 108091-06-14 20:37 G 41200652.10 41200652.36 41200652.62 0.0088 0.0002 Jupiter 108091-07-01 12:42 G 41200668.84 41200669.03 41200669.23 0.0497 0.0294

Neptune 108092-06-16 07:54 G 41201019.59 41201019.83 41201020.10 0.0088 0.0020 Neptune 108093-06-18 19:25 G 41201387.10 41201387.31 41201387.56 0.0088 0.0041 Neptune 108094-06-21 06:56 G 41201754.63 41201754.79 41201755.00 0.0088 0.0062 Neptune 108095-06-23 18:56 G 41202122.21 41202122.29 41202122.38 0.0088 0.0082 Saturn 108097-07-28 23:30 G 41202888.31 41202888.48 41202888.66 0.0280 0.0198 Saturn 108098-08-11 08:08 G 41203266.60 41203266.84 41203267.09 0.0277 0.0044 Saturn 108099-08-24 07:54 G 41203644.80 41203644.83 41203644.87 0.0273 0.0270 Jupiter 108103-07-07 01:54 G 41205056.34 41205056.58 41205056.81 0.0496 0.0045 Uranus 108106-06-13 16:18 G 41206128.97 41206129.18 41206129.39 0.0142 0.0078 Uranus 108107-06-18 15:06 G 41206498.88 41206499.13 41206499.38 0.0142 0.0034 Saturn 108113-01-23 20:23 G 41208545.32 41208545.35 41208545.39 0.0279 0.0275 Saturn 108114-02-05 16:32 G 41208922.95 41208923.19 41208923.43 0.0283 0.0041 Saturn 108115-02-18 21:06 G 41209301.22 41209301.38 41209301.55 0.0287 0.0210 Jupiter 108115-07-11 12:13 G 41209443.87 41209444.01 41209444.17 0.0495 0.0375 Saturn 108127-08-06 22:32 G 41213853.20 41213853.44 41213853.69 0.0278 0.0060 Saturn 108128-08-19 02:37 G 41214231.42 41214231.61 41214231.80 0.0275 0.0175 Saturn 108143-01-31 15:35 G 41219509.94 41219510.15 41219510.36 0.0281 0.0144 Saturn 108144-02-13 16:32 G 41219887.97 41219888.19 41219888.43 0.0285 0.0103 Uranus 108146-12-13 07:25 G 41220921.76 41220921.81 41220921.88 0.0136 0.0131 Uranus 108147-12-17 16:18 G 41221290.95 41221291.18 41221291.43 0.0136 0.0036 Uranus 108148-12-21 00:42 G 41221660.32 41221660.53 41221660.77 0.0136 0.0060 Saturn 108156-07-31 15:35 G 41224439.97 41224440.15 41224440.36 0.0280 0.0167 Jupiter 108157-01-02 13:11 G 41224594.85 41224595.05 41224595.24 0.0530 0.0265 Saturn 108157-08-13 23:30 G 41224818.24 41224818.48 41224818.72 0.0276 0.0074 Mars 108166-10-04 14:08 G 41228156.96 41228157.09 41228157.23 0.1627 0.1129 Jupiter 108169-01-07 13:39 G 41228982.85 41228983.07 41228983.29 0.0531 0.0147 Neptune 108169-12-08 17:30 G 41229318.17 41229318.23 41229318.32 0.0090 0.0086 Neptune 108170-12-11 05:30 G 41229685.57 41229685.73 41229685.92 0.0090 0.0064 Neptune 108171-12-13 17:44 G 41230053.02 41230053.24 41230053.47 0.0090 0.0042 Saturn 108172-01-26 06:13 G 41230096.66 41230096.76 41230096.88 0.0279 0.0250

Neptune 108172-12-15 05:15 G 41230420.48 41230420.72 41230420.97 0.0090 0.0020 Saturn 108173-02-07 03:06 G 41230474.39 41230474.63 41230474.87 0.0283 0.0013 Mars 108173-04-02 03:49 G 41230528.52 41230528.66 41230528.80 0.1916 0.1324 Neptune 108173-12-17 17:15 G 41230787.97 41230788.22 41230788.48 0.0090 0.0002 Saturn 108174-02-20 08:37 G 41230852.74 41230852.86 41230853.00 0.0287 0.0239 Jupiter 108174-07-01 14:08 G 41230983.93 41230984.09 41230984.26 0.0498 0.0349 Neptune 108174-12-20 04:47 G 41231155.46 41231155.70 41231155.96 0.0090 0.0024 Neptune 108175-12-22 16:18 G 41231522.98 41231523.18 41231523.42 0.0090 0.0046 Neptune 108176-12-24 04:03 G 41231890.51 41231890.67 41231890.85 0.0090 0.0067 Neptune 108177-12-26 15:35 G 41232258.14 41232258.15 41232258.20 0.0090 0.0089 Saturn 108185-07-25 23:44 G 41235026.44 41235026.49 41235026.53 0.0282 0.0276 Jupiter 108186-07-06 03:06 G 41235371.39 41235371.63 41235371.87 0.0497 0.0012 Saturn 108186-08-08 11:59 G 41235404.75 41235405.00 41235405.25 0.0278 0.0031 Saturn 108187-08-21 15:20 G 41235782.97 41235783.14 41235783.31 0.0274 0.0202 Uranus 108190-06-14 01:25 G 41236810.35 41236810.56 41236810.79 0.0142 0.0074 Uranus 108191-06-19 00:27 G 41237180.28 41237180.52 41237180.77 0.0142 0.0038 Jupiter 108198-07-10 15:20 G 41239758.96 41239759.14 41239759.32 0.0496 0.0325 Saturn 108202-02-03 00:27 G 41241061.31 41241061.52 41241061.74 0.0282 0.0118 Saturn 108203-02-16 02:37 G 41241439.39 41241439.61 41241439.83 0.0286 0.0130 Saturn 108215-08-04 05:01 G 41245991.50 41245991.71 41245991.94 0.0280 0.0139 Saturn 108216-08-16 11:59 G 41246369.77 41246370.00 41246370.24 0.0276 0.0101 Uranus 108230-12-14 16:03 G 41251603.10 41251603.17 41251603.26 0.0136 0.0128 Saturn 108231-01-28 13:54 G 41251647.95 41251648.08 41251648.23 0.0279 0.0226 Uranus 108231-12-19 00:56 G 41251972.30 41251972.54 41251972.79 0.0136 0.0033 Saturn 108232-02-10 11:15 G 41252025.73 41252025.97 41252026.22 0.0283 0.0014 Uranus 108232-12-22 09:20 G 41252341.69 41252341.89 41252342.13 0.0136 0.0063 Saturn 108233-02-22 17:44 G 41252404.15 41252404.24 41252404.33 0.0287 0.0265 Pluto 108237-01-12 14:51 G 41253824.00 41253824.12 41253824.25 0.0065 0.0056 Pluto 108238-01-14 02:23 G 41254190.38 41254190.60 41254190.87 0.0065 0.0022 Jupiter 108240-01-03 17:01 G 41254910.03 41254910.21 41254910.40 0.0529 0.0319

Saturn 108244-07-28 10:03 G 41256577.83 41256577.92 41256578.05 0.0282 0.0251 Saturn 108245-08-10 22:18 G 41256956.18 41256956.43 41256956.68 0.0278 0.0005 Mars 108245-10-07 17:15 G 41257014.04 41257014.22 41257014.40 0.1630 0.0582 Saturn 108246-08-24 00:42 G 41257334.40 41257334.53 41257334.67 0.0274 0.0226 Jupiter 108252-01-08 13:39 G 41259297.84 41259298.07 41259298.29 0.0530 0.0082 Neptune 108252-06-08 19:25 G 41259450.18 41259450.31 41259450.48 0.0088 0.0071 Neptune 108253-06-11 07:25 G 41259817.60 41259817.81 41259818.02 0.0088 0.0050 Neptune 108254-06-13 18:13 G 41260185.03 41260185.26 41260185.52 0.0088 0.0030 Neptune 108255-06-16 05:59 G 41260552.50 41260552.75 41260553.02 0.0088 0.0009 Neptune 108256-06-17 17:44 G 41260919.99 41260920.24 41260920.50 0.0088 0.0013 Neptune 108257-06-20 05:01 G 41261287.49 41261287.71 41261287.97 0.0088 0.0034 Jupiter 108257-07-01 17:44 G 41261299.10 41261299.24 41261299.38 0.0498 0.0396 Neptune 108258-06-22 16:32 G 41261655.01 41261655.19 41261655.42 0.0088 0.0055 Neptune 108259-06-25 03:49 G 41262022.56 41262022.66 41262022.83 0.0088 0.0076 Saturn 108261-02-04 05:59 G 41262612.52 41262612.75 41262612.98 0.0282 0.0095 Saturn 108262-02-17 08:37 G 41262990.66 41262990.86 41262991.06 0.0286 0.0153 Jupiter 108264-01-13 11:30 G 41263685.89 41263685.98 41263686.07 0.0532 0.0484 Jupiter 108269-07-06 06:56 G 41265686.55 41265686.79 41265687.03 0.0497 0.0055 Uranus 108274-06-15 11:44 G 41267491.77 41267491.99 41267492.22 0.0142 0.0069 Saturn 108274-08-05 14:37 G 41267542.89 41267543.11 41267543.34 0.0280 0.0113 Uranus 108275-06-20 10:32 G 41267861.71 41267861.94 41267862.20 0.0142 0.0044 Saturn 108275-08-18 20:51 G 41267921.16 41267921.37 41267921.60 0.0276 0.0126 Jupiter 108281-07-10 20:51 G 41270074.18 41270074.37 41270074.57 0.0495 0.0284 Saturn 108290-01-29 18:27 G 41273199.11 41273199.27 41273199.44 0.0280 0.0204 Saturn 108291-02-11 16:03 G 41273576.93 41273577.17 41273577.41 0.0284 0.0036 Saturn 108303-07-31 17:30 G 41278129.09 41278129.23 41278129.38 0.0281 0.0227 Saturn 108304-08-13 05:01 G 41278507.46 41278507.71 41278507.96 0.0277 0.0018 Saturn 108305-08-26 06:42 G 41278885.69 41278885.78 41278885.90 0.0274 0.0248 Uranus 108314-12-16 00:27 G 41282284.44 41282284.52 41282284.63 0.0136 0.0125 Uranus 108315-12-20 09:35 G 41282653.66 41282653.90 41282654.16 0.0136 0.0030

Uranus 108316-12-23 17:59 G 41283023.04 41283023.25 41283023.48 0.0136 0.0066 Saturn 108320-02-07 08:23 G 41284163.62 41284163.85 41284164.08 0.0282 0.0075 Saturn 108321-02-19 11:15 G 41284541.79 41284541.97 41284542.17 0.0286 0.0174 Jupiter 108323-01-03 18:42 G 41285225.12 41285225.28 41285225.44 0.0529 0.0378 Pluto 108326-07-16 15:35 G 41286514.97 41286515.15 41286515.35 0.0079 0.0054 Saturn 108333-08-07 19:54 G 41289094.10 41289094.33 41289094.57 0.0279 0.0090 Saturn 108334-08-21 01:54 G 41289472.38 41289472.58 41289472.80 0.0276 0.0148 Neptune 108334-12-12 15:06 G 41289585.99 41289586.13 41289586.29 0.0090 0.0072 Jupiter 108335-01-08 15:06 G 41289612.90 41289613.13 41289613.36 0.0531 0.0020 Neptune 108335-12-15 03:06 G 41289953.42 41289953.63 41289953.85 0.0090 0.0050 Neptune 108336-12-16 15:06 G 41290320.89 41290321.13 41290321.37 0.0090 0.0028 Neptune 108337-12-19 03:06 G 41290688.37 41290688.63 41290688.88 0.0090 0.0006 Neptune 108338-12-21 14:37 G 41291055.86 41291056.11 41291056.36 0.0090 0.0016 Neptune 108339-12-24 02:08 G 41291423.37 41291423.59 41291423.84 0.0090 0.0038 Jupiter 108340-07-02 02:23 G 41291614.48 41291614.60 41291614.72 0.0498 0.0425 Neptune 108340-12-25 13:39 G 41291790.90 41291791.07 41291791.28 0.0090 0.0060 Neptune 108341-12-28 01:54 G 41292158.47 41292158.58 41292158.68 0.0090 0.0081 Jupiter 108347-01-13 16:32 G 41294001.07 41294001.19 41294001.33 0.0532 0.0437 Saturn 108349-01-31 19:54 G 41294750.16 41294750.33 41294750.52 0.0279 0.0184 Saturn 108350-02-13 17:44 G 41295128.01 41295128.24 41295128.48 0.0283 0.0057 Jupiter 108352-07-06 15:06 G 41296001.89 41296002.13 41296002.36 0.0497 0.0090 Uranus 108358-06-16 22:18 G 41298173.20 41298173.43 41298173.66 0.0142 0.0064 Uranus 108359-06-21 21:20 G 41298543.15 41298543.39 41298543.64 0.0142 0.0049 Saturn 108362-08-01 20:23 G 41299680.18 41299680.35 41299680.52 0.0281 0.0206 Saturn 108363-08-15 07:39 G 41300058.57 41300058.82 41300059.07 0.0277 0.0039 Jupiter 108364-07-11 03:35 G 41300389.45 41300389.65 41300389.86 0.0496 0.0245 Saturn 108364-08-27 09:20 G 41300436.85 41300436.89 41300436.95 0.0274 0.0268 Saturn 108379-02-08 07:39 G 41305714.59 41305714.82 41305715.07 0.0282 0.0058 Saturn 108380-02-21 10:47 G 41306092.77 41306092.95 41306093.13 0.0286 0.0192 Saturn 108392-08-08 21:35 G 41310645.16 41310645.40 41310645.64 0.0279 0.0069

Saturn 108393-08-22 03:20 G 41311023.45 41311023.64 41311023.85 0.0276 0.0168 Uranus 108398-12-16 10:32 G 41312965.85 41312965.94 41312966.08 0.0136 0.0121 Uranus 108399-12-20 19:39 G 41313335.08 41313335.32 41313335.57 0.0136 0.0026 Uranus 108400-12-24 04:03 G 41313704.47 41313704.67 41313704.90 0.0136 0.0070 Jupiter 108406-01-02 23:59 G 41315540.37 41315540.50 41315540.64 0.0529 0.0427 Saturn 108408-02-02 19:39 G 41316301.13 41316301.32 41316301.52 0.0279 0.0165 Saturn 108409-02-14 17:30 G 41316679.00 41316679.23 41316679.47 0.0283 0.0076 Neptune 108416-06-09 05:15 G 41319350.62 41319350.72 41319350.85 0.0088 0.0078 Neptune 108417-06-11 16:18 G 41319718.01 41319718.18 41319718.40 0.0088 0.0058 Jupiter 108418-01-08 01:25 G 41319928.33 41319928.56 41319928.79 0.0531 0.0016 Neptune 108418-06-14 03:49 G 41320085.44 41320085.66 41320085.92 0.0088 0.0037 Neptune 108419-06-16 15:35 G 41320452.90 41320453.15 41320453.41 0.0088 0.0016 Neptune 108420-06-18 03:06 G 41320820.38 41320820.63 41320820.90 0.0088 0.0006 Neptune 108421-06-20 14:51 G 41321187.87 41321188.12 41321188.37 0.0088 0.0026 Saturn 108421-08-02 19:39 G 41321231.15 41321231.32 41321231.52 0.0281 0.0188 Neptune 108422-06-23 01:54 G 41321555.38 41321555.58 41321555.82 0.0088 0.0048 Saturn 108422-08-16 06:56 G 41321609.55 41321609.79 41321610.04 0.0277 0.0058 Neptune 108423-06-25 13:54 G 41321922.93 41321923.08 41321923.25 0.0088 0.0068 Jupiter 108423-07-02 10:18 G 41321929.86 41321929.93 41321930.03 0.0498 0.0462 Jupiter 108430-01-13 00:13 G 41324316.36 41324316.51 41324316.67 0.0531 0.0395 Jupiter 108435-07-06 23:30 G 41326317.25 41326317.48 41326317.71 0.0497 0.0122 Saturn 108437-01-27 11:59 G 41326887.95 41326888.00 41326888.06 0.0278 0.0270 Saturn 108438-02-09 05:44 G 41327265.51 41327265.74 41327265.99 0.0282 0.0039 Saturn 108439-02-22 08:37 G 41327643.70 41327643.86 41327644.03 0.0286 0.0210 Uranus 108442-06-17 07:54 G 41328854.61 41328854.83 41328855.07 0.0142 0.0060 Uranus 108443-06-22 07:11 G 41329224.57 41329224.80 41329225.05 0.0142 0.0054 Jupiter 108447-07-11 13:54 G 41330704.87 41330705.08 41330705.29 0.0496 0.0220 108450-10-07 18:13 G 41331889.08 41331889.26 41331889.45 0.1622 0.0412 Saturn 108451-08-10 19:39 G 41332196.08 41332196.32 41332196.57 0.0279 0.0051 Saturn 108452-08-23 01:54 G 41332574.40 41332574.58 41332574.77 0.0276 0.0185

Saturn 108467-02-03 17:44 G 41337852.04 41337852.24 41337852.45 0.0279 0.0146 Saturn 108468-02-16 15:20 G 41338229.92 41338230.14 41338230.37 0.0283 0.0094 Saturn 108480-08-03 17:30 G 41342782.04 41342782.23 41342782.43 0.0281 0.0170 Saturn 108481-08-17 04:18 G 41343160.45 41343160.68 41343160.93 0.0277 0.0075 Uranus 108482-12-16 21:35 G 41343647.27 41343647.40 41343647.53 0.0136 0.0115 Uranus 108483-12-21 06:13 G 41344016.51 41344016.76 41344017.01 0.0136 0.0020 Uranus 108484-12-24 14:37 G 41344385.91 41344386.11 41344386.33 0.0136 0.0075 Pluto 108485-01-15 18:56 G 41344408.06 41344408.29 41344408.53 0.0065 0.0026 Pluto 108486-01-17 06:42 G 41344774.65 41344774.78 41344774.95 0.0065 0.0053 Jupiter 108489-01-02 10:03 G 41345855.81 41345855.92 41345856.04 0.0528 0.0457 Saturn 108496-01-29 08:51 G 41348438.79 41348438.87 41348438.99 0.0278 0.0253 Saturn 108497-02-10 03:06 G 41348816.39 41348816.63 41348816.87 0.0282 0.0021 Saturn 108498-02-23 05:30 G 41349194.60 41349194.73 41349194.89 0.0286 0.0227 Neptune 108498-12-11 23:44 G 41349486.41 41349486.49 41349486.63 0.0090 0.0081 Neptune 108499-12-14 11:59 G 41349853.83 41349854.00 41349854.22 0.0090 0.0059 Neptune 108500-12-17 00:13 G 41350221.29 41350221.51 41350221.76 0.0090 0.0037 Jupiter 108501-01-08 07:54 G 41350243.61 41350243.83 41350244.06 0.0530 0.0060 Neptune 108501-12-19 12:13 G 41350588.77 41350589.01 41350589.28 0.0090 0.0015 Neptune 108502-12-22 00:13 G 41350956.26 41350956.51 41350956.77 0.0090 0.0008 Neptune 108503-12-24 11:59 G 41351323.77 41351324.00 41351324.25 0.0090 0.0030 Neptune 108504-12-25 23:30 G 41351691.29 41351691.48 41351691.70 0.0090 0.0052 Neptune 108505-12-28 11:01 G 41352058.84 41352058.96 41352059.13 0.0090 0.0074 Jupiter 108506-07-02 21:35 G 41352245.35 41352245.40 41352245.46 0.0499 0.0485 Saturn 108509-07-30 00:13 G 41353368.50 41353368.51 41353368.54 0.0283 0.0282 Saturn 108510-08-12 16:03 G 41353746.93 41353747.17 41353747.42 0.0279 0.0034 Saturn 108511-08-25 22:32 G 41354125.27 41354125.44 41354125.61 0.0276 0.0201 Jupiter 108513-01-13 03:06 G 41354631.46 41354631.63 41354631.81 0.0532 0.0335 Jupiter 108518-07-07 13:39 G 41356632.84 41356633.07 41356633.30 0.0497 0.0138 Saturn 108526-02-05 16:18 G 41359402.97 41359403.18 41359403.40 0.0279 0.0127 Uranus 108526-06-18 16:47 G 41359535.97 41359536.20 41359536.44 0.0142 0.0055

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Saturn 108981-08-13 16:03 G 41525777.94 41525778.17 41525778.41 0.0281 0.0088 Saturn 108982-08-27 02:23 G 41526156.40 41526156.60 41526156.82 0.0277 0.0153 Uranus 108986-12-23 15:06 G 41527735.95 41527736.13 41527736.34 0.0136 0.0083 Uranus 108987-12-28 00:13 G 41528105.27 41528105.51 41528105.77 0.0136 0.0014 Uranus 108988-12-31 08:37 G 41528474.71 41528474.86 41528475.01 0.0135 0.0108 Neptune 108991-12-16 11:59 G 41529554.94 41529555.00 41529555.10 0.0090 0.0085 Neptune 108992-12-17 23:44 G 41529922.33 41529922.49 41529922.69 0.0090 0.0063 Neptune 108993-12-20 11:59 G 41530289.78 41530290.00 41530290.24 0.0090 0.0041 Neptune 108994-12-22 23:59 G 41530657.26 41530657.50 41530657.76 0.0090 0.0018 Neptune 108995-12-25 12:13 G 41531024.75 41531025.01 41531025.26 0.0090 0.0004 Neptune 108996-12-26 23:59 G 41531392.26 41531392.50 41531392.75 0.0090 0.0026 Saturn 108997-02-08 10:18 G 41531435.74 41531435.93 41531436.14 0.0279 0.0153 Neptune 108997-12-29 11:44 G 41531759.78 41531759.99 41531760.21 0.0090 0.0048 Saturn 108998-02-21 05:44 G 41531813.51 41531813.74 41531813.97 0.0282 0.0085 Neptune 108998-12-31 23:15 G 41532127.34 41532127.47 41532127.66 0.0090 0.0071 Jupiter 108999-01-07 20:23 G 41532134.21 41532134.35 41532134.50 0.0527 0.0412

# 110TH MILLENNIUM CE

### This is a list of transits of Earth in the 110th millennium CE.

FROM MAX- C START MAX END SUNRAD DEPTH S

TRANSIT

TIME

Saturn 109010-08-09 05:59 G 41536364.57 41536364.75 41536364.92 0.0283 0.0198

Jupiter 109011-01-13 18:27 G 41536522.04 41536522.27 41536522.50 0.0529 0.0021

Saturn 109011-08-22 19:39 G 41536743.08 41536743.32 41536743.57 0.0279 0.0049

Jupiter 109016-07-07 22:32 G 41538524.30 41538524.44 41538524.59 0.0499 0.0387 109018-10-15 01:54 G 41539353.43 41539353.58 41539353.73 0.1614 0.0975 Mars Jupiter 109023-01-18 18:13 G 41540910.11 41540910.26 41540910.42 0.0531 0.0386 Saturn 109026-02-04 04:47 G 41542022.61 41542022.70 41542022.79 0.0277 0.0254 Saturn 109027-02-16 20:08 G 41542400.10 41542400.34 41542400.59 0.0281 0.0026 Saturn 109028-02-29 19:25 G 41542778.16 41542778.31 41542778.47 0.0284 0.0217 Jupiter 109028-07-12 10:32 G 41542911.70 41542911.94 41542912.17 0.0498 0.0058 Uranus 109029-06-20 06:42 G 41543254.72 41543254.78 41543254.85 0.0142 0.0137 Uranus 109030-06-25 05:44 G 41543624.50 41543624.74 41543625.00 0.0142 0.0025 Uranus 109031-06-30 05:01 G 41543994.53 41543994.71 41543994.93 0.0143 0.0090 Jupiter 109040-07-16 23:15 G 41547299.28 41547299.47 41547299.67 0.0497 0.0274 Saturn 109040-08-16 07:25 G 41547329.57 41547329.81 41547330.06 0.0280 0.0057 Saturn 109041-08-29 16:47 G 41547708.02 41547708.20 41547708.39 0.0277 0.0183 Saturn 109056-02-11 21:20 G 41552987.19 41552987.39 41552987.62 0.0279 0.0127 Saturn 109057-02-23 17:44 G 41553365.03 41553365.24 41553365.47 0.0283 0.0114 Pluto 109068-07-25 13:39 G 41557534.81 41557535.07 41557535.34 0.0079 0.0005 Saturn 109069-08-10 22:47 G 41557916.26 41557916.45 41557916.66 0.0282 0.0167 Saturn 109070-08-24 11:59 G 41558294.76 41558295.00 41558295.24 0.0279 0.0079 Uranus 109070-12-25 04:32 G 41558417.49 41558417.69 41558417.90 0.0136 0.0075 Uranus 109071-12-29 13:11 G 41558786.81 41558787.05 41558787.31 0.0136 0.0021 Uranus 109073-01-01 21:06 G 41559156.27 41559156.38 41559156.53 0.0135 0.0116 Neptune 109074-06-16 14:37 G 41559686.96 41559687.11 41559687.29 0.0088 0.0068 Neptune 109075-06-19 02:08 G 41560054.38 41560054.59 41560054.82 0.0088 0.0047 Neptune 109076-06-20 13:39 G 41560421.83 41560422.07 41560422.32 0.0088 0.0026 Neptune 109077-06-23 01:11 G 41560789.29 41560789.55 41560789.81 0.0088 0.0005 Neptune 109078-06-25 12:27 G 41561156.77 41561157.02 41561157.28 0.0088 0.0017 Neptune 109079-06-27 23:15 G 41561524.26 41561524.47 41561524.73 0.0088 0.0038 Neptune 109080-06-29 10:47 G 41561891.78 41561891.95 41561892.16 0.0088 0.0059 Neptune 109081-07-01 22:03 G 41562259.34 41562259.42 41562259.55 0.0088 0.0080 Jupiter 109082-01-07 21:35 G 41562449.31 41562449.40 41562449.51 0.0527 0.0471

Saturn 109085-02-05 14:51 G 41563573.99 41563574.12 41563574.26 0.0277 0.0229 Saturn 109086-02-18 07:11 G 41563951.56 41563951.80 41563952.05 0.0281 0.0004 Saturn 109087-03-03 07:25 G 41564329.70 41564329.81 41564329.94 0.0285 0.0247 Jupiter 109094-01-12 20:08 G 41566837.11 41566837.34 41566837.56 0.0529 0.0078 Saturn 109098-08-05 04:03 G 41568502.64 41568502.67 41568502.73 0.0284 0.0278 Jupiter 109099-07-07 22:47 G 41568839.35 41568839.45 41568839.55 0.0500 0.0445 Saturn 109099-08-18 21:49 G 41568881.16 41568881.41 41568881.66 0.0280 0.0028 Saturn 109100-09-01 06:13 G 41569259.61 41569259.76 41569259.93 0.0276 0.0211 Mars 109104-04-11 04:47 G 41570577.51 41570577.70 41570577.88 0.1934 0.0741 Jupiter 109106-01-18 15:20 G 41571224.96 41571225.14 41571225.33 0.0530 0.0311 Jupiter 109111-07-13 11:30 G 41573226.76 41573226.98 41573227.22 0.0499 0.0110 Uranus 109113-06-21 16:47 G 41573936.13 41573936.20 41573936.32 0.0142 0.0132 Uranus 109114-06-26 16:18 G 41574305.93 41574306.18 41574306.43 0.0142 0.0018 Saturn 109115-02-14 06:56 G 41574538.58 41574538.79 41574539.03 0.0280 0.0101 Uranus 109115-07-01 15:20 G 41574675.97 41574676.14 41574676.35 0.0143 0.0096 Saturn 109116-02-27 04:03 G 41574916.47 41574916.67 41574916.89 0.0283 0.0141 Jupiter 109123-07-18 00:42 G 41577614.32 41577614.53 41577614.74 0.0497 0.0224 Saturn 109128-08-13 13:39 G 41579467.85 41579468.07 41579468.29 0.0282 0.0136 Saturn 109129-08-27 01:39 G 41579846.34 41579846.57 41579846.80 0.0278 0.0108 Saturn 109144-02-08 22:47 G 41585125.30 41585125.45 41585125.62 0.0277 0.0204 Mars 109144-10-12 02:51 G 41585371.59 41585371.62 41585371.66 0.1605 0.1566 Saturn 109145-02-20 15:35 G 41585502.91 41585503.15 41585503.40 0.0281 0.0029 Saturn 109146-03-05 16:32 G 41585881.14 41585881.19 41585881.27 0.0285 0.0273 Uranus 109154-12-26 17:44 G 41589099.02 41589099.24 41589099.46 0.0136 0.0067 Uranus 109155-12-31 01:54 G 41589468.34 41589468.58 41589468.84 0.0136 0.0029 Neptune 109156-12-19 06:27 G 41589822.63 41589822.77 41589822.94 0.0090 0.0072 Uranus 109157-01-03 10:18 G 41589837.83 41589837.93 41589838.04 0.0135 0.0123 Saturn 109157-08-07 17:01 G 41590054.10 41590054.21 41590054.33 0.0284 0.0250 Neptune 109157-12-21 18:27 G 41590190.07 41590190.27 41590190.50 0.0090 0.0050 Saturn 109158-08-21 10:03 G 41590432.67 41590432.92 41590433.16 0.0280 0.0005

Neptune 109158-12-24 06:27 G 41590557.54 41590557.77 41590558.02 0.0090 0.0028 Saturn 109159-09-03 17:44 G 41590811.12 41590811.24 41590811.38 0.0276 0.0236 Neptune 109159-12-26 18:42 G 41590925.02 41590925.28 41590925.53 0.0090 0.0005 Neptune 109160-12-28 06:13 G 41591292.52 41591292.76 41591293.02 0.0090 0.0017 Neptune 109161-12-30 17:59 G 41591660.03 41591660.25 41591660.49 0.0090 0.0039 Neptune 109163-01-02 06:13 G 41592027.58 41592027.76 41592027.95 0.0090 0.0061 Neptune 109164-01-04 17:44 G 41592395.16 41592395.24 41592395.34 0.0090 0.0083 Saturn 109174-02-15 13:25 G 41596089.83 41596090.06 41596090.29 0.0280 0.0077 Saturn 109175-02-28 11:01 G 41596467.76 41596467.96 41596468.16 0.0284 0.0165 Jupiter 109177-01-12 18:27 G 41597152.05 41597152.27 41597152.49 0.0528 0.0145 Jupiter 109182-07-08 01:39 G 41599154.52 41599154.57 41599154.61 0.0500 0.0490 Saturn 109187-08-16 00:56 G 41601019.31 41601019.54 41601019.77 0.0282 0.0109 Saturn 109188-08-28 12:27 G 41601397.81 41601398.02 41601398.25 0.0278 0.0134 Jupiter 109189-01-17 14:51 G 41601539.91 41601540.12 41601540.32 0.0530 0.0244 Jupiter 109194-07-12 17:15 G 41603541.99 41603542.22 41603542.44 0.0499 0.0149 Uranus 109197-06-22 02:08 G 41604617.47 41604617.59 41604617.70 0.0142 0.0127 Uranus 109198-06-27 00:56 G 41604987.29 41604987.54 41604987.80 0.0143 0.0015 Uranus 109199-07-01 23:59 G 41605357.34 41605357.50 41605357.70 0.0143 0.0100 Saturn 109203-02-10 05:01 G 41606676.53 41606676.71 41606676.89 0.0278 0.0181 Saturn 109204-02-22 21:49 G 41607054.18 41607054.41 41607054.65 0.0281 0.0053 Jupiter 109206-07-17 05:30 G 41607929.51 41607929.73 41607929.95 0.0497 0.0180 Saturn 109216-08-09 01:54 G 41611605.43 41611605.58 41611605.73 0.0283 0.0225 Saturn 109217-08-22 18:13 G 41611984.01 41611984.26 41611984.51 0.0280 0.0025 Saturn 109218-09-05 01:25 G 41612362.49 41612362.56 41612362.65 0.0276 0.0259 Mars 109223-10-15 04:46 G 41614228.51 41614228.70 41614228.89 0.1608 0.0050 Pluto 109227-01-27 03:34 G 41615428.47 41615428.65 41615428.89 0.0065 0.0036 Pluto 109228-01-28 16:18 G 41615795.00 41615795.18 41615795.38 0.0065 0.0044 Saturn 109233-02-16 16:46 G 41617640.96 41617641.20 41617641.44 0.0280 0.0056 Saturn 109234-03-01 14:37 G 41618018.94 41618019.11 41618019.30 0.0284 0.0187 Neptune 109238-06-16 21:34 G 41619587.30 41619587.40 41619587.56 0.0088 0.0077 Uranus 109238-12-27 06:13 G 41619780.54 41619780.76 41619780.99 0.0136 0.0060 Neptune 109239-06-19 08:51 G 41619954.70 41619954.87 41619955.10 0.0088 0.0056 Uranus 109239-12-31 14:51 G 41620149.88 41620150.12 41620150.36 0.0136 0.0036 Neptune 109240-06-20 20:37 G 41620322.14 41620322.36 41620322.61 0.0088 0.0034 Uranus 109241-01-03 22:32 G 41620519.39 41620519.44 41620519.52 0.0135 0.0131 Neptune 109241-06-23 08:08 G 41620689.59 41620689.84 41620690.11 0.0088 0.0014 Neptune 109242-06-25 19:39 G 41621057.07 41621057.32 41621057.59 0.0088 0.0008 Neptune 109243-06-28 06:56 G 41621424.56 41621424.79 41621425.05 0.0088 0.0029 Neptune 109244-06-29 18:13 G 41621792.07 41621792.26 41621792.50 0.0088 0.0051 Neptune 109245-07-02 05:30 G 41622159.61 41622159.73 41622159.91 0.0088 0.0072 Saturn 109246-08-17 08:08 G 41622570.61 41622570.84 41622571.09 0.0281 0.0085 Saturn 109247-08-30 19:39 G 41622949.12 41622949.32 41622949.53 0.0278 0.0158 Jupiter 109260-01-12 22:03 G 41627467.21 41627467.42 41627467.63 0.0528 0.0199 Saturn 109262-02-11 07:54 G 41628227.63 41628227.83 41628228.02 0.0278 0.0160 Saturn 109263-02-24 00:42 G 41628605.30 41628605.53 41628605.77 0.0281 0.0074 Jupiter 109272-01-17 22:18 G 41631855.22 41631855.43 41631855.65 0.0530 0.0203 Saturn 109275-08-11 06:42 G 41633156.62 41633156.78 41633156.96 0.0283 0.0203 Saturn 109276-08-23 23:01 G 41633535.22 41633535.46 41633535.71 0.0280 0.0047 Jupiter 109277-07-11 22:46 G 41633857.23 41633857.45 41633857.67 0.0499 0.0191 Uranus 109281-06-22 13:10 G 41635298.92 41635299.05 41635299.19 0.0142 0.0120 Uranus 109282-06-27 11:58 G 41635668.75 41635669.00 41635669.26 0.0142 0.0008 Uranus 109283-07-02 11:15 G 41636038.81 41636038.97 41636039.15 0.0143 0.0106 Jupiter 109289-07-16 11:30 G 41638244.76 41638244.98 41638245.21 0.0498 0.0141 Saturn 109291-02-06 04:03 G 41638814.61 41638814.67 41638814.75 0.0277 0.0263 Saturn 109292-02-18 17:58 G 41639192.01 41639192.25 41639192.49 0.0280 0.0036 Saturn 109293-03-02 15:49 G 41639570.00 41639570.16 41639570.33 0.0284 0.0206 Jupiter 109301-07-22 01:25 G 41642632.50 41642632.56 41642632.64 0.0496 0.0474 Saturn 109305-08-19 11:30 G 41644121.74 41644121.98 41644122.22 0.0281 0.0062 Saturn 109306-09-01 22:46 G 41644500.26 41644500.45 41644500.64 0.0278 0.0179 Pluto 109315-07-29 15:34 G 41647752.92 41647753.15 41647753.42 0.0079 0.0020

Neptune 109320-12-19 12:27 G 41649722.93 41649723.02 41649723.14 0.0090 0.0082 Saturn 109321-02-13 08:37 G 41649778.66 41649778.86 41649779.07 0.0277 0.0140 Neptune 109321-12-22 00:27 G 41650090.35 41650090.52 41650090.73 0.0090 0.0060 Saturn 109322-02-26 01:39 G 41650156.35 41650156.57 41650156.80 0.0281 0.0094 Neptune 109322-12-24 12:27 G 41650457.81 41650458.02 41650458.27 0.0090 0.0038 Uranus 109322-12-28 17:58 G 41650462.03 41650462.25 41650462.49 0.0136 0.0054 Neptune 109323-12-27 00:42 G 41650825.28 41650825.53 41650825.78 0.0090 0.0015 Uranus 109324-01-02 02:22 G 41650831.37 41650831.60 41650831.85 0.0136 0.0043 Neptune 109324-12-28 12:42 G 41651192.78 41651193.03 41651193.28 0.0090 0.0007 Neptune 109325-12-31 00:13 G 41651560.28 41651560.51 41651560.76 0.0090 0.0030 Neptune 109327-01-02 11:58 G 41651927.81 41651928.00 41651928.22 0.0090 0.0052 Neptune 109328-01-04 23:44 G 41652295.36 41652295.49 41652295.65 0.0090 0.0074 Saturn 109334-08-13 07:54 G 41654707.65 41654707.83 41654708.03 0.0283 0.0182 Saturn 109335-08-27 00:13 G 41655086.27 41655086.51 41655086.75 0.0280 0.0067 Jupiter 109343-01-13 05:58 G 41657782.55 41657782.75 41657782.96 0.0528 0.0236 Saturn 109350-02-08 03:20 G 41660365.53 41660365.64 41660365.75 0.0276 0.0244 Saturn 109351-02-20 16:46 G 41660742.96 41660743.20 41660743.44 0.0280 0.0017 Saturn 109352-03-04 14:37 G 41661120.97 41661121.11 41661121.26 0.0284 0.0224 Jupiter 109355-01-18 03:20 G 41662170.42 41662170.64 41662170.86 0.0529 0.0154 Jupiter 109360-07-12 07:39 G 41664172.61 41664172.82 41664173.03 0.0499 0.0220 Saturn 109364-08-20 11:15 G 41665672.72 41665672.97 41665673.22 0.0281 0.0042 Uranus 109365-06-23 23:15 G 41665980.34 41665980.47 41665980.63 0.0142 0.0116 Saturn 109365-09-02 22:32 G 41666051.27 41666051.44 41666051.62 0.0278 0.0198 Uranus 109366-06-28 22:32 G 41666350.18 41666350.44 41666350.70 0.0142 0.0003 Uranus 109367-07-03 21:34 G 41666720.26 41666720.40 41666720.58 0.0143 0.0111 Jupiter 109372-07-16 23:58 G 41668560.28 41668560.50 41668560.73 0.0498 0.0121 Saturn 109380-02-15 08:08 G 41671329.62 41671329.84 41671330.06 0.0277 0.0120 Saturn 109381-02-27 01:10 G 41671707.33 41671707.55 41671707.77 0.0281 0.0114 Jupiter 109384-07-21 12:27 G 41672947.93 41672948.02 41672948.13 0.0496 0.0448 Saturn 109393-08-14 06:27 G 41676258.58 41676258.77 41676258.98 0.0283 0.0164

Saturn 109394-08-27 22:32 G 41676637.21 41676637.44 41676637.68 0.0280 0.0085 Neptune 109402-06-18 05:15 G 41679487.68 41679487.72 41679487.80 0.0088 0.0085 Neptune 109403-06-20 16:18 G 41679855.03 41679855.18 41679855.38 0.0088 0.0064 Neptune 109404-06-22 03:49 G 41680222.45 41680222.66 41680222.90 0.0088 0.0043 Neptune 109405-06-24 15:06 G 41680589.89 41680590.13 41680590.39 0.0088 0.0022 Neptune 109406-06-27 02:37 G 41680957.35 41680957.61 41680957.87 0.0088 0.0001 Uranus 109406-12-30 06:13 G 41681143.53 41681143.76 41681144.00 0.0136 0.0047 Neptune 109407-06-29 14:08 G 41681324.84 41681325.09 41681325.34 0.0088 0.0021 Uranus 109408-01-03 14:37 G 41681512.88 41681513.11 41681513.35 0.0136 0.0048 Neptune 109408-07-01 01:25 G 41681692.34 41681692.56 41681692.79 0.0088 0.0042 Saturn 109409-02-10 01:25 G 41681916.43 41681916.56 41681916.71 0.0276 0.0225 Neptune 109409-07-03 12:56 G 41682059.87 41682060.04 41682060.22 0.0088 0.0063 Saturn 109410-02-22 15:06 G 41682293.88 41682294.13 41682294.37 0.0280 0.0005 Neptune 109410-07-06 00:13 G 41682427.45 41682427.51 41682427.59 0.0088 0.0084 Saturn 109411-03-07 12:27 G 41682671.91 41682672.02 41682672.15 0.0284 0.0242 Saturn 109422-08-09 11:44 G 41686844.94 41686844.99 41686845.06 0.0285 0.0276 Saturn 109423-08-23 08:22 G 41687223.61 41687223.85 41687224.10 0.0281 0.0024 Saturn 109424-09-04 19:39 G 41687602.17 41687602.32 41687602.48 0.0278 0.0216 Jupiter 109426-01-13 07:54 G 41688097.64 41688097.83 41688098.02 0.0527 0.0295 Mars 109428-10-15 08:22 G 41689103.69 41689103.85 41689104.01 0.1602 0.0836 Jupiter 109438-01-18 08:08 G 41692485.62 41692485.84 41692486.07 0.0529 0.0103 Saturn 109439-02-17 06:56 G 41692880.57 41692880.79 41692881.02 0.0277 0.0101 Saturn 109440-02-29 23:44 G 41693258.28 41693258.49 41693258.71 0.0281 0.0133 Jupiter 109443-07-13 19:39 G 41694488.12 41694488.32 41694488.53 0.0499 0.0243 Uranus 109449-06-25 12:42 G 41696661.87 41696662.03 41696662.20 0.0142 0.0108 Jupiter 109450-01-23 09:49 G 41696873.86 41696873.91 41696873.98 0.0531 0.0509 Uranus 109450-06-30 11:44 G 41697031.73 41697031.99 41697032.24 0.0142 0.0005 Uranus 109451-07-05 10:46 G 41697401.82 41697401.95 41697402.10 0.0143 0.0119 Saturn 109452-08-16 03:34 G 41697809.44 41697809.65 41697809.87 0.0283 0.0145 Saturn 109453-08-29 19:25 G 41698188.08 41698188.31 41698188.55 0.0280 0.0103

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Saturn 109600-08-26 23:15 G 41751876.22 41751876.47 41751876.71 0.0281 0.0032 Saturn 109601-09-09 10:18 G 41752254.89 41752254.93 41752255.00 0.0278 0.0270 Jupiter 109604-01-18 19:10 G 41753116.07 41753116.30 41753116.53 0.0528 0.0009 Jupiter 109609-07-13 16:46 G 41755119.01 41755119.20 41755119.39 0.0501 0.0295 Saturn 109615-02-10 00:13 G 41757156.43 41757156.51 41757156.60 0.0275 0.0257 Jupiter 109616-01-23 18:27 G 41757504.13 41757504.27 41757504.43 0.0530 0.0403 Saturn 109616-02-22 10:18 G 41757533.69 41757533.93 41757534.17 0.0278 0.0036 Saturn 109617-03-06 03:49 G 41757911.49 41757911.66 41757911.83 0.0281 0.0199 Uranus 109617-06-27 11:58 G 41758024.82 41758025.00 41758025.20 0.0142 0.0095 Uranus 109618-07-02 11:15 G 41758394.72 41758394.97 41758395.23 0.0142 0.0019 Uranus 109619-07-07 10:32 G 41758764.86 41758764.94 41758765.05 0.0143 0.0133 Jupiter 109621-07-18 06:27 G 41759506.53 41759506.77 41759507.01 0.0499 0.0038 Saturn 109629-08-20 23:01 G 41762462.23 41762462.46 41762462.70 0.0283 0.0087 Saturn 109630-09-03 13:54 G 41762840.89 41762841.08 41762841.29 0.0279 0.0160 Jupiter 109633-07-22 19:54 G 41763894.17 41763894.33 41763894.49 0.0497 0.0365 Saturn 109645-02-16 02:22 G 41768120.39 41768120.60 41768120.80 0.0277 0.0142 Saturn 109646-02-28 16:18 G 41768497.96 41768498.18 41768498.42 0.0280 0.0088 Neptune 109649-12-22 10:18 G 41769890.83 41769890.93 41769891.06 0.0090 0.0080 Neptune 109650-12-24 22:18 G 41770258.26 41770258.43 41770258.65 0.0090 0.0058 Neptune 109651-12-27 11:01 G 41770625.73 41770625.96 41770626.20 0.0090 0.0035 Neptune 109652-12-28 23:01 G 41770993.21 41770993.46 41770993.71 0.0090 0.0013 Neptune 109653-12-31 11:01 G 41771360.71 41771360.96 41771361.21 0.0090 0.0010 Neptune 109655-01-02 22:32 G 41771728.21 41771728.44 41771728.69 0.0090 0.0032 Neptune 109656-01-05 10:03 G 41772095.74 41772095.92 41772096.15 0.0090 0.0055 Neptune 109657-01-06 21:49 G 41772463.30 41772463.41 41772463.57 0.0090 0.0077 Uranus 109657-12-28 13:10 G 41772818.96 41772819.05 41772819.19 0.0136 0.0120 Saturn 109658-08-15 05:15 G 41773048.55 41773048.72 41773048.91 0.0284 0.0198 Uranus 109659-01-01 22:46 G 41773188.20 41773188.45 41773188.70 0.0136 0.0024 Saturn 109659-08-29 00:42 G 41773427.28 41773427.53 41773427.77 0.0281 0.0054 Uranus 109660-01-06 07:25 G 41773557.60 41773557.81 41773558.02 0.0136 0.0072

Saturn 109674-02-11 04:46 G 41778707.59 41778707.70 41778707.84 0.0275 0.0234 Jupiter 109675-01-13 02:37 G 41779043.48 41779043.61 41779043.75 0.0526 0.0426 Saturn 109675-02-23 15:49 G 41779084.92 41779085.16 41779085.40 0.0278 0.0011 Saturn 109676-03-07 09:49 G 41779462.78 41779462.91 41779463.07 0.0282 0.0225 Jupiter 109687-01-18 02:22 G 41783431.37 41783431.60 41783431.83 0.0528 0.0033 Saturn 109688-08-22 03:20 G 41784013.40 41784013.64 41784013.88 0.0283 0.0063 Saturn 109689-09-04 17:30 G 41784392.06 41784392.23 41784392.43 0.0279 0.0183 Jupiter 109692-07-12 22:46 G 41785434.28 41785434.45 41785434.63 0.0501 0.0334 Jupiter 109699-01-23 02:08 G 41787819.43 41787819.59 41787819.76 0.0530 0.0362 Uranus 109701-06-28 21:49 G 41788706.22 41788706.41 41788706.62 0.0142 0.0089 Uranus 109702-07-03 21:06 G 41789076.13 41789076.38 41789076.64 0.0142 0.0024 Uranus 109703-07-08 20:37 G 41789446.31 41789446.36 41789446.44 0.0143 0.0138 Saturn 109704-02-19 08:37 G 41789671.64 41789671.86 41789672.08 0.0277 0.0117 Jupiter 109704-07-18 11:30 G 41789821.74 41789821.98 41789822.21 0.0499 0.0010 Saturn 109705-03-02 23:30 G 41790049.26 41790049.48 41790049.70 0.0281 0.0113 Mars 109712-10-18 14:51 G 41792835.93 41792836.12 41792836.31 0.1599 0.0091 Jupiter 109716-07-23 01:54 G 41794209.41 41794209.58 41794209.76 0.0498 0.0326 Saturn 109717-08-17 10:46 G 41794599.75 41794599.95 41794600.15 0.0284 0.0172 Saturn 109718-08-31 05:01 G 41794978.48 41794978.71 41794978.95 0.0281 0.0079 Pluto 109721-02-02 17:44 G 41795865.10 41795865.24 41795865.43 0.0065 0.0050 Pluto 109722-02-04 06:13 G 41796231.55 41796231.76 41796232.01 0.0065 0.0030 Neptune 109731-06-21 06:13 G 41799655.67 41799655.76 41799655.86 0.0088 0.0081 Neptune 109732-06-22 17:01 G 41800023.05 41800023.21 41800023.42 0.0088 0.0061 Saturn 109733-02-13 12:13 G 41800258.87 41800259.01 41800259.18 0.0275 0.0210 Neptune 109733-06-25 04:32 G 41800390.46 41800390.69 41800390.93 0.0088 0.0039 Saturn 109734-02-25 23:58 G 41800636.26 41800636.50 41800636.75 0.0279 0.0017 Neptune 109734-06-27 15:49 G 41800757.91 41800758.16 41800758.42 0.0088 0.0018 Saturn 109735-03-10 18:56 G 41801014.20 41801014.29 41801014.41 0.0282 0.0252 Neptune 109735-06-30 03:06 G 41801125.37 41801125.63 41801125.89 0.0088 0.0003 Neptune 109736-07-01 14:08 G 41801492.85 41801493.09 41801493.35 0.0088 0.0025

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Neptune 109816-12-30 03:34 G 41830893.40 41830893.65 41830893.90 0.0090 0.0023 Neptune 109818-01-01 15:34 G 41831260.89 41831261.15 41831261.40 0.0090 0.0001 Neptune 109819-01-04 03:34 G 41831628.41 41831628.65 41831628.90 0.0090 0.0022 Neptune 109820-01-06 15:34 G 41831995.93 41831996.15 41831996.37 0.0090 0.0044 Neptune 109821-01-08 02:51 G 41832363.48 41832363.62 41832363.81 0.0090 0.0067 Neptune 109822-01-10 14:37 G 41832731.10 41832731.11 41832731.17 0.0090 0.0089 Saturn 109822-02-23 04:03 G 41832774.43 41832774.67 41832774.91 0.0278 0.0062 Saturn 109823-03-07 20:37 G 41833152.18 41833152.36 41833152.56 0.0281 0.0172 Uranus 109825-12-31 16:46 G 41834182.05 41834182.20 41834182.37 0.0136 0.0103 Uranus 109827-01-05 02:22 G 41834551.35 41834551.60 41834551.85 0.0136 0.0007 Uranus 109828-01-09 11:01 G 41834920.78 41834920.96 41834921.16 0.0136 0.0089 Saturn 109835-08-22 08:51 G 41837702.65 41837702.87 41837703.10 0.0283 0.0116 Saturn 109836-09-04 01:25 G 41838081.35 41838081.56 41838081.78 0.0280 0.0132 Saturn 109851-02-18 09:20 G 41843361.70 41843361.89 41843362.09 0.0276 0.0157 Saturn 109852-03-01 23:15 G 41843739.24 41843739.47 41843739.71 0.0280 0.0074 Jupiter 109853-01-18 00:56 G 41844061.33 41844061.54 41844061.76 0.0526 0.0164 Jupiter 109858-07-14 03:49 G 41846064.54 41846064.66 41846064.78 0.0502 0.0429 Saturn 109864-08-15 18:42 G 41848289.14 41848289.28 41848289.43 0.0285 0.0229 Jupiter 109865-01-22 23:01 G 41848449.25 41848449.46 41848449.67 0.0529 0.0224 Saturn 109865-08-29 14:37 G 41848667.86 41848668.11 41848668.35 0.0281 0.0024 Saturn 109866-09-12 01:25 G 41849046.50 41849046.56 41849046.66 0.0278 0.0262 Uranus 109869-06-30 20:51 G 41850069.16 41850069.37 41850069.60 0.0142 0.0076 Uranus 109870-07-05 19:54 G 41850439.09 41850439.33 41850439.58 0.0142 0.0037 Jupiter 109870-07-18 18:27 G 41850452.04 41850452.27 41850452.50 0.0500 0.0095 Saturn 109880-02-13 05:44 G 41853948.66 41853948.74 41853948.83 0.0275 0.0255 Saturn 109881-02-24 16:18 G 41854325.94 41854326.18 41854326.42 0.0278 0.0033 Saturn 109882-03-09 10:03 G 41854703.76 41854703.92 41854704.09 0.0282 0.0202 Jupiter 109882-07-23 06:27 G 41854839.56 41854839.77 41854839.98 0.0499 0.0228 Saturn 109894-08-23 23:58 G 41859254.27 41859254.50 41859254.74 0.0283 0.0085 Saturn 109895-09-06 15:34 G 41859632.95 41859633.15 41859633.35 0.0279 0.0162

Neptune 109896-06-22 23:15 G 41859923.35 41859923.47 41859923.66 0.0088 0.0070 Neptune 109897-06-25 11:15 G 41860290.75 41860290.97 41860291.19 0.0088 0.0048 Neptune 109898-06-27 22:18 G 41860658.19 41860658.43 41860658.69 0.0088 0.0027 Neptune 109899-06-30 09:34 G 41861025.65 41861025.90 41861026.16 0.0088 0.0006 Neptune 109900-07-02 20:51 G 41861393.12 41861393.37 41861393.63 0.0088 0.0016 Neptune 109901-07-05 08:08 G 41861760.61 41861760.84 41861761.08 0.0088 0.0037 Neptune 109902-07-07 18:56 G 41862128.12 41862128.29 41862128.51 0.0088 0.0059 Neptune 109903-07-10 06:13 G 41862495.68 41862495.76 41862495.90 0.0088 0.0080 Uranus 109910-01-02 05:30 G 41864863.56 41864863.73 41864863.91 0.0136 0.0096 Saturn 109910-02-20 21:06 G 41864913.17 41864913.38 41864913.60 0.0277 0.0130 Uranus 109911-01-06 14:51 G 41865232.87 41865233.12 41865233.38 0.0136 0.0003 Saturn 109911-03-05 11:58 G 41865290.78 41865291.00 41865291.23 0.0280 0.0102 Uranus 109912-01-10 23:30 G 41865602.33 41865602.48 41865602.68 0.0136 0.0097 Mars 109917-10-19 20:08 G 41867711.18 41867711.34 41867711.49 0.1594 0.0922 Saturn 109923-08-19 11:44 G 41869840.82 41869840.99 41869841.18 0.0284 0.0197 Saturn 109924-09-01 06:42 G 41870219.54 41870219.78 41870220.02 0.0281 0.0055 Jupiter 109936-01-19 02:37 G 41874376.41 41874376.61 41874376.83 0.0526 0.0220 Saturn 109939-02-15 17:01 G 41875500.09 41875500.21 41875500.35 0.0275 0.0229 Saturn 109940-02-28 04:32 G 41875877.45 41875877.69 41875877.93 0.0279 0.0005 Saturn 109941-03-11 23:01 G 41876255.33 41876255.46 41876255.60 0.0282 0.0231 Jupiter 109941-07-14 03:49 G 41876379.61 41876379.66 41876379.73 0.0502 0.0486 Jupiter 109948-01-24 00:13 G 41878764.29 41878764.51 41878764.73 0.0528 0.0162 Uranus 109953-07-02 10:18 G 41880750.72 41880750.93 41880751.17 0.0142 0.0068 Jupiter 109953-07-18 17:58 G 41880767.03 41880767.25 41880767.48 0.0501 0.0154 Saturn 109953-08-26 15:49 G 41880805.92 41880806.16 41880806.40 0.0282 0.0053 Uranus 109954-07-07 09:20 G 41881120.66 41881120.89 41881121.15 0.0142 0.0046 Saturn 109954-09-09 06:27 G 41881184.59 41881184.77 41881184.95 0.0279 0.0191 Jupiter 109965-07-23 07:25 G 41885154.59 41885154.81 41885155.03 0.0500 0.0176 Pluto 109968-02-07 06:27 G 41886083.61 41886083.77 41886083.99 0.0065 0.0043 Pluto 109969-02-07 19:25 G 41886450.10 41886450.31 41886450.53 0.0065 0.0037

Saturn 109969-02-22 08:08 G 41886464.62 41886464.84 41886465.07 0.0277 0.0104 Saturn 109970-03-06 23:58 G 41886842.30 41886842.50 41886842.72 0.0281 0.0131 Neptune 109978-12-26 07:25 G 41890058.72 41890058.81 41890058.96 0.0090 0.0079 Neptune 109979-12-28 19:54 G 41890426.14 41890426.33 41890426.54 0.0090 0.0056 Neptune 109980-12-30 07:54 G 41890793.60 41890793.83 41890794.07 0.0090 0.0034 Neptune 109982-01-01 20:08 G 41891161.09 41891161.34 41891161.59 0.0090 0.0011 Saturn 109982-08-21 05:15 G 41891392.53 41891392.72 41891392.93 0.0284 0.0164 Neptune 109983-01-04 07:54 G 41891528.59 41891528.83 41891529.10 0.0090 0.0012 Saturn 109983-09-03 23:01 G 41891771.23 41891771.46 41891771.71 0.0281 0.0087 Neptune 109984-01-06 20:08 G 41891896.11 41891896.34 41891896.58 0.0090 0.0034 Neptune 109985-01-08 07:25 G 41892263.64 41892263.81 41892264.04 0.0090 0.0057 Neptune 109986-01-10 19:25 G 41892631.22 41892631.31 41892631.45 0.0090 0.0079 Uranus 109994-01-02 18:13 G 41895545.07 41895545.26 41895545.45 0.0136 0.0089 Uranus 109995-01-07 03:49 G 41895914.41 41895914.66 41895914.92 0.0136 0.0008 Uranus 109996-01-11 12:56 G 41896283.88 41896284.04 41896284.21 0.0136 0.0103 Mars 109996-10-21 21:34 G 41896568.23 41896568.40 41896568.57 0.1596 0.0662 Saturn 109998-02-17 03:20 G 41897051.49 41897051.64 41897051.82 0.0276 0.0204 Saturn 109999-03-01 15:49 G 41897428.92 41897429.16 41897429.40 0.0279 0.0023 Saturn 110000-03-13 11:01 G 41897806.88 41897806.96 41897807.06 0.0282 0.0261

## 111TH MILLENNIUM CE

### This is a list of transits of Earth in the 111th millennium CE.

FROM MAX- C START MAX END SUNRAD DEPTH S

TRANSIT

TIME

Saturn 110011-08-15 08:08 G 41901978.79 41901978.84 41901978.90 0.0286 0.0278 Saturn 110012-08-28 06:27 G 41902357.53 41902357.77 41902358.02 0.0282 0.0023 Saturn 110013-09-10 20:08 G 41902736.20 41902736.34 41902736.50 0.0279 0.0220 Jupiter 110019-01-18 01:25 G 41904691.36 41904691.56 41904691.75 0.0525 0.0283 Saturn 110028-02-24 17:44 G 41908016.01 41908016.24 41908016.48 0.0278 0.0077 Saturn 110029-03-08 10:18 G 41908393.73 41908393.93 41908394.13 0.0281 0.0158 Jupiter 110031-01-22 20:37 G 41909079.14 41909079.36 41909079.59 0.0527 0.0090 Mars 110035-04-18 23:44 G 41910626.30 41910626.49 41910626.69 0.1949 0.0498 Jupiter 110036-07-17 18:42 G 41911082.07 41911082.28 41911082.50 0.0501 0.0204 Uranus 110037-07-02 23:15 G 41911432.24 41911432.47 41911432.70 0.0142 0.0060 Uranus 110038-07-07 21:49 G 41911802.18 41911802.41 41911802.66 0.0142 0.0052 Saturn 110041-08-22 20:51 G 41912944.15 41912944.37 41912944.59 0.0284 0.0133 Saturn 110042-09-05 13:54 G 41913322.85 41913323.08 41913323.30 0.0280 0.0116 Jupiter 110043-01-27 16:46 G 41913467.10 41913467.20 41913467.30 0.0529 0.0470 Jupiter 110048-07-22 10:32 G 41915469.71 41915469.94 41915470.17 0.0499 0.0129 Pluto 110056-08-07 22:18 G 41918408.19 41918408.43 41918408.71 0.0079 0.0017 Saturn 110057-02-18 12:13 G 41918602.83 41918603.01 41918603.19 0.0276 0.0178 Saturn 110058-03-03 00:56 G 41918980.30 41918980.54 41918980.78 0.0279 0.0049 Neptune 110060-06-23 05:15 G 41919823.63 41919823.72 41919823.85 0.0088 0.0079 Jupiter 110060-07-26 22:32 G 41919857.35 41919857.44 41919857.55 0.0498 0.0450 Neptune 110061-06-25 16:32 G 41920191.02 41920191.19 41920191.41 0.0088 0.0058 Neptune 110062-06-28 04:18 G 41920558.45 41920558.68 41920558.92 0.0088 0.0036 Neptune 110063-06-30 15:34 G 41920925.90 41920926.15 41920926.41 0.0088 0.0015 Neptune 110064-07-02 02:51 G 41921293.37 41921293.62 41921293.89 0.0088 0.0007 Neptune 110065-07-04 14:22 G 41921660.85 41921661.10 41921661.35 0.0088 0.0028 Neptune 110066-07-07 01:10 G 41922028.36 41922028.55 41922028.79 0.0088 0.0050 Neptune 110067-07-09 12:27 G 41922395.89 41922396.02 41922396.19 0.0088 0.0071 Saturn 110070-08-16 22:03 G 41923530.30 41923530.42 41923530.54 0.0285 0.0249 Saturn 110071-08-30 19:39 G 41923909.07 41923909.32 41923909.57 0.0282 0.0006 Saturn 110072-09-12 08:22 G 41924287.75 41924287.85 41924287.97 0.0278 0.0247

Uranus 110078-01-03 07:10 G 41926226.61 41926226.80 41926227.01 0.0136 0.0082 Uranus 110079-01-07 17:01 G 41926595.96 41926596.21 41926596.46 0.0136 0.0014 Uranus 110080-01-12 01:25 G 41926965.44 41926965.56 41926965.73 0.0136 0.0111 Saturn 110086-02-13 15:06 G 41929190.12 41929190.13 41929190.14 0.0275 0.0274 Saturn 110087-02-26 00:56 G 41929567.30 41929567.54 41929567.78 0.0278 0.0053 Saturn 110088-03-09 17:44 G 41929945.07 41929945.24 41929945.44 0.0281 0.0183 Saturn 110100-08-25 09:06 G 41934495.65 41934495.88 41934496.11 0.0283 0.0104 Saturn 110101-09-08 01:25 G 41934874.36 41934874.56 41934874.79 0.0280 0.0144 Jupiter 110102-01-17 23:30 G 41935006.31 41935006.48 41935006.65 0.0525 0.0353 Jupiter 110114-01-22 22:32 G 41939394.21 41939394.44 41939394.67 0.0527 0.0032 Saturn 110116-02-21 18:27 G 41940154.08 41940154.27 41940154.48 0.0276 0.0155 Saturn 110117-03-05 07:25 G 41940531.58 41940531.81 41940532.05 0.0279 0.0074 Jupiter 110119-07-18 23:15 G 41941397.26 41941397.47 41941397.67 0.0501 0.0249 Uranus 110121-07-04 12:27 G 41942113.79 41942114.02 41942114.27 0.0142 0.0052 Uranus 110122-07-09 11:15 G 41942483.74 41942483.97 41942484.21 0.0142 0.0061 Jupiter 110126-01-27 21:49 G 41943782.27 41943782.41 41943782.55 0.0529 0.0421 Saturn 110129-08-19 07:39 G 41945081.68 41945081.82 41945081.99 0.0285 0.0222 Saturn 110130-09-02 05:01 G 41945460.47 41945460.71 41945460.96 0.0282 0.0032 Jupiter 110131-07-23 13:10 G 41945784.82 41945785.05 41945785.28 0.0500 0.0081 Saturn 110131-09-15 17:30 G 41945839.19 41945839.23 41945839.29 0.0278 0.0271 Neptune 110142-12-26 12:56 G 41949959.03 41949959.04 41949959.10 0.0090 0.0089 Jupiter 110143-07-28 01:39 G 41950172.45 41950172.57 41950172.72 0.0499 0.0406 Neptune 110143-12-29 00:56 G 41950326.39 41950326.54 41950326.74 0.0090 0.0067 Neptune 110144-12-30 13:10 G 41950693.84 41950694.05 41950694.28 0.0090 0.0044 Saturn 110145-02-15 18:56 G 41950741.20 41950741.29 41950741.39 0.0275 0.0253 Neptune 110146-01-02 01:10 G 41951061.31 41951061.55 41951061.81 0.0090 0.0022 Saturn 110146-02-28 05:01 G 41951118.47 41951118.71 41951118.95 0.0278 0.0032 Neptune 110147-01-04 13:25 G 41951428.80 41951429.06 41951429.31 0.0090 0.0001 Saturn 110147-03-12 22:18 G 41951496.27 41951496.43 41951496.60 0.0282 0.0205 Neptune 110148-01-07 01:10 G 41951796.31 41951796.55 41951796.81 0.0090 0.0024

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Saturn 110530-03-17 16:03 G 42091389.03 42091389.17 42091389.32 0.0279 0.0222 Jupiter 110534-07-19 20:22 G 42092974.21 42092974.35 42092974.50 0.0503 0.0394 Uranus 110540-07-05 00:27 G 42095151.43 42095151.52 42095151.63 0.0141 0.0130 Jupiter 110541-01-28 01:39 G 42095358.35 42095358.57 42095358.78 0.0527 0.0190 Uranus 110541-07-09 22:03 G 42095521.17 42095521.42 42095521.68 0.0142 0.0019 Uranus 110542-07-14 20:08 G 42095891.15 42095891.34 42095891.54 0.0142 0.0093 Saturn 110542-08-31 11:30 G 42095938.74 42095938.98 42095939.22 0.0285 0.0077 Saturn 110543-09-14 06:42 G 42096317.59 42096317.78 42096317.98 0.0281 0.0173 Jupiter 110546-07-24 11:44 G 42097361.76 42097361.99 42097362.23 0.0502 0.0064 Pluto 110549-08-14 19:54 G 42098479.22 42098479.33 42098479.47 0.0079 0.0069 Pluto 110550-08-17 00:42 G 42098846.50 42098846.53 42098846.60 0.0078 0.0077 Neptune 110553-06-27 11:30 G 42099891.93 42099891.98 42099892.05 0.0088 0.0085 Neptune 110554-06-29 22:46 G 42100259.29 42100259.45 42100259.64 0.0088 0.0064 Neptune 110555-07-02 09:49 G 42100626.71 42100626.91 42100627.16 0.0088 0.0043 Neptune 110556-07-03 21:34 G 42100994.15 42100994.40 42100994.66 0.0088 0.0021 Neptune 110557-07-06 09:06 G 42101361.62 42101361.88 42101362.14 0.0088 0.0001 Saturn 110558-02-27 19:54 G 42101598.11 42101598.33 42101598.55 0.0275 0.0112 Neptune 110558-07-08 20:37 G 42101729.11 42101729.36 42101729.61 0.0088 0.0022 Jupiter 110558-07-29 00:42 G 42101749.33 42101749.53 42101749.74 0.0500 0.0259 Saturn 110559-03-12 06:27 G 42101975.55 42101975.77 42101975.99 0.0278 0.0113 Neptune 110559-07-11 07:39 G 42102096.61 42102096.82 42102097.06 0.0088 0.0044 Neptune 110560-07-12 19:25 G 42102464.14 42102464.31 42102464.49 0.0088 0.0065 Neptune 110561-07-15 06:27 G 42102831.76 42102831.77 42102831.83 0.0088 0.0087 Saturn 110571-08-25 14:51 G 42106524.95 42106525.12 42106525.32 0.0286 0.0190 Saturn 110572-09-07 14:37 G 42106903.87 42106904.11 42106904.35 0.0283 0.0066 Uranus 110582-01-10 08:08 G 42110315.62 42110315.84 42110316.10 0.0136 0.0043 Uranus 110583-01-14 17:58 G 42110685.03 42110685.25 42110685.49 0.0136 0.0056 Saturn 110587-02-22 23:58 G 42112185.35 42112185.50 42112185.67 0.0274 0.0203 Saturn 110588-03-06 07:25 G 42112562.57 42112562.81 42112563.05 0.0276 0.0018 Saturn 110589-03-18 21:06 G 42112940.29 42112940.38 42112940.51 0.0280 0.0248

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Uranus 110666-01-11 19:54 G 42140997.10 42140997.33 42140997.58 0.0136 0.0037 Uranus 110667-01-16 05:30 G 42141366.52 42141366.73 42141366.97 0.0136 0.0061 Saturn 110676-03-03 08:22 G 42144700.62 42144700.85 42144701.09 0.0276 0.0062 Saturn 110677-03-15 19:54 G 42145078.15 42145078.33 42145078.54 0.0279 0.0166 Mars 110682-04-25 13:10 G 42146944.89 42146945.05 42146945.22 0.1956 0.1055 Saturn 110689-08-29 03:20 G 42149627.44 42149627.64 42149627.87 0.0285 0.0139 Saturn 110690-09-12 01:25 G 42150006.34 42150006.56 42150006.79 0.0282 0.0115 110690-10-26 17:01 G 42150051.03 42150051.21 42150051.40 0.1585 0.0197 Mars Jupiter 110695-01-23 08:51 G 42151600.68 42151600.87 42151601.06 0.0523 0.0291 Jupiter 110700-07-20 05:44 G 42153604.68 42153604.74 42153604.83 0.0505 0.0477 Saturn 110705-02-27 14:22 G 42155287.91 42155288.10 42155288.31 0.0275 0.0155 Saturn 110706-03-11 23:30 G 42155665.25 42155665.48 42155665.72 0.0277 0.0070 Jupiter 110707-01-29 04:18 G 42155988.45 42155988.68 42155988.91 0.0526 0.0075 Pluto 110708-02-18 07:25 G 42156373.64 42156373.81 42156374.05 0.0065 0.0041 Uranus 110708-07-08 00:42 G 42156514.39 42156514.53 42156514.68 0.0141 0.0116 Pluto 110709-02-18 20:37 G 42156740.17 42156740.36 42156740.57 0.0066 0.0041 Uranus 110709-07-12 22:32 G 42156884.18 42156884.44 42156884.69 0.0142 0.0005 Uranus 110710-07-17 20:37 G 42157254.20 42157254.36 42157254.53 0.0142 0.0107 Jupiter 110712-07-24 21:34 G 42157992.17 42157992.40 42157992.63 0.0503 0.0143 Neptune 110718-07-01 05:58 G 42160159.62 42160159.75 42160159.91 0.0088 0.0073 Saturn 110718-08-24 08:08 G 42160213.73 42160213.84 42160213.95 0.0287 0.0256 Jupiter 110719-02-03 02:22 G 42160376.49 42160376.60 42160376.72 0.0528 0.0454 Neptune 110719-07-03 17:01 G 42160527.02 42160527.21 42160527.44 0.0088 0.0052 Saturn 110719-09-07 08:37 G 42160592.62 42160592.86 42160593.11 0.0284 0.0005 Neptune 110720-07-05 04:46 G 42160894.46 42160894.70 42160894.95 0.0088 0.0030 Saturn 110720-09-20 01:39 G 42160971.46 42160971.57 42160971.69 0.0280 0.0246 Neptune 110721-07-07 16:03 G 42161261.92 42161262.17 42161262.43 0.0088 0.0009 Neptune 110722-07-10 03:20 G 42161629.39 42161629.64 42161629.91 0.0088 0.0014 Neptune 110723-07-12 14:51 G 42161996.90 42161997.12 42161997.37 0.0088 0.0035 Neptune 110724-07-14 01:54 G 42162364.41 42162364.58 42162364.81 0.0088 0.0057 Jupiter 110724-07-29 12:42 G 42162379.81 42162380.03 42162380.25 0.0501 0.0186 Neptune 110725-07-16 13:54 G 42162731.98 42162732.08 42162732.21 0.0088 0.0078 Saturn 110734-02-22 10:46 G 42165874.88 42165874.95 42165875.06 0.0273 0.0253 Saturn 110735-03-06 17:44 G 42166252.00 42166252.24 42166252.48 0.0276 0.0035 Saturn 110736-03-18 06:27 G 42166629.60 42166629.77 42166629.95 0.0279 0.0194 Saturn 110748-08-31 15:34 G 42171178.93 42171179.15 42171179.38 0.0285 0.0109 Uranus 110749-01-08 20:22 G 42171309.29 42171309.35 42171309.45 0.0137 0.0129 Saturn 110749-09-14 12:42 G 42171557.82 42171558.03 42171558.24 0.0282 0.0143 Uranus 110750-01-13 06:56 G 42171678.55 42171678.79 42171679.04 0.0136 0.0030 Uranus 110751-01-17 16:46 G 42172047.98 42172048.20 42172048.42 0.0136 0.0067 Saturn 110764-02-29 23:58 G 42176839.30 42176839.50 42176839.73 0.0275 0.0129 Saturn 110765-03-13 10:18 G 42177216.71 42177216.93 42177217.16 0.0278 0.0098 Mars 110769-10-29 17:58 G 42178908.15 42178908.25 42178908.35 0.1587 0.1334 Saturn 110777-08-25 23:01 G 42181765.32 42181765.46 42181765.62 0.0286 0.0225 Jupiter 110778-01-23 09:49 G 42181915.74 42181915.91 42181916.08 0.0523 0.0347 Saturn 110778-09-08 23:01 G 42182144.21 42182144.46 42182144.70 0.0283 0.0032 Saturn 110779-09-22 14:37 G 42182523.08 42182523.11 42182523.17 0.0280 0.0275 Jupiter 110790-01-28 07:25 G 42186303.58 42186303.81 42186304.05 0.0525 0.0028 Uranus 110792-07-08 11:44 G 42187195.83 42187195.99 42187196.15 0.0141 0.0110 Saturn 110793-02-23 21:20 G 42187426.26 42187426.39 42187426.53 0.0274 0.0226 Uranus 110793-07-13 09:20 G 42187565.63 42187565.89 42187566.15 0.0142 0.0002 Saturn 110794-03-08 04:46 G 42187803.45 42187803.70 42187803.94 0.0277 0.0008 Uranus 110794-07-18 07:39 G 42187935.67 42187935.82 42187935.97 0.0142 0.0113 Saturn 110795-03-20 18:13 G 42188181.12 42188181.26 42188181.41 0.0280 0.0223 Jupiter 110795-07-24 22:18 G 42188307.21 42188307.43 42188307.65 0.0503 0.0196 Pluto 110796-08-19 06:42 G 42188698.53 42188698.78 42188699.05 0.0079 0.0009 Neptune 110801-01-01 16:03 G 42190295.09 42190295.17 42190295.28 0.0089 0.0083 Neptune 110802-01-04 03:49 G 42190662.50 42190662.66 42190662.87 0.0090 0.0061 Jupiter 110802-02-02 04:32 G 42190691.54 42190691.69 42190691.84 0.0527 0.0397 Neptune 110803-01-06 16:18 G 42191029.96 42191030.18 42191030.42 0.0090 0.0038

Neptune 110804-01-09 04:18 G 42191397.43 42191397.68 42191397.94 0.0090 0.0015 Neptune 110805-01-10 16:18 G 42191764.93 42191765.18 42191765.44 0.0090 0.0008 Neptune 110806-01-13 03:34 G 42192132.43 42192132.65 42192132.91 0.0090 0.0031 Neptune 110807-01-15 15:34 G 42192499.96 42192500.15 42192500.37 0.0090 0.0053 Jupiter 110807-07-29 12:56 G 42192694.81 42192695.04 42192695.27 0.0502 0.0130 Saturn 110807-09-03 05:44 G 42192730.50 42192730.74 42192730.98 0.0285 0.0079 Neptune 110808-01-18 03:06 G 42192867.52 42192867.63 42192867.79 0.0090 0.0076 Saturn 110808-09-16 01:54 G 42193109.39 42193109.58 42193109.78 0.0281 0.0172 Jupiter 110819-08-03 02:37 G 42197082.52 42197082.61 42197082.71 0.0500 0.0454 Saturn 110823-03-03 10:46 G 42198390.73 42198390.95 42198391.18 0.0276 0.0103 Saturn 110824-03-14 22:03 G 42198768.21 42198768.42 42198768.64 0.0278 0.0126 Uranus 110833-01-09 08:22 G 42201990.76 42201990.85 42201990.98 0.0137 0.0122 Uranus 110834-01-13 18:56 G 42202360.05 42202360.29 42202360.54 0.0136 0.0024 Uranus 110835-01-18 04:46 G 42202729.50 42202729.70 42202729.92 0.0136 0.0074 Saturn 110836-08-27 16:18 G 42203317.01 42203317.18 42203317.37 0.0286 0.0193 Saturn 110837-09-10 15:20 G 42203695.90 42203696.14 42203696.38 0.0283 0.0063 Saturn 110852-02-26 07:54 G 42208977.67 42208977.83 42208978.00 0.0274 0.0200 Saturn 110853-03-09 16:03 G 42209354.93 42209355.17 42209355.41 0.0277 0.0021 Saturn 110854-03-22 06:27 G 42209732.68 42209732.77 42209732.89 0.0280 0.0252 Jupiter 110861-01-22 11:58 G 42212230.86 42212231.00 42212231.16 0.0523 0.0400 Saturn 110866-09-04 21:34 G 42214282.16 42214282.40 42214282.65 0.0284 0.0049 Saturn 110867-09-18 16:46 G 42214661.03 42214661.20 42214661.38 0.0281 0.0201 Jupiter 110873-01-27 05:15 G 42216618.49 42216618.72 42216618.95 0.0524 0.0041 Uranus 110876-07-08 22:18 G 42217877.26 42217877.43 42217877.61 0.0141 0.0104 Uranus 110877-07-13 19:54 G 42218247.08 42218247.33 42218247.59 0.0142 0.0008 Uranus 110878-07-18 18:13 G 42218617.12 42218617.26 42218617.40 0.0142 0.0119 Jupiter 110878-07-23 21:49 G 42218622.21 42218622.41 42218622.61 0.0504 0.0250 Saturn 110882-03-04 21:34 G 42219942.17 42219942.40 42219942.64 0.0276 0.0076 Neptune 110882-06-30 13:10 G 42220059.98 42220060.05 42220060.17 0.0088 0.0082 Saturn 110883-03-17 09:34 G 42220319.71 42220319.90 42220320.11 0.0279 0.0153

Neptune 110883-07-03 00:56 G 42220427.36 42220427.54 42220427.73 0.0088 0.0060 Neptune 110884-07-04 11:44 G 42220794.77 42220794.99 42220795.24 0.0088 0.0039 Jupiter 110885-01-31 23:58 G 42221006.32 42221006.50 42221006.69 0.0526 0.0323 Neptune 110885-07-06 23:30 G 42221162.23 42221162.48 42221162.74 0.0088 0.0017 Neptune 110886-07-09 10:46 G 42221529.69 42221529.95 42221530.21 0.0088 0.0005 Neptune 110887-07-11 22:03 G 42221897.18 42221897.42 42221897.68 0.0088 0.0026 Neptune 110888-07-13 09:20 G 42222264.69 42222264.89 42222265.12 0.0088 0.0048 Neptune 110889-07-15 21:20 G 42222632.23 42222632.39 42222632.55 0.0088 0.0069 Jupiter 110890-07-28 12:56 G 42223009.81 42223010.04 42223010.28 0.0502 0.0081 Saturn 110895-08-30 09:34 G 42224868.71 42224868.90 42224869.12 0.0286 0.0161 Mars 110895-10-27 00:13 G 42224926.36 42224926.51 42224926.66 0.1582 0.0960 Saturn 110896-09-12 07:54 G 42225247.60 42225247.83 42225248.07 0.0282 0.0094 Jupiter 110902-08-03 04:46 G 42227397.57 42227397.70 42227397.84 0.0500 0.0406 Saturn 110911-02-28 18:27 G 42230529.08 42230529.27 42230529.46 0.0274 0.0174 Saturn 110912-03-12 03:06 G 42230906.39 42230906.63 42230906.87 0.0277 0.0048 Saturn 110913-03-24 17:58 G 42231284.25 42231284.25 42231284.28 0.0280 0.0280 Uranus 110917-01-10 18:27 G 42232672.16 42232672.27 42232672.41 0.0137 0.0117 Uranus 110918-01-15 05:15 G 42233041.47 42233041.72 42233041.97 0.0137 0.0019 Uranus 110919-01-19 14:51 G 42233410.93 42233411.12 42233411.34 0.0136 0.0079 Saturn 110924-08-24 11:01 G 42235454.91 42235454.96 42235455.04 0.0287 0.0276 Saturn 110925-09-07 13:25 G 42235833.81 42235834.06 42235834.31 0.0284 0.0017 Saturn 110926-09-21 07:25 G 42236212.68 42236212.81 42236212.96 0.0281 0.0231 Saturn 110940-02-24 00:27 G 42241116.48 42241116.52 42241116.57 0.0274 0.0268 Saturn 110941-03-07 06:56 G 42241493.55 42241493.79 42241494.03 0.0276 0.0051 Saturn 110942-03-19 19:39 G 42241871.14 42241871.32 42241871.51 0.0279 0.0179 Jupiter 110944-01-23 09:49 G 42242545.81 42242545.91 42242546.02 0.0522 0.0463 Saturn 110954-09-02 02:22 G 42246420.38 42246420.60 42246420.83 0.0285 0.0128 Pluto 110955-02-21 11:58 G 42246592.76 42246593.00 42246593.26 0.0065 0.0009 Saturn 110955-09-15 23:58 G 42246799.27 42246799.50 42246799.72 0.0282 0.0125 Jupiter 110956-01-28 02:51 G 42246933.39 42246933.62 42246933.84 0.0524 0.0110

Uranus 110960-07-10 08:37 G 42248558.69 42248558.86 42248559.05 0.0141 0.0098 Uranus 110961-07-15 06:27 G 42248928.52 42248928.77 42248929.03 0.0141 0.0013 Jupiter 110961-07-24 00:56 G 42248937.35 42248937.54 42248937.73 0.0504 0.0296 Uranus 110962-07-20 03:49 G 42249298.56 42249298.66 42249298.80 0.0142 0.0125 Neptune 110966-01-04 11:58 G 42250562.86 42250563.00 42250563.18 0.0089 0.0070 Mars 110966-04-26 08:08 G 42250674.66 42250674.84 42250675.02 0.1961 0.0857 Neptune 110967-01-07 00:27 G 42250930.31 42250930.52 42250930.74 0.0090 0.0047 Neptune 110968-01-09 12:27 G 42251297.79 42251298.02 42251298.28 0.0090 0.0024 Jupiter 110968-02-02 00:56 G 42251321.34 42251321.54 42251321.74 0.0526 0.0264 Neptune 110969-01-11 00:42 G 42251665.27 42251665.53 42251665.78 0.0090 0.0002 Neptune 110970-01-13 12:27 G 42252032.78 42252033.02 42252033.28 0.0090 0.0021 Saturn 110970-03-02 03:34 G 42252080.45 42252080.65 42252080.86 0.0274 0.0149 Neptune 110971-01-16 00:13 G 42252400.30 42252400.51 42252400.74 0.0090 0.0044 Saturn 110971-03-14 12:42 G 42252457.80 42252458.03 42252458.27 0.0277 0.0075 Neptune 110972-01-18 11:44 G 42252767.85 42252767.99 42252768.19 0.0090 0.0067 Neptune 110973-01-19 23:44 G 42253135.47 42253135.49 42253135.53 0.0090 0.0089 Jupiter 110973-07-28 15:20 G 42253324.90 42253325.14 42253325.37 0.0502 0.0032 110974-10-29 23:58 G 42253783.33 42253783.50 42253783.68 0.1583 0.0547 Mars Saturn 110983-08-27 01:25 G 42257006.45 42257006.56 42257006.70 0.0287 0.0246 Saturn 110984-09-09 03:20 G 42257385.39 42257385.64 42257385.89 0.0284 0.0013 Jupiter 110985-08-02 05:15 G 42257712.56 42257712.72 42257712.89 0.0501 0.0352 Saturn 110985-09-22 20:51 G 42257764.28 42257764.37 42257764.47 0.0280 0.0258 Saturn 110999-02-25 07:54 G 42262667.73 42262667.83 42262667.94 0.0274 0.0245 Saturn 111000-03-09 14:37 G 42263044.87 42263045.11 42263045.36 0.0277 0.0027

## 112TH MILLENNIUM CE

#### This is a list of transits of Earth in the 112th millennium CE.

FROM MAX- C START MAX END SUNRAD DEPTH S

TRANSIT

TIME

Uranus 111001-01-12 04:18 G 42263353.56 42263353.68 42263353.84 0.0137 0.0113 Saturn 111001-03-22 03:34 G 42263422.50 42263422.65 42263422.83 0.0280 0.0205 Uranus 111002-01-16 15:20 G 42263722.90 42263723.14 42263723.40 0.0137 0.0015 Uranus 111003-01-21 01:25 G 42264092.37 42264092.56 42264092.77 0.0136 0.0084 Saturn 111013-09-04 16:03 G 42267971.94 42267972.17 42267972.40 0.0285 0.0097 Saturn 111014-09-18 12:42 G 42268350.83 42268351.03 42268351.25 0.0282 0.0155 Jupiter 111027-01-23 10:32 G 42272860.93 42272860.94 42272860.95 0.0522 0.0521 Saturn 111029-03-04 10:46 G 42273631.74 42273631.95 42273632.17 0.0274 0.0125 Saturn 111030-03-16 20:22 G 42274009.12 42274009.35 42274009.57 0.0277 0.0100 Jupiter 111039-01-28 07:54 G 42277248.61 42277248.83 42277249.05 0.0524 0.0155 Pluto 111042-08-22 16:32 G 42278551.00 42278551.19 42278551.42 0.0079 0.0046 Saturn 111042-08-29 13:10 G 42278557.90 42278558.05 42278558.22 0.0287 0.0218 Saturn 111043-09-12 14:37 G 42278936.86 42278937.11 42278937.35 0.0283 0.0041 Uranus 111044-07-11 19:54 G 42279240.15 42279240.33 42279240.54 0.0141 0.0093 Jupiter 111044-07-24 02:37 G 42279252.44 42279252.61 42279252.78 0.0505 0.0347 Uranus 111045-07-16 17:30 G 42279609.98 42279610.23 42279610.49 0.0141 0.0019 Uranus 111046-07-21 15:06 G 42279980.05 42279980.13 42279980.25 0.0142 0.0131 Neptune 111047-07-04 08:51 G 42280327.73 42280327.87 42280328.05 0.0088 0.0069 Neptune 111048-07-05 20:37 G 42280695.14 42280695.36 42280695.58 0.0088 0.0047 Neptune 111049-07-08 07:39 G 42281062.59 42281062.82 42281063.08 0.0088 0.0026 Neptune 111050-07-10 19:10 G 42281430.04 42281430.30 42281430.56 0.0088 0.0004 Jupiter 111051-02-02 03:34 G 42281636.45 42281636.65 42281636.87 0.0525 0.0212 Neptune 111051-07-13 06:13 G 42281797.52 42281797.76 42281798.03 0.0088 0.0018 Neptune 111052-07-14 17:58 G 42282165.02 42282165.25 42282165.48 0.0088 0.0039 Neptune 111053-07-17 04:46 G 42282532.53 42282532.70 42282532.91 0.0088 0.0061

Neptune 111054-07-19 16:03 G 42282900.12 42282900.17 42282900.29 0.0088 0.0083 Jupiter 111056-07-28 16:32 G 42283639.95 42283640.19 42283640.42 0.0503 0.0021 Saturn 111058-02-27 13:10 G 42284218.92 42284219.05 42284219.20 0.0274 0.0222 Saturn 111059-03-11 20:08 G 42284596.10 42284596.34 42284596.59 0.0277 0.0005 Saturn 111060-03-23 09:34 G 42284973.77 42284973.90 42284974.05 0.0280 0.0228 Jupiter 111068-08-02 08:22 G 42288027.67 42288027.85 42288028.04 0.0501 0.0308 Saturn 111072-09-06 02:22 G 42289523.36 42289523.60 42289523.84 0.0285 0.0069 Saturn 111073-09-19 22:46 G 42289902.27 42289902.45 42289902.65 0.0282 0.0182 Uranus 111085-01-12 12:56 G 42294034.91 42294035.04 42294035.20 0.0137 0.0110 Uranus 111086-01-16 23:58 G 42294404.25 42294404.50 42294404.75 0.0137 0.0011 Uranus 111087-01-21 10:18 G 42294773.74 42294773.93 42294774.13 0.0136 0.0087 Saturn 111088-03-05 16:03 G 42295182.95 42295183.17 42295183.40 0.0274 0.0101 Saturn 111089-03-18 01:25 G 42295560.35 42295560.56 42295560.78 0.0278 0.0124 Saturn 111101-08-31 20:51 G 42300109.20 42300109.37 42300109.56 0.0287 0.0192 Saturn 111102-09-14 21:49 G 42300488.17 42300488.41 42300488.65 0.0283 0.0066 Saturn 111117-03-01 16:03 G 42305770.02 42305770.17 42305770.34 0.0274 0.0200 Saturn 111118-03-13 23:15 G 42306147.23 42306147.47 42306147.71 0.0277 0.0020 Saturn 111119-03-26 12:27 G 42306524.92 42306525.02 42306525.14 0.0280 0.0249 Jupiter 111122-01-28 10:46 G 42307563.74 42307563.95 42307564.16 0.0523 0.0205 Jupiter 111127-07-25 06:56 G 42309567.64 42309567.79 42309567.94 0.0506 0.0388 Uranus 111128-07-13 07:25 G 42309921.62 42309921.81 42309922.02 0.0141 0.0086 Uranus 111129-07-18 04:46 G 42310291.45 42310291.70 42310291.96 0.0141 0.0025 Neptune 111130-01-05 20:37 G 42310463.26 42310463.36 42310463.50 0.0090 0.0079 Uranus 111130-07-23 02:22 G 42310661.54 42310661.60 42310661.68 0.0142 0.0136 Neptune 111131-01-08 08:51 G 42310830.68 42310830.87 42310831.08 0.0090 0.0056 Saturn 111131-09-09 08:22 G 42311074.61 42311074.85 42311075.10 0.0285 0.0044 Neptune 111132-01-10 20:37 G 42311198.14 42311198.36 42311198.62 0.0090 0.0034 Saturn 111132-09-22 04:46 G 42311453.54 42311453.70 42311453.88 0.0282 0.0206 Neptune 111133-01-12 08:51 G 42311565.62 42311565.87 42311566.13 0.0090 0.0011 Neptune 111134-01-14 20:51 G 42311933.13 42311933.37 42311933.64 0.0090 0.0013

Jupiter 111134-02-02 02:37 G 42311951.39 42311951.61 42311951.84 0.0525 0.0147 Neptune 111135-01-17 08:37 G 42312300.65 42312300.86 42312301.12 0.0090 0.0036 Neptune 111136-01-19 20:37 G 42312668.18 42312668.36 42312668.57 0.0090 0.0058 Neptune 111137-01-21 08:08 G 42313035.76 42313035.84 42313035.98 0.0090 0.0081 Jupiter 111139-07-30 01:39 G 42313955.34 42313955.57 42313955.81 0.0503 0.0050 Jupiter 111146-02-07 01:25 G 42316339.54 42316339.56 42316339.60 0.0527 0.0522 Saturn 111147-03-08 19:10 G 42316734.07 42316734.30 42316734.53 0.0274 0.0078 Saturn 111148-03-20 04:32 G 42317111.48 42317111.69 42317111.89 0.0277 0.0146 Jupiter 111151-08-03 16:46 G 42318343.00 42318343.20 42318343.40 0.0501 0.0275 Saturn 111160-09-02 01:39 G 42321660.37 42321660.57 42321660.77 0.0287 0.0167 Saturn 111161-09-16 02:08 G 42322039.36 42322039.59 42322039.83 0.0283 0.0090 Uranus 111169-01-13 22:32 G 42324716.30 42324716.44 42324716.61 0.0137 0.0106 Uranus 111170-01-18 09:49 G 42325085.66 42325085.91 42325086.17 0.0137 0.0008 Uranus 111171-01-22 19:54 G 42325455.15 42325455.33 42325455.53 0.0136 0.0091 Saturn 111176-03-02 17:15 G 42327321.04 42327321.22 42327321.41 0.0274 0.0179 Saturn 111177-03-15 00:13 G 42327698.27 42327698.51 42327698.75 0.0277 0.0041 Saturn 111178-03-27 13:39 G 42328076.01 42328076.07 42328076.14 0.0280 0.0269 Mars 111179-10-31 07:54 G 42328658.64 42328658.83 42328659.02 0.1581 0.0208 Saturn 111189-08-27 06:13 G 42332246.71 42332246.76 42332246.82 0.0288 0.0280 Saturn 111190-09-10 10:32 G 42332625.69 42332625.94 42332626.19 0.0285 0.0021 Saturn 111191-09-24 06:56 G 42333004.66 42333004.79 42333004.94 0.0282 0.0228 Pluto 111201-02-24 04:32 G 42336445.46 42336445.69 42336445.94 0.0065 0.0021 Pluto 111202-02-25 17:01 G 42336812.14 42336812.21 42336812.32 0.0066 0.0061 Jupiter 111205-01-27 13:25 G 42337878.87 42337879.06 42337879.27 0.0523 0.0259 Saturn 111205-02-25 17:15 G 42337908.19 42337908.22 42337908.25 0.0272 0.0269 Saturn 111206-03-09 20:37 G 42338285.12 42338285.36 42338285.59 0.0274 0.0057 Saturn 111207-03-22 05:44 G 42338662.55 42338662.74 42338662.93 0.0277 0.0167 Jupiter 111210-07-24 17:01 G 42339883.08 42339883.21 42339883.35 0.0506 0.0413 Neptune 111211-07-04 17:44 G 42340228.13 42340228.24 42340228.37 0.0088 0.0077 Neptune 111212-07-06 04:46 G 42340595.52 42340595.70 42340595.92 0.0088 0.0056 Uranus 111212-07-13 18:56 G 42340603.09 42340603.29 42340603.51 0.0141 0.0080 Neptune 111213-07-08 16:18 G 42340962.95 42340963.18 42340963.43 0.0088 0.0034 Uranus 111213-07-18 16:32 G 42340972.94 42340973.19 42340973.44 0.0141 0.0031 Neptune 111214-07-11 03:49 G 42341330.41 42341330.66 42341330.92 0.0088 0.0012 Neptune 111215-07-13 15:06 G 42341697.88 42341698.13 42341698.39 0.0088 0.0009 Neptune 111216-07-15 02:37 G 42342065.37 42342065.61 42342065.85 0.0088 0.0031 Jupiter 111217-02-01 12:27 G 42342266.80 42342267.02 42342267.25 0.0525 0.0115 Neptune 111217-07-17 13:39 G 42342432.88 42342433.07 42342433.29 0.0088 0.0053 Neptune 111218-07-20 00:42 G 42342800.42 42342800.53 42342800.69 0.0088 0.0075 Saturn 111219-09-04 02:37 G 42343211.40 42343211.61 42343211.83 0.0287 0.0146 Saturn 111220-09-17 02:51 G 42343590.40 42343590.62 42343590.86 0.0283 0.0111 Jupiter 111222-07-29 09:06 G 42344270.65 42344270.88 42344271.11 0.0504 0.0083 Jupiter 111229-02-06 10:32 G 42346654.86 42346654.94 42346655.03 0.0527 0.0489 Jupiter 111234-08-02 23:01 G 42348658.25 42348658.46 42348658.67 0.0502 0.0239 Saturn 111235-03-04 16:46 G 42348872.00 42348872.20 42348872.40 0.0274 0.0159 Saturn 111236-03-15 23:30 G 42349249.24 42349249.48 42349249.72 0.0277 0.0061 Saturn 111248-08-28 05:58 G 42353797.65 42353797.75 42353797.86 0.0288 0.0259 Saturn 111249-09-11 10:18 G 42354176.68 42354176.93 42354177.18 0.0285 0.0002 Saturn 111250-09-25 06:27 G 42354555.67 42354555.77 42354555.90 0.0281 0.0249 Uranus 111253-01-14 07:39 G 42355397.68 42355397.82 42355398.01 0.0137 0.0103 Uranus 111254-01-18 18:56 G 42355767.04 42355767.29 42355767.55 0.0137 0.0005 Uranus 111255-01-23 04:46 G 42356136.54 42356136.70 42356136.90 0.0136 0.0095 Mars 111258-11-02 07:39 G 42357515.71 42357515.82 42357515.93 0.1582 0.1291 Saturn 111264-02-27 17:15 G 42359459.13 42359459.22 42359459.32 0.0272 0.0249 Saturn 111265-03-10 20:37 G 42359836.12 42359836.36 42359836.60 0.0274 0.0036 Saturn 111266-03-23 05:44 G 42360213.57 42360213.74 42360213.92 0.0277 0.0188 Saturn 111278-09-05 01:25 G 42364762.34 42364762.56 42364762.79 0.0286 0.0126 Saturn 111279-09-19 01:39 G 42365141.36 42365141.57 42365141.80 0.0283 0.0131 Jupiter 111288-01-28 00:27 G 42368194.33 42368194.52 42368194.72 0.0522 0.0283 Pluto 111289-08-26 11:15 G 42368770.82 42368770.97 42368771.18 0.0079 0.0058

Jupiter 111293-07-23 23:30 G 42370198.39 42370198.48 42370198.60 0.0506 0.0451 Neptune 111294-01-05 05:44 G 42370363.72 42370363.74 42370363.83 0.0089 0.0088 Saturn 111294-03-05 15:49 G 42370422.96 42370423.16 42370423.37 0.0274 0.0139 Neptune 111295-01-07 18:13 G 42370731.09 42370731.26 42370731.45 0.0090 0.0065 Saturn 111295-03-17 22:18 G 42370800.20 42370800.43 42370800.66 0.0277 0.0081 Neptune 111296-01-10 06:13 G 42371098.54 42371098.76 42371098.99 0.0090 0.0042 Uranus 111296-07-14 05:44 G 42371284.53 42371284.74 42371284.96 0.0141 0.0075 Neptune 111297-01-11 18:13 G 42371466.02 42371466.26 42371466.52 0.0090 0.0019 Uranus 111297-07-19 02:51 G 42371654.37 42371654.62 42371654.87 0.0141 0.0036 Neptune 111298-01-14 06:27 G 42371833.51 42371833.77 42371834.02 0.0090 0.0004 Neptune 111299-01-16 17:58 G 42372201.02 42372201.25 42372201.51 0.0090 0.0027 Neptune 111300-01-19 05:44 G 42372568.55 42372568.74 42372568.97 0.0090 0.0050 Jupiter 111300-02-01 20:08 G 42372582.11 42372582.34 42372582.57 0.0524 0.0077 Neptune 111301-01-21 17:44 G 42372936.11 42372936.24 42372936.42 0.0090 0.0072 Jupiter 111305-07-29 17:44 G 42374586.01 42374586.24 42374586.47 0.0504 0.0115 Saturn 111307-08-31 03:20 G 42375348.52 42375348.64 42375348.79 0.0288 0.0240 Saturn 111308-09-13 07:39 G 42375727.57 42375727.82 42375728.07 0.0285 0.0020 Saturn 111309-09-27 03:49 G 42376106.60 42376106.66 42376106.75 0.0281 0.0268 Jupiter 111312-02-07 11:30 G 42376969.86 42376969.98 42376970.12 0.0526 0.0429 Jupiter 111317-08-03 11:58 G 42378973.79 42378974.00 42378974.22 0.0503 0.0222 Saturn 111323-03-01 17:01 G 42381010.08 42381010.21 42381010.34 0.0272 0.0229 Saturn 111324-03-12 20:08 G 42381387.10 42381387.34 42381387.59 0.0274 0.0016 Saturn 111325-03-25 05:30 G 42381764.58 42381764.73 42381764.90 0.0277 0.0208 Uranus 111337-01-15 18:56 G 42386079.12 42386079.29 42386079.48 0.0137 0.0097 Saturn 111337-09-06 23:44 G 42386313.26 42386313.49 42386313.72 0.0286 0.0106 Uranus 111338-01-20 05:44 G 42386448.49 42386448.74 42386448.99 0.0137 0.0002 Saturn 111338-09-20 23:44 G 42386692.28 42386692.49 42386692.70 0.0283 0.0150 Uranus 111339-01-24 15:20 G 42386817.99 42386818.14 42386818.33 0.0136 0.0100 Saturn 111353-03-07 14:37 G 42391973.90 42391974.11 42391974.33 0.0274 0.0119 Saturn 111354-03-19 21:20 G 42392351.17 42392351.39 42392351.62 0.0277 0.0101

Saturn 111366-09-01 00:56 G 42396899.39 42396899.54 42396899.70 0.0287 0.0221 Saturn 111367-09-15 04:46 G 42397278.46 42397278.70 42397278.95 0.0285 0.0040 Jupiter 111371-01-28 02:22 G 42398509.43 42398509.60 42398509.78 0.0521 0.0335 Neptune 111375-07-05 02:22 G 42400128.57 42400128.60 42400128.69 0.0088 0.0086 Neptune 111376-07-06 14:08 G 42400495.93 42400496.09 42400496.28 0.0088 0.0064 Jupiter 111376-07-24 12:13 G 42400513.92 42400514.01 42400514.10 0.0507 0.0467 Neptune 111377-07-09 01:39 G 42400863.35 42400863.57 42400863.80 0.0088 0.0042 Neptune 111378-07-11 12:42 G 42401230.79 42401231.03 42401231.30 0.0088 0.0021 Neptune 111379-07-14 00:27 G 42401598.26 42401598.52 42401598.78 0.0088 0.0001 Neptune 111380-07-15 11:44 G 42401965.74 42401965.99 42401966.24 0.0088 0.0023 Uranus 111380-07-15 15:34 G 42401965.93 42401966.15 42401966.38 0.0141 0.0070 \* Neptune 111381-07-17 22:46 G 42402333.24 42402333.45 42402333.69 0.0088 0.0045 Uranus 111381-07-20 12:27 G 42402335.79 42402336.02 42402336.28 0.0141 0.0042 Saturn 111382-03-02 17:15 G 42402561.07 42402561.22 42402561.38 0.0272 0.0209 Neptune 111382-07-20 09:34 G 42402700.76 42402700.90 42402701.10 0.0088 0.0067 Jupiter 111383-02-01 23:15 G 42402897.24 42402897.47 42402897.70 0.0524 0.0027 Saturn 111383-03-14 20:37 G 42402938.12 42402938.36 42402938.61 0.0275 0.0006 Saturn 111384-03-26 05:58 G 42403315.63 42403315.75 42403315.90 0.0277 0.0230 Mars 111384-10-30 15:06 G 42403533.98 42403534.13 42403534.28 0.1578 0.0958 Jupiter 111388-07-29 05:44 G 42404901.51 42404901.74 42404901.97 0.0505 0.0133 Jupiter 111395-02-06 22:32 G 42407285.29 42407285.44 42407285.59 0.0526 0.0400 Saturn 111396-09-07 21:49 G 42407864.18 42407864.41 42407864.66 0.0286 0.0087 Saturn 111397-09-21 21:34 G 42408243.21 42408243.40 42408243.61 0.0283 0.0170 Jupiter 111400-08-03 21:34 G 42409289.18 42409289.40 42409289.62 0.0503 0.0194 Saturn 111412-03-09 14:22 G 42413524.88 42413525.10 42413525.33 0.0274 0.0099 Saturn 111413-03-21 21:20 G 42413902.18 42413902.39 42413902.61 0.0277 0.0122 Uranus 111421-01-17 04:18 G 42416760.52 42416760.68 42416760.89 0.0137 0.0093 Uranus 111422-01-21 15:34 G 42417129.90 42417130.15 42417130.40 0.0137 0.0006 Uranus 111423-01-26 01:10 G 42417499.39 42417499.55 42417499.72 0.0136 0.0104 Saturn 111425-09-02 23:30 G 42418450.31 42418450.48 42418450.66 0.0287 0.0201

Saturn 111426-09-17 02:51 G 42418829.38 42418829.62 42418829.87 0.0284 0.0060 Saturn 111441-03-04 18:13 G 42424112.09 42424112.26 42424112.44 0.0272 0.0190 Saturn 111442-03-16 22:18 G 42424489.18 42424489.43 42424489.67 0.0275 0.0027 Saturn 111443-03-29 07:54 G 42424866.74 42424866.83 42424866.94 0.0278 0.0252 Pluto 111447-02-28 00:56 G 42426298.36 42426298.54 42426298.76 0.0065 0.0041 Pluto 111448-02-29 13:54 G 42426664.89 42426665.08 42426665.29 0.0066 0.0041 Jupiter 111454-01-28 12:13 G 42428824.85 42428825.01 42428825.18 0.0521 0.0364 Saturn 111455-09-10 22:18 G 42429415.20 42429415.43 42429415.68 0.0286 0.0066 Saturn 111456-09-23 21:34 G 42429794.22 42429794.40 42429794.59 0.0283 0.0189 Neptune 111459-01-09 03:20 G 42430631.52 42430631.64 42430631.81 0.0090 0.0074 Jupiter 111459-07-25 21:06 G 42430829.33 42430829.38 42430829.43 0.0507 0.0494 Neptune 111460-01-11 15:20 G 42430998.95 42430999.14 42430999.37 0.0090 0.0051 Neptune 111461-01-13 03:49 G 42431366.42 42431366.66 42431366.90 0.0090 0.0028 Neptune 111462-01-15 15:34 G 42431733.90 42431734.15 42431734.41 0.0090 0.0006 Neptune 111463-01-18 03:34 G 42432101.40 42432101.65 42432101.90 0.0090 0.0018 Mars 111463-11-03 15:34 G 42432390.98 42432391.15 42432391.33 0.1579 0.0546 Neptune 111464-01-20 15:06 G 42432468.92 42432469.13 42432469.38 0.0090 0.0041 Uranus 111464-07-17 00:42 G 42432647.31 42432647.53 42432647.76 0.0141 0.0065 Neptune 111465-01-22 02:51 G 42432836.47 42432836.62 42432836.83 0.0090 0.0064 Uranus 111465-07-21 21:49 G 42433017.17 42433017.41 42433017.66 0.0141 0.0046 Neptune 111466-01-24 15:06 G 42433204.08 42433204.13 42433204.22 0.0090 0.0086 Jupiter 111466-02-02 09:49 G 42433212.68 42433212.91 42433213.14 0.0523 0.0003 Saturn 111471-03-11 16:03 G 42435075.95 42435076.17 42435076.41 0.0274 0.0077 Jupiter 111471-07-30 11:58 G 42435216.78 42435217.00 42435217.23 0.0505 0.0169 Saturn 111472-03-22 23:30 G 42435453.28 42435453.48 42435453.69 0.0277 0.0145 Jupiter 111478-02-07 05:58 G 42437600.59 42437600.75 42437600.92 0.0525 0.0362 Jupiter 111483-08-04 04:46 G 42439604.48 42439604.70 42439604.93 0.0503 0.0160 Saturn 111484-09-03 23:58 G 42440001.31 42440001.50 42440001.70 0.0287 0.0180 Saturn 111485-09-18 02:51 G 42440380.39 42440380.62 42440380.87 0.0284 0.0080 Jupiter 111495-08-08 21:49 G 42443992.36 42443992.41 42443992.46 0.0502 0.0487

Saturn 111500-03-06 21:06 G 42445663.20 42445663.38 42445663.58 0.0273 0.0169 Saturn 111501-03-19 01:39 G 42446040.33 42446040.57 42446040.81 0.0275 0.0050 Saturn 111502-03-31 11:58 G 42446417.98 42446418.00 42446418.04 0.0278 0.0275 Uranus 111505-01-18 14:22 G 42447441.92 42447442.10 42447442.31 0.0137 0.0088 Uranus 111506-01-23 01:10 G 42447811.30 42447811.55 42447811.80 0.0137 0.0011 Uranus 111507-01-27 10:46 G 42448180.82 42448180.95 42448181.12 0.0137 0.0109 Saturn 111514-09-13 01:10 G 42450966.31 42450966.55 42450966.80 0.0286 0.0043 Saturn 111515-09-26 23:44 G 42451345.34 42451345.49 42451345.67 0.0283 0.0211 Saturn 111529-03-01 17:58 G 42456250.20 42456250.25 42456250.29 0.0272 0.0265 Saturn 111530-03-13 19:54 G 42456627.10 42456627.33 42456627.57 0.0274 0.0054 Saturn 111531-03-26 03:49 G 42457004.47 42457004.66 42457004.85 0.0277 0.0168 Pluto 111535-08-31 05:01 G 42458623.48 42458623.71 42458623.98 0.0079 0.0025 Jupiter 111537-01-28 19:10 G 42459140.17 42459140.30 42459140.46 0.0521 0.0401 Neptune 111540-07-07 23:30 G 42460396.35 42460396.48 42460396.64 0.0088 0.0072 Neptune 111541-07-10 10:32 G 42460763.76 42460763.94 42460764.18 0.0088 0.0051 Neptune 111542-07-12 22:18 G 42461131.20 42461131.43 42461131.69 0.0088 0.0029 Neptune 111543-07-15 10:03 G 42461498.67 42461498.92 42461499.19 0.0088 0.0007 Saturn 111543-09-07 03:49 G 42461552.46 42461552.66 42461552.88 0.0287 0.0157 Neptune 111544-07-16 21:20 G 42461866.14 42461866.39 42461866.65 0.0088 0.0015 Saturn 111544-09-20 06:13 G 42461931.53 42461931.76 42461931.99 0.0284 0.0102 Neptune 111545-07-19 08:37 G 42462233.64 42462233.86 42462234.11 0.0088 0.0037 Neptune 111546-07-21 19:54 G 42462601.16 42462601.33 42462601.54 0.0088 0.0059 Neptune 111547-07-24 07:39 G 42462968.72 42462968.82 42462968.93 0.0088 0.0080 Uranus 111548-07-18 10:32 G 42463328.71 42463328.94 42463329.17 0.0141 0.0061 Jupiter 111549-02-02 10:03 G 42463527.69 42463527.92 42463528.15 0.0522 0.0057 Uranus 111549-07-23 06:56 G 42463698.57 42463698.79 42463699.05 0.0141 0.0051 Jupiter 111554-07-30 19:25 G 42465532.10 42465532.31 42465532.53 0.0506 0.0200 Saturn 111559-03-09 01:54 G 42467214.39 42467214.58 42467214.80 0.0273 0.0146 Saturn 111560-03-20 07:25 G 42467591.59 42467591.81 42467592.05 0.0275 0.0075 Jupiter 111561-02-07 05:44 G 42467915.55 42467915.74 42467915.93 0.0524 0.0301

Jupiter 111566-08-04 12:13 G 42469919.78 42469920.01 42469920.23 0.0504 0.0131 Saturn 111572-08-31 02:37 G 42472138.56 42472138.61 42472138.68 0.0288 0.0279 Saturn 111573-09-14 07:39 G 42472517.58 42472517.82 42472518.07 0.0286 0.0018 Saturn 111574-09-28 05:30 G 42472896.60 42472896.73 42472896.88 0.0283 0.0235 Jupiter 111578-08-09 03:49 G 42474307.56 42474307.66 42474307.76 0.0502 0.0452 Saturn 111588-03-02 23:01 G 42477801.37 42477801.46 42477801.58 0.0272 0.0243 Uranus 111589-01-18 22:03 G 42478123.25 42478123.42 42478123.64 0.0137 0.0086 Saturn 111589-03-15 02:08 G 42478178.35 42478178.59 42478178.83 0.0274 0.0029 Uranus 111590-01-23 09:06 G 42478492.63 42478492.88 42478493.14 0.0137 0.0013 Saturn 111590-03-27 10:32 G 42478555.77 42478555.94 42478556.11 0.0277 0.0194 Uranus 111591-01-27 18:56 G 42478862.16 42478862.29 42478862.45 0.0137 0.0111 Saturn 111602-09-08 11:01 G 42483103.74 42483103.96 42483104.18 0.0287 0.0131 Saturn 111603-09-22 12:27 G 42483482.81 42483483.02 42483483.25 0.0284 0.0128 Mars 111613-05-02 20:08 G 42486993.15 42486993.34 42486993.53 0.1965 0.0610 Saturn 111618-03-10 09:06 G 42488765.67 42488765.88 42488766.10 0.0273 0.0122 Saturn 111619-03-22 15:20 G 42489142.91 42489143.14 42489143.37 0.0276 0.0099 Jupiter 111620-01-28 18:42 G 42489455.17 42489455.28 42489455.39 0.0519 0.0456 Neptune 111623-01-09 13:39 G 42490531.98 42490532.07 42490532.18 0.0089 0.0082 Neptune 111624-01-12 01:54 G 42490899.39 42490899.58 42490899.77 0.0090 0.0059 Neptune 111625-01-13 13:39 G 42491266.85 42491267.07 42491267.32 0.0090 0.0037 Neptune 111626-01-16 01:39 G 42491634.32 42491634.57 42491634.83 0.0090 0.0014 Neptune 111627-01-18 13:25 G 42492001.81 42492002.06 42492002.32 0.0090 0.0010 Neptune 111628-01-21 01:39 G 42492369.33 42492369.57 42492369.81 0.0090 0.0032 Neptune 111629-01-22 12:56 G 42492736.86 42492737.04 42492737.26 0.0090 0.0055 Neptune 111630-01-25 00:42 G 42493104.43 42493104.53 42493104.68 0.0090 0.0078 Saturn 111631-09-02 13:39 G 42493689.96 42493690.07 42493690.20 0.0288 0.0250 Jupiter 111632-02-02 13:54 G 42493842.86 42493843.08 42493843.31 0.0522 0.0103 Uranus 111632-07-18 19:54 G 42494010.11 42494010.33 42494010.58 0.0141 0.0056 Saturn 111632-09-15 17:44 G 42494068.99 42494069.24 42494069.49 0.0285 0.0011 Uranus 111633-07-23 17:01 G 42494379.98 42494380.21 42494380.46 0.0141 0.0055

Saturn 111633-09-29 14:51 G 42494448.03 42494448.12 42494448.22 0.0282 0.0260 Jupiter 111637-07-29 23:58 G 42495847.30 42495847.50 42495847.71 0.0506 0.0239 Jupiter 111644-02-07 11:01 G 42498230.77 42498230.96 42498231.17 0.0524 0.0260 Saturn 111647-03-05 06:42 G 42499352.64 42499352.78 42499352.92 0.0272 0.0219 Saturn 111648-03-16 10:32 G 42499729.70 42499729.94 42499730.18 0.0275 0.0004 Saturn 111649-03-28 19:39 G 42500107.18 42500107.32 42500107.47 0.0278 0.0221 Jupiter 111649-08-03 14:22 G 42500234.87 42500235.10 42500235.34 0.0504 0.0083 Jupiter 111661-08-08 05:58 G 42504622.61 42504622.75 42504622.89 0.0503 0.0404 Saturn 111661-09-09 21:49 G 42504655.18 42504655.41 42504655.65 0.0286 0.0102 Saturn 111662-09-23 22:46 G 42505034.24 42505034.45 42505034.66 0.0283 0.0154 Mars 111668-11-02 23:58 G 42507266.31 42507266.50 42507266.68 0.1577 0.0182 Uranus 111673-01-19 06:42 G 42508804.59 42508804.78 42508804.99 0.0137 0.0083 Uranus 111674-01-23 17:30 G 42509173.98 42509174.23 42509174.48 0.0137 0.0015 Uranus 111675-01-28 03:06 G 42509543.52 42509543.63 42509543.79 0.0137 0.0114 Saturn 111677-03-11 17:58 G 42510317.02 42510317.25 42510317.48 0.0274 0.0097 Saturn 111678-03-24 00:56 G 42510694.33 42510694.54 42510694.76 0.0276 0.0125 Saturn 111690-09-04 03:34 G 42515241.50 42515241.65 42515241.81 0.0288 0.0220 Saturn 111691-09-18 06:42 G 42515620.54 42515620.78 42515621.03 0.0285 0.0041 Pluto 111693-03-01 21:20 G 42516151.31 42516151.39 42516151.51 0.0065 0.0060 Pluto 111694-03-03 10:03 G 42516517.69 42516517.92 42516518.17 0.0066 0.0022 Jupiter 111703-01-28 22:18 G 42519770.37 42519770.43 42519770.49 0.0519 0.0501 Neptune 111704-07-08 09:20 G 42520296.80 42520296.89 42520297.00 0.0088 0.0080 Neptune 111705-07-10 20:22 G 42520664.18 42520664.35 42520664.57 0.0088 0.0059 Saturn 111706-03-07 15:34 G 42520904.00 42520904.15 42520904.33 0.0272 0.0195 Neptune 111706-07-13 07:54 G 42521031.61 42521031.83 42521032.08 0.0088 0.0037 Saturn 111707-03-19 20:22 G 42521281.11 42521281.35 42521281.59 0.0275 0.0023 Neptune 111707-07-15 19:25 G 42521399.06 42521399.31 42521399.57 0.0088 0.0015 Saturn 111708-03-31 06:13 G 42521658.67 42521658.76 42521658.88 0.0278 0.0248 Neptune 111708-07-17 06:56 G 42521766.54 42521766.79 42521767.05 0.0088 0.0007 Neptune 111709-07-19 18:13 G 42522134.02 42522134.26 42522134.51 0.0088 0.0029

Neptune 111710-07-22 05:30 G 42522501.54 42522501.73 42522501.96 0.0088 0.0051 Neptune 111711-07-24 16:46 G 42522869.08 42522869.20 42522869.37 0.0088 0.0073 Jupiter 111715-02-02 17:30 G 42524158.01 42524158.23 42524158.45 0.0521 0.0151 Uranus 111716-07-20 06:27 G 42524691.54 42524691.77 42524692.01 0.0141 0.0051 Uranus 111717-07-25 03:20 G 42525061.42 42525061.64 42525061.88 0.0141 0.0059 Jupiter 111720-07-29 23:44 G 42526162.31 42526162.49 42526162.69 0.0507 0.0294 Saturn 111720-09-12 11:15 G 42526206.73 42526206.97 42526207.21 0.0286 0.0072 Saturn 111721-09-26 11:15 G 42526585.79 42526585.97 42526586.17 0.0283 0.0183 Jupiter 111727-02-07 09:34 G 42528545.69 42528545.90 42528546.11 0.0523 0.0197 Jupiter 111732-08-03 15:06 G 42530549.89 42530550.13 42530550.37 0.0506 0.0033 Saturn 111736-03-14 03:49 G 42531868.42 42531868.66 42531868.89 0.0274 0.0071 Saturn 111737-03-26 11:30 G 42532245.79 42532245.98 42532246.19 0.0277 0.0153 Jupiter 111744-08-08 07:10 G 42534937.63 42534937.80 42534937.96 0.0503 0.0358 Mars 111747-11-07 00:13 G 42536123.40 42536123.51 42536123.61 0.1578 0.1315 Saturn 111749-09-06 20:22 G 42536793.16 42536793.35 42536793.54 0.0287 0.0187 Saturn 111750-09-20 22:32 G 42537172.20 42537172.44 42537172.69 0.0284 0.0072 Uranus 111757-01-20 14:37 G 42539485.92 42539486.11 42539486.33 0.0137 0.0081 Uranus 111758-01-25 01:25 G 42539855.32 42539855.56 42539855.82 0.0137 0.0018 Uranus 111759-01-29 11:30 G 42540224.86 42540224.98 42540225.13 0.0136 0.0116 Saturn 111765-03-09 01:39 G 42542455.39 42542455.57 42542455.77 0.0273 0.0168 Saturn 111766-03-21 06:56 G 42542832.56 42542832.79 42542833.03 0.0275 0.0051 Saturn 111767-04-02 17:58 G 42543210.23 42543210.25 42543210.28 0.0278 0.0276 Saturn 111779-09-15 02:22 G 42547758.35 42547758.60 42547758.85 0.0286 0.0041 Saturn 111780-09-28 01:39 G 42548137.41 42548137.57 42548137.74 0.0283 0.0212 Pluto 111781-09-02 00:42 G 42548476.27 42548476.53 42548476.80 0.0079 0.0002 Neptune 111788-01-12 11:30 G 42550799.83 42550799.98 42550800.16 0.0089 0.0068 Neptune 111789-01-13 23:44 G 42551167.27 42551167.49 42551167.71 0.0090 0.0045 Neptune 111790-01-16 11:30 G 42551534.75 42551534.98 42551535.25 0.0090 0.0023 Neptune 111791-01-18 23:44 G 42551902.24 42551902.49 42551902.75 0.0090 0.0001 Neptune 111792-01-21 11:30 G 42552269.75 42552269.98 42552270.24 0.0090 0.0024

Neptune 111793-01-22 23:15 G 42552637.27 42552637.47 42552637.71 0.0090 0.0047 Neptune 111794-01-25 11:30 G 42553004.82 42553004.98 42553005.14 0.0090 0.0069 Saturn 111794-03-04 10:18 G 42553042.87 42553042.93 42553043.01 0.0272 0.0260 Saturn 111795-03-16 13:39 G 42553419.84 42553420.07 42553420.32 0.0275 0.0046 Saturn 111796-03-27 22:32 G 42553797.26 42553797.44 42553797.63 0.0277 0.0180 Jupiter 111798-02-01 14:51 G 42554472.91 42554473.12 42554473.33 0.0520 0.0214 Uranus 111800-07-21 16:32 G 42555372.96 42555373.19 42555373.44 0.0141 0.0047 Uranus 111801-07-26 13:39 G 42555742.85 42555743.07 42555743.31 0.0141 0.0065 Jupiter 111803-07-30 23:15 G 42556477.30 42556477.47 42556477.65 0.0508 0.0346 Saturn 111808-09-09 13:10 G 42558344.85 42558345.05 42558345.27 0.0287 0.0155 Saturn 111809-09-23 15:06 G 42558723.90 42558724.13 42558724.36 0.0284 0.0104 Jupiter 111810-02-07 07:54 G 42558860.61 42558860.83 42558861.05 0.0523 0.0133 Jupiter 111815-08-04 17:44 G 42560865.00 42560865.24 42560865.48 0.0506 0.0013 Jupiter 111822-02-12 05:01 G 42563248.64 42563248.71 42563248.79 0.0525 0.0494 Saturn 111824-03-11 11:44 G 42564006.79 42564006.99 42564007.20 0.0273 0.0142 Saturn 111825-03-23 17:30 G 42564384.00 42564384.23 42564384.47 0.0276 0.0078 Jupiter 111827-08-09 08:08 G 42565252.65 42565252.84 42565253.03 0.0504 0.0306 Saturn 111837-09-03 12:42 G 42568930.97 42568931.03 42568931.12 0.0288 0.0272 Saturn 111838-09-17 18:13 G 42569310.01 42569310.26 42569310.51 0.0285 0.0010 Saturn 111839-10-01 16:32 G 42569689.07 42569689.19 42569689.32 0.0282 0.0242 Uranus 111841-01-22 00:13 G 42570167.31 42570167.51 42570167.72 0.0137 0.0077 Uranus 111842-01-26 10:46 G 42570536.71 42570536.95 42570537.21 0.0137 0.0022 Uranus 111843-01-30 20:37 G 42570906.27 42570906.36 42570906.51 0.0136 0.0120 Saturn 111853-03-06 18:56 G 42574594.18 42574594.29 42574594.42 0.0273 0.0235 Saturn 111854-03-18 23:01 G 42574971.22 42574971.46 42574971.70 0.0275 0.0020 Saturn 111855-03-31 08:22 G 42575348.70 42575348.85 42575349.02 0.0278 0.0206 Saturn 111867-09-12 05:44 G 42579896.53 42579896.74 42579896.98 0.0286 0.0122 Saturn 111868-09-25 06:56 G 42580275.58 42580275.79 42580276.02 0.0284 0.0136 Neptune 111869-07-11 06:42 G 42580564.64 42580564.78 42580564.97 0.0088 0.0067 Neptune 111870-07-13 18:13 G 42580932.05 42580932.26 42580932.50 0.0088 0.0045

Neptune 111871-07-16 05:30 G 42581299.49 42581299.73 42581299.99 0.0088 0.0023 Neptune 111872-07-17 17:01 G 42581666.95 42581667.21 42581667.47 0.0088 0.0002 Neptune 111873-07-20 04:18 G 42582034.44 42582034.68 42582034.94 0.0088 0.0021 Mars 111873-11-04 08:37 G 42582141.70 42582141.86 42582142.01 0.1576 0.0900 Neptune 111874-07-22 15:49 G 42582401.95 42582402.16 42582402.40 0.0088 0.0043 Neptune 111875-07-25 02:51 G 42582769.47 42582769.62 42582769.82 0.0088 0.0065 Neptune 111876-07-26 14:08 G 42583137.08 42583137.09 42583137.17 0.0088 0.0087 Jupiter 111881-02-01 15:06 G 42584787.94 42584788.13 42584788.33 0.0520 0.0272 Saturn 111883-03-13 21:06 G 42585558.17 42585558.38 42585558.61 0.0273 0.0116 Saturn 111884-03-25 03:20 G 42585935.42 42585935.64 42585935.87 0.0276 0.0104 Uranus 111884-07-22 02:08 G 42586054.35 42586054.59 42586054.84 0.0141 0.0042 Uranus 111885-07-26 23:15 G 42586424.27 42586424.47 42586424.71 0.0141 0.0070 Jupiter 111886-07-30 01:10 G 42586792.41 42586792.55 42586792.70 0.0508 0.0395 Jupiter 111893-02-06 11:30 G 42589175.75 42589175.98 42589176.21 0.0522 0.0084 Saturn 111896-09-05 03:34 G 42590482.53 42590482.65 42590482.80 0.0288 0.0241 Mars 111897-05-03 15:49 G 42590723.00 42590723.16 42590723.31 0.1967 0.1286 Saturn 111897-09-19 08:37 G 42590861.61 42590861.86 42590862.11 0.0285 0.0021 Jupiter 111898-08-03 17:30 G 42591180.00 42591180.23 42591180.47 0.0506 0.0069 Saturn 111898-10-03 06:13 G 42591240.70 42591240.76 42591240.84 0.0282 0.0271 Jupiter 111905-02-12 05:58 G 42593563.63 42593563.75 42593563.88 0.0524 0.0438 Jupiter 111910-08-09 07:25 G 42595567.61 42595567.81 42595568.02 0.0505 0.0252 Saturn 111912-03-09 02:37 G 42596145.46 42596145.61 42596145.76 0.0273 0.0211 Saturn 111913-03-21 06:42 G 42596522.54 42596522.78 42596523.03 0.0275 0.0007 Saturn 111914-04-02 16:32 G 42596900.07 42596900.19 42596900.33 0.0278 0.0231 Uranus 111925-01-23 09:34 G 42600848.69 42600848.90 42600849.12 0.0137 0.0073 Uranus 111926-01-27 20:22 G 42601218.10 42601218.35 42601218.60 0.0137 0.0026 Saturn 111926-09-14 20:37 G 42601448.13 42601448.36 42601448.60 0.0286 0.0089 Uranus 111927-02-01 05:58 G 42601587.67 42601587.75 42601587.88 0.0136 0.0124 Saturn 111927-09-28 21:20 G 42601827.19 42601827.39 42601827.60 0.0283 0.0166 Pluto 111940-03-07 10:18 G 42606370.70 42606370.93 42606371.20 0.0066 0.0014

Saturn 111942-03-16 04:46 G 42607109.48 42607109.70 42607109.94 0.0273 0.0091 Saturn 111943-03-28 11:15 G 42607486.77 42607486.97 42607487.19 0.0276 0.0130 Neptune 111952-01-13 21:06 G 42610700.28 42610700.38 42610700.54 0.0089 0.0077 111952-11-07 08:51 G 42610998.70 42610998.87 42610999.05 0.1576 0.0603 Mars Neptune 111953-01-15 09:34 G 42611067.71 42611067.90 42611068.12 0.0090 0.0054 Neptune 111954-01-17 21:49 G 42611435.17 42611435.41 42611435.66 0.0090 0.0031 Neptune 111955-01-20 10:03 G 42611802.66 42611802.92 42611803.17 0.0090 0.0008 Saturn 111955-09-08 16:32 G 42612034.03 42612034.19 42612034.36 0.0288 0.0211 Neptune 111956-01-22 21:34 G 42612170.16 42612170.40 42612170.67 0.0090 0.0016 Saturn 111956-09-21 20:51 G 42612413.13 42612413.37 42612413.62 0.0285 0.0050 Neptune 111957-01-24 09:20 G 42612537.68 42612537.89 42612538.14 0.0090 0.0039 Neptune 111958-01-26 21:20 G 42612905.21 42612905.39 42612905.59 0.0090 0.0061 Neptune 111959-01-29 08:51 G 42613272.81 42613272.87 42613272.99 0.0090 0.0084 Jupiter 111964-02-02 19:10 G 42615103.12 42615103.30 42615103.48 0.0519 0.0315 Uranus 111968-07-23 11:30 G 42616735.73 42616735.98 42616736.23 0.0141 0.0038 Uranus 111969-07-28 08:37 G 42617105.65 42617105.86 42617106.09 0.0141 0.0073 Jupiter 111969-07-30 00:27 G 42617107.42 42617107.52 42617107.64 0.0509 0.0450 Saturn 111971-03-11 08:22 G 42617696.69 42617696.85 42617697.04 0.0273 0.0188 Saturn 111972-03-22 12:56 G 42618073.80 42618074.04 42618074.28 0.0275 0.0030 Saturn 111973-04-03 23:01 G 42618451.38 42618451.46 42618451.56 0.0278 0.0255 Jupiter 111976-02-07 12:13 G 42619490.78 42619491.01 42619491.24 0.0521 0.0029 Jupiter 111981-08-03 18:56 G 42621495.06 42621495.29 42621495.52 0.0507 0.0118 Saturn 111985-09-16 07:54 G 42622999.59 42622999.83 42623000.07 0.0286 0.0060 Saturn 111986-09-30 08:22 G 42623378.67 42623378.85 42623379.03 0.0283 0.0194 Jupiter 111988-02-12 03:34 G 42623878.50 42623878.65 42623878.82 0.0524 0.0370 Jupiter 111993-08-08 13:54 G 42625882.87 42625883.08 42625883.30 0.0505 0.0216

# 113TH MILLENNIUM CE

#### This is a list of transits of Earth in the 113th millennium CE.

FROM MAX- C START MAX END SUNRAD DEPTH S

TRANSIT

TIME

Saturn 112001-03-17 10:46 G 42628660.72 42628660.95 42628661.19 0.0273 0.0067 Saturn 112002-03-29 17:15 G 42629038.02 42629038.22 42629038.42 0.0276 0.0154 Uranus 112009-01-23 19:39 G 42631530.11 42631530.32 42631530.55 0.0137 0.0068 Uranus 112010-01-28 06:13 G 42631899.52 42631899.76 42631900.02 0.0137 0.0031 Uranus 112011-02-01 16:18 G 42632269.12 42632269.18 42632269.29 0.0136 0.0129 Saturn 112014-09-10 01:54 G 42633585.40 42633585.58 42633585.78 0.0288 0.0184 Saturn 112015-09-24 05:58 G 42633964.52 42633964.75 42633964.99 0.0285 0.0077 Pluto 112027-09-05 23:58 G 42638329.25 42638329.50 42638329.76 0.0079 0.0015 Saturn 112030-03-12 12:13 G 42639247.83 42639248.01 42639248.21 0.0273 0.0165 Saturn 112031-03-24 16:46 G 42639624.97 42639625.20 42639625.44 0.0275 0.0053 Saturn 112032-04-05 02:51 G 42640002.61 42640002.62 42640002.65 0.0278 0.0277 Neptune 112033-07-11 17:15 G 42640465.09 42640465.22 42640465.36 0.0088 0.0074 Neptune 112034-07-14 04:03 G 42640832.49 42640832.67 42640832.90 0.0088 0.0053 Neptune 112035-07-16 15:34 G 42641199.92 42641200.15 42641200.40 0.0088 0.0031 Neptune 112036-07-18 03:06 G 42641567.37 42641567.63 42641567.89 0.0088 0.0009 Neptune 112037-07-20 14:22 G 42641934.85 42641935.10 42641935.36 0.0088 0.0013 Neptune 112038-07-23 01:25 G 42642302.34 42642302.56 42642302.81 0.0088 0.0035 Neptune 112039-07-25 12:56 G 42642669.86 42642670.04 42642670.25 0.0088 0.0057 Neptune 112040-07-27 00:13 G 42643037.42 42643037.51 42643037.65 0.0088 0.0079 Saturn 112044-09-17 15:49 G 42644550.91 42644551.16 42644551.41 0.0286 0.0033 Saturn 112045-10-01 15:49 G 42644930.01 42644930.16 42644930.32 0.0283 0.0221 Jupiter 112047-02-01 17:44 G 42645418.09 42645418.24 42645418.40 0.0519 0.0378

Uranus 112052-07-23 20:08 G 42647417.10 42647417.34 42647417.60 0.0141 0.0034 Jupiter 112052-07-29 08:51 G 42647422.80 42647422.87 42647422.95 0.0509 0.0480 Uranus 112053-07-28 17:15 G 42647787.02 42647787.22 42647787.45 0.0141 0.0077 Jupiter 112059-02-06 13:39 G 42649805.84 42649806.07 42649806.30 0.0521 0.0028 Saturn 112059-03-07 13:54 G 42649835.00 42649835.08 42649835.16 0.0271 0.0253 Saturn 112060-03-18 14:51 G 42650211.89 42650212.12 42650212.36 0.0273 0.0043 Saturn 112061-03-30 21:20 G 42650589.21 42650589.39 42650589.58 0.0276 0.0178 Jupiter 112064-08-03 02:37 G 42651810.39 42651810.61 42651810.84 0.0507 0.0149 Jupiter 112071-02-11 11:30 G 42654193.80 42654193.98 42654194.16 0.0523 0.0333 Saturn 112073-09-11 07:54 G 42655136.63 42655136.83 42655137.04 0.0288 0.0159 Saturn 112074-09-25 11:44 G 42655515.76 42655515.99 42655516.22 0.0285 0.0102 Jupiter 112076-08-07 19:10 G 42656198.08 42656198.30 42656198.52 0.0505 0.0176 Jupiter 112088-08-12 08:51 G 42660585.83 42660585.87 42660585.93 0.0503 0.0490 Saturn 112089-03-13 14:08 G 42660798.89 42660799.09 42660799.30 0.0273 0.0143 Saturn 112090-03-25 18:27 G 42661176.05 42661176.27 42661176.51 0.0275 0.0075 Uranus 112093-01-24 04:18 G 42662211.47 42662211.68 42662211.92 0.0137 0.0065 Uranus 112094-01-28 15:34 G 42662580.91 42662581.15 42662581.40 0.0137 0.0034 Uranus 112095-02-02 01:39 G 42662950.52 42662950.57 42662950.65 0.0136 0.0132 Saturn 112102-09-06 12:42 G 42665722.95 42665723.03 42665723.12 0.0289 0.0271 Saturn 112103-09-20 19:39 G 42666102.08 42666102.32 42666102.57 0.0286 0.0010 Saturn 112104-10-03 19:54 G 42666481.22 42666481.33 42666481.46 0.0283 0.0244 Neptune 112116-01-14 07:39 G 42670600.74 42670600.82 42670600.90 0.0089 0.0085 Neptune 112117-01-15 19:10 G 42670968.14 42670968.30 42670968.51 0.0089 0.0063 Neptune 112118-01-18 07:39 G 42671335.60 42671335.82 42671336.06 0.0090 0.0040 Saturn 112118-03-09 16:03 G 42671386.05 42671386.17 42671386.30 0.0271 0.0232 Neptune 112119-01-20 20:08 G 42671703.09 42671703.34 42671703.60 0.0090 0.0017 Saturn 112119-03-21 17:15 G 42671762.98 42671763.22 42671763.46 0.0273 0.0021 Neptune 112120-01-23 08:08 G 42672070.59 42672070.84 42672071.10 0.0090 0.0007 Saturn 112120-04-01 23:30 G 42672140.32 42672140.48 42672140.65 0.0276 0.0199 Neptune 112121-01-24 19:54 G 42672438.10 42672438.33 42672438.59 0.0090 0.0030

Neptune 112122-01-27 07:54 G 42672805.64 42672805.83 42672806.05 0.0090 0.0053 Neptune 112123-01-29 19:25 G 42673173.20 42673173.31 42673173.47 0.0090 0.0076 Jupiter 112130-02-02 02:51 G 42675733.48 42675733.62 42675733.76 0.0519 0.0408 Saturn 112132-09-13 11:01 G 42676687.74 42676687.96 42676688.18 0.0288 0.0135 Saturn 112133-09-27 14:22 G 42677066.88 42677067.10 42677067.33 0.0285 0.0125 Uranus 112135-07-21 08:22 G 42677728.84 42677728.85 42677728.90 0.0141 0.0140 Uranus 112136-07-25 05:15 G 42678098.48 42678098.72 42678098.98 0.0141 0.0030 Uranus 112137-07-30 02:22 G 42678468.41 42678468.60 42678468.82 0.0141 0.0081 Jupiter 112142-02-06 23:01 G 42680121.24 42680121.46 42680121.69 0.0521 0.0058 Jupiter 112147-08-04 07:10 G 42682125.58 42682125.80 42682126.02 0.0508 0.0190 Saturn 112148-03-15 14:51 G 42682349.91 42682350.12 42682350.34 0.0273 0.0122 Saturn 112149-03-27 19:10 G 42682727.08 42682727.30 42682727.53 0.0275 0.0096 Jupiter 112154-02-11 17:30 G 42684509.04 42684509.23 42684509.43 0.0523 0.0292 Mars 112157-11-07 17:15 G 42685874.03 42685874.22 42685874.41 0.1575 0.0124 Jupiter 112159-08-09 01:25 G 42686513.34 42686513.56 42686513.79 0.0506 0.0140 Saturn 112161-09-07 13:25 G 42687273.95 42687274.06 42687274.20 0.0289 0.0249 Saturn 112162-09-21 20:37 G 42687653.11 42687653.36 42687653.61 0.0286 0.0014 Saturn 112163-10-05 20:37 G 42688032.29 42688032.36 42688032.45 0.0283 0.0266 Jupiter 112171-08-13 20:37 G 42690901.28 42690901.36 42690901.45 0.0504 0.0469 Uranus 112177-01-25 13:10 G 42692892.84 42692893.05 42692893.29 0.0137 0.0062 Saturn 112177-03-10 17:01 G 42692937.07 42692937.21 42692937.37 0.0271 0.0212 Uranus 112178-01-30 00:27 G 42693262.28 42693262.52 42693262.76 0.0137 0.0037 Saturn 112178-03-22 18:27 G 42693314.02 42693314.27 42693314.51 0.0273 0.0003 Uranus 112179-02-03 10:32 G 42693631.91 42693631.94 42693631.99 0.0136 0.0135 Saturn 112179-04-04 00:42 G 42693691.38 42693691.53 42693691.67 0.0276 0.0220 Pluto 112186-03-10 11:15 G 42696223.72 42696223.97 42696224.23 0.0066 0.0005 Saturn 112191-09-15 11:01 G 42698238.73 42698238.96 42698239.19 0.0288 0.0113 Saturn 112192-09-28 14:22 G 42698617.90 42698618.10 42698618.32 0.0285 0.0146 Neptune 112197-07-12 03:49 G 42700365.58 42700365.66 42700365.76 0.0088 0.0082 Neptune 112198-07-14 14:37 G 42700732.94 42700733.11 42700733.32 0.0088 0.0061

Neptune 112199-07-17 01:54 G 42701100.37 42701100.58 42701100.83 0.0088 0.0039 Neptune 112200-07-19 13:25 G 42701467.81 42701468.06 42701468.32 0.0088 0.0017 Neptune 112201-07-22 00:42 G 42701835.27 42701835.53 42701835.79 0.0088 0.0005 Neptune 112202-07-24 11:44 G 42702202.75 42702202.99 42702203.24 0.0088 0.0027 Neptune 112203-07-26 23:01 G 42702570.26 42702570.46 42702570.69 0.0088 0.0049 Neptune 112204-07-28 10:03 G 42702937.79 42702937.92 42702938.10 0.0088 0.0071 Saturn 112207-03-18 14:37 G 42703900.89 42703901.11 42703901.34 0.0273 0.0101 Saturn 112208-03-29 18:27 G 42704278.06 42704278.27 42704278.50 0.0275 0.0117 Jupiter 112213-02-02 11:01 G 42706048.84 42706048.96 42706049.08 0.0518 0.0439 Uranus 112219-07-22 17:44 G 42708410.20 42708410.24 42708410.33 0.0141 0.0136 Uranus 112220-07-26 14:51 G 42708779.88 42708780.12 42708780.38 0.0141 0.0026 Saturn 112220-09-09 12:13 G 42708824.87 42708825.01 42708825.17 0.0288 0.0229 Uranus 112221-07-31 11:44 G 42709149.80 42709149.99 42709150.21 0.0141 0.0086 Saturn 112221-09-23 19:10 G 42709204.06 42709204.30 42709204.55 0.0286 0.0035 Jupiter 112225-02-07 00:27 G 42710436.30 42710436.52 42710436.75 0.0520 0.0111 Jupiter 112230-08-04 19:10 G 42712441.08 42712441.30 42712441.51 0.0508 0.0210 Saturn 112236-03-12 17:30 G 42714488.06 42714488.23 42714488.40 0.0271 0.0191 Mars 112236-11-10 17:15 G 42714731.13 42714731.22 42714731.31 0.1576 0.1372 Jupiter 112237-02-11 20:37 G 42714824.16 42714824.36 42714824.56 0.0522 0.0241 Saturn 112237-03-24 18:42 G 42714865.04 42714865.28 42714865.53 0.0273 0.0023 Saturn 112238-04-06 00:56 G 42715242.44 42715242.54 42715242.67 0.0276 0.0242 Jupiter 112242-08-09 13:10 G 42716828.82 42716829.05 42716829.28 0.0506 0.0121 Saturn 112250-09-17 10:03 G 42719789.69 42719789.92 42719790.16 0.0287 0.0093 Saturn 112251-10-01 13:10 G 42720168.86 42720169.05 42720169.26 0.0285 0.0166 Jupiter 112254-08-14 05:44 G 42721216.64 42721216.74 42721216.86 0.0504 0.0442 Uranus 112261-01-26 21:49 G 42723574.18 42723574.41 42723574.64 0.0137 0.0059 Uranus 112262-01-31 08:22 G 42723943.62 42723943.85 42723944.10 0.0137 0.0040 Saturn 112266-03-19 14:08 G 42725451.86 42725452.09 42725452.32 0.0273 0.0080 Saturn 112267-03-31 17:58 G 42725829.05 42725829.25 42725829.47 0.0275 0.0137 Pluto 112273-09-09 00:56 G 42728182.29 42728182.54 42728182.79 0.0079 0.0023

Saturn 112279-09-11 10:18 G 42730375.76 42730375.93 42730376.10 0.0288 0.0209 Saturn 112280-09-24 16:46 G 42730754.96 42730755.20 42730755.45 0.0286 0.0055 Neptune 112281-01-16 05:30 G 42730868.58 42730868.73 42730868.89 0.0089 0.0071 Neptune 112282-01-18 17:01 G 42731236.02 42731236.21 42731236.45 0.0090 0.0049 Neptune 112283-01-21 05:15 G 42731603.49 42731603.72 42731603.99 0.0090 0.0026 Neptune 112284-01-23 17:58 G 42731970.99 42731971.25 42731971.50 0.0090 0.0002 Neptune 112285-01-25 05:58 G 42732338.50 42732338.75 42732339.00 0.0090 0.0021 Neptune 112286-01-27 17:58 G 42732706.04 42732706.25 42732706.48 0.0090 0.0044 Neptune 112287-01-30 05:44 G 42733073.58 42733073.74 42733073.92 0.0090 0.0067 Saturn 112295-03-14 17:44 G 42736039.06 42736039.24 42736039.44 0.0271 0.0171 Jupiter 112296-02-02 14:22 G 42736364.03 42736364.10 42736364.19 0.0517 0.0484 Saturn 112296-03-25 19:10 G 42736416.06 42736416.30 42736416.54 0.0273 0.0043 Saturn 112297-04-07 01:54 G 42736793.51 42736793.58 42736793.65 0.0276 0.0262 Uranus 112303-07-24 03:49 G 42739091.59 42739091.66 42739091.77 0.0141 0.0131 Uranus 112304-07-28 00:56 G 42739461.29 42739461.54 42739461.80 0.0141 0.0021 Uranus 112305-08-01 22:03 G 42739831.22 42739831.42 42739831.62 0.0141 0.0090 Jupiter 112308-02-08 10:46 G 42740751.73 42740751.95 42740752.18 0.0520 0.0136 Saturn 112309-09-19 08:51 G 42741340.63 42741340.87 42741341.11 0.0287 0.0073 Saturn 112310-10-03 11:44 G 42741719.81 42741719.99 42741720.19 0.0285 0.0186 Jupiter 112313-08-05 04:32 G 42742756.48 42742756.69 42742756.90 0.0509 0.0235 Jupiter 112320-02-13 07:54 G 42745139.63 42745139.83 42745140.05 0.0522 0.0218 Saturn 112324-03-09 14:08 G 42746626.07 42746626.09 42746626.13 0.0271 0.0268 Saturn 112325-03-21 14:08 G 42747002.85 42747003.09 42747003.32 0.0273 0.0060 Jupiter 112325-08-09 20:08 G 42747144.11 42747144.34 42747144.57 0.0507 0.0086 Saturn 112326-04-02 18:13 G 42747380.07 42747380.26 42747380.46 0.0275 0.0158 Jupiter 112337-08-14 13:39 G 42751531.93 42751532.07 42751532.21 0.0505 0.0410 Saturn 112338-09-13 08:51 G 42751926.69 42751926.87 42751927.07 0.0288 0.0189 Saturn 112339-09-27 15:06 G 42752305.90 42752306.13 42752306.38 0.0286 0.0075 Uranus 112345-01-28 06:56 G 42754255.57 42754255.79 42754256.03 0.0137 0.0056 Uranus 112346-02-01 17:44 G 42754625.01 42754625.24 42754625.49 0.0137 0.0043

Saturn 112354-03-16 18:56 G 42757590.09 42757590.29 42757590.49 0.0271 0.0151 Saturn 112355-03-28 20:37 G 42757967.13 42757967.36 42757967.60 0.0274 0.0064 Neptune 112362-07-16 00:27 G 42760633.39 42760633.52 42760633.71 0.0088 0.0069 Mars 112362-11-09 01:25 G 42760749.40 42760749.56 42760749.72 0.1574 0.0848 Neptune 112363-07-18 12:13 G 42761000.81 42761001.01 42761001.24 0.0088 0.0047 Neptune 112364-07-19 23:30 G 42761368.24 42761368.48 42761368.74 0.0088 0.0025 Neptune 112365-07-22 11:01 G 42761735.70 42761735.96 42761736.22 0.0088 0.0003 Neptune 112366-07-24 22:03 G 42762103.17 42762103.42 42762103.68 0.0088 0.0019 Neptune 112367-07-27 09:06 G 42762470.67 42762470.88 42762471.13 0.0088 0.0041 Neptune 112368-07-28 20:22 G 42762838.19 42762838.35 42762838.55 0.0088 0.0063 Saturn 112368-09-20 08:51 G 42762891.62 42762891.87 42762892.11 0.0287 0.0051 Neptune 112369-07-31 07:25 G 42763205.77 42763205.81 42763205.90 0.0088 0.0085 Saturn 112369-10-04 11:01 G 42763270.81 42763270.96 42763271.15 0.0284 0.0207 Jupiter 112379-02-03 01:39 G 42766679.52 42766679.57 42766679.61 0.0517 0.0505 Saturn 112383-03-11 15:06 G 42768177.05 42768177.13 42768177.24 0.0271 0.0248 Saturn 112384-03-22 15:20 G 42768553.90 42768554.14 42768554.38 0.0273 0.0039 Saturn 112385-04-03 19:54 G 42768931.15 42768931.33 42768931.51 0.0275 0.0180 Uranus 112387-07-24 13:54 G 42769772.98 42769773.08 42769773.20 0.0141 0.0126 Uranus 112388-07-28 10:32 G 42770142.68 42770142.94 42770143.19 0.0141 0.0017 Uranus 112389-08-02 07:25 G 42770512.63 42770512.81 42770513.01 0.0141 0.0095 Jupiter 112391-02-07 19:39 G 42771067.10 42771067.32 42771067.54 0.0519 0.0166 Jupiter 112396-08-04 10:32 G 42773071.74 42773071.94 42773072.14 0.0509 0.0271 Saturn 112397-09-14 08:51 G 42773477.68 42773477.87 42773478.08 0.0288 0.0167 Saturn 112398-09-28 14:51 G 42773856.89 42773857.12 42773857.36 0.0285 0.0095 Jupiter 112403-02-12 09:34 G 42775454.68 42775454.90 42775455.12 0.0521 0.0167 Jupiter 112408-08-09 05:44 G 42777459.50 42777459.74 42777459.97 0.0508 0.0063 Saturn 112413-03-17 20:51 G 42779141.17 42779141.37 42779141.59 0.0272 0.0131 Saturn 112414-03-29 23:15 G 42779518.24 42779518.47 42779518.70 0.0274 0.0086 Jupiter 112415-02-17 05:01 G 42779842.68 42779842.71 42779842.75 0.0523 0.0514

Jupiter 112420-08-13 23:01 G 42781847.32 42781847.46 42781847.62 0.0505 0.0388

Saturn 112427-09-22 11:30 G 42784442.73 42784442.98 42784443.23 0.0287 0.0029 Saturn 112428-10-05 13:10 G 42784821.92 42784822.05 42784822.21 0.0284 0.0228 Uranus 112429-01-28 16:32 G 42784936.96 42784937.19 42784937.43 0.0137 0.0052 Uranus 112430-02-02 03:06 G 42785306.40 42785306.63 42785306.87 0.0137 0.0047 Pluto 112432-03-13 15:20 G 42786076.89 42786077.14 42786077.40 0.0066 0.0007 Mars 112441-11-11 01:25 G 42789606.39 42789606.56 42789606.74 0.1575 0.0640 Saturn 112442-03-12 17:44 G 42789728.11 42789728.24 42789728.37 0.0271 0.0227 Saturn 112443-03-24 18:13 G 42790105.01 42790105.26 42790105.50 0.0273 0.0017 Saturn 112444-04-04 23:15 G 42790482.31 42790482.47 42790482.64 0.0276 0.0203 Neptune 112445-01-16 15:20 G 42790769.04 42790769.14 42790769.26 0.0089 0.0080 Neptune 112446-01-19 03:34 G 42791136.46 42791136.65 42791136.85 0.0090 0.0057 Neptune 112447-01-21 15:34 G 42791503.92 42791504.15 42791504.39 0.0090 0.0034 Neptune 112448-01-24 03:49 G 42791871.40 42791871.66 42791871.91 0.0090 0.0011 Neptune 112449-01-25 15:34 G 42792238.91 42792239.15 42792239.41 0.0090 0.0013 Neptune 112450-01-28 03:34 G 42792606.43 42792606.65 42792606.90 0.0090 0.0036 Neptune 112451-01-30 15:20 G 42792973.97 42792974.14 42792974.36 0.0090 0.0059 Neptune 112452-02-02 03:20 G 42793341.56 42793341.64 42793341.77 0.0090 0.0082 Saturn 112456-09-15 11:44 G 42795028.79 42795028.99 42795029.21 0.0288 0.0145 Saturn 112457-09-29 17:01 G 42795407.99 42795408.21 42795408.44 0.0285 0.0117 Uranus 112471-07-24 22:32 G 42800454.33 42800454.44 42800454.58 0.0141 0.0122 Saturn 112472-03-19 01:10 G 42800692.33 42800692.55 42800692.77 0.0272 0.0108 Uranus 112472-07-28 19:39 G 42800824.07 42800824.32 42800824.58 0.0141 0.0012 Saturn 112473-03-31 04:03 G 42801069.45 42801069.67 42801069.89 0.0274 0.0109 Uranus 112473-08-02 16:18 G 42801194.01 42801194.18 42801194.38 0.0142 0.0099 Jupiter 112474-02-06 21:06 G 42801382.17 42801382.38 42801382.59 0.0518 0.0216 Jupiter 112479-08-04 17:44 G 42803387.05 42803387.24 42803387.43 0.0510 0.0299 Saturn 112485-09-09 09:34 G 42805614.81 42805614.90 42805614.99 0.0289 0.0268 Jupiter 112486-02-11 16:03 G 42805769.95 42805770.17 42805770.39 0.0521 0.0129 Saturn 112486-09-23 17:01 G 42805993.96 42805994.21 42805994.46 0.0287 0.0005 Saturn 112487-10-07 18:13 G 42806373.15 42806373.26 42806373.38 0.0284 0.0250

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Saturn 112561-03-28 06:13 G 42833207.52 42833207.76 42833208.00 0.0274 0.0032 Saturn 112562-04-09 12:27 G 42833584.93 42833585.02 42833585.13 0.0276 0.0252 Jupiter 112562-08-04 20:22 G 42833702.18 42833702.35 42833702.52 0.0510 0.0345 Jupiter 112569-02-11 21:34 G 42836085.18 42836085.40 42836085.63 0.0520 0.0089 Jupiter 112574-08-09 13:54 G 42838089.85 42838090.08 42838090.32 0.0509 0.0020 Saturn 112574-09-20 04:03 G 42838131.44 42838131.67 42838131.91 0.0287 0.0092 Saturn 112575-10-04 07:54 G 42838510.63 42838510.83 42838511.03 0.0285 0.0168 Jupiter 112581-02-16 12:56 G 42840472.91 42840473.04 42840473.18 0.0521 0.0425 Jupiter 112586-08-14 06:13 G 42842477.58 42842477.76 42842477.95 0.0507 0.0306 Saturn 112590-03-23 14:08 G 42843794.85 42843795.09 42843795.32 0.0273 0.0062 Saturn 112591-04-04 18:27 G 42844172.08 42844172.27 42844172.48 0.0275 0.0158 Uranus 112597-01-30 13:25 G 42846299.82 42846300.06 42846300.30 0.0137 0.0041 Uranus 112598-02-03 23:44 G 42846669.26 42846669.49 42846669.72 0.0137 0.0057 Saturn 112603-09-15 08:51 G 42848717.70 42848717.87 42848718.04 0.0288 0.0211 Saturn 112604-09-28 14:37 G 42849096.87 42849097.11 42849097.36 0.0286 0.0053 Neptune 112609-01-18 00:27 G 42850669.51 42850669.52 42850669.56 0.0089 0.0089 Neptune 112610-01-20 12:42 G 42851036.87 42851037.03 42851037.22 0.0089 0.0066 Neptune 112611-01-23 00:56 G 42851404.32 42851404.54 42851404.76 0.0090 0.0043 Neptune 112612-01-25 13:10 G 42851771.80 42851772.05 42851772.30 0.0090 0.0020 Neptune 112613-01-27 01:10 G 42852139.30 42852139.55 42852139.81 0.0090 0.0003 Neptune 112614-01-29 12:56 G 42852506.80 42852507.04 42852507.29 0.0090 0.0026 Neptune 112615-02-01 00:42 G 42852874.34 42852874.53 42852874.77 0.0090 0.0050 Neptune 112616-02-03 12:42 G 42853241.91 42853242.03 42853242.21 0.0090 0.0073 Saturn 112619-03-19 12:13 G 42854381.82 42854382.01 42854382.22 0.0272 0.0159 Saturn 112620-03-30 14:51 G 42854758.88 42854759.12 42854759.36 0.0274 0.0057 Saturn 112633-09-22 16:46 G 42859682.96 42859683.20 42859683.44 0.0287 0.0063 Saturn 112634-10-06 19:53 G 42860062.16 42860062.33 42860062.52 0.0284 0.0196 Uranus 112639-07-27 15:34 G 42861817.03 42861817.15 42861817.32 0.0141 0.0116 Jupiter 112640-02-08 04:03 G 42862012.48 42862012.67 42862012.86 0.0516 0.0301 Uranus 112640-07-31 12:41 G 42862186.77 42862187.03 42862187.28 0.0141 0.0005

Uranus 112641-08-05 09:49 G 42862556.75 42862556.91 42862557.08 0.0142 0.0106 Jupiter 112645-08-04 19:25 G 42864017.17 42864017.31 42864017.47 0.0512 0.0397 Mars 112646-11-12 09:20 G 42864481.70 42864481.89 42864482.08 0.1574 0.0101 Saturn 112648-03-13 21:49 G 42864969.33 42864969.41 42864969.52 0.0271 0.0250 Saturn 112649-03-25 23:01 G 42865346.22 42865346.46 42865346.70 0.0273 0.0037 Saturn 112650-04-07 04:17 G 42865723.51 42865723.68 42865723.87 0.0276 0.0184 Jupiter 112652-02-12 20:08 G 42866400.11 42866400.34 42866400.57 0.0519 0.0031 Jupiter 112657-08-09 14:37 G 42868404.88 42868405.11 42868405.34 0.0509 0.0065 Saturn 112662-09-17 00:27 G 42870269.33 42870269.52 42870269.72 0.0288 0.0179 Saturn 112663-10-01 05:29 G 42870648.50 42870648.73 42870648.97 0.0286 0.0083 Jupiter 112664-02-17 12:56 G 42870787.88 42870788.04 42870788.21 0.0521 0.0367 Jupiter 112669-08-14 09:20 G 42872792.69 42872792.89 42872793.09 0.0507 0.0262 Pluto 112678-03-17 18:56 G 42875930.04 42875930.29 42875930.55 0.0066 0.0008 Saturn 112678-03-20 21:34 G 42875933.19 42875933.40 42875933.61 0.0272 0.0133 Saturn 112679-04-02 00:41 G 42876310.30 42876310.53 42876310.76 0.0274 0.0084 Uranus 112680-01-28 12:27 G 42876611.99 42876612.02 42876612.05 0.0137 0.0135 Uranus 112681-01-31 23:15 G 42876981.23 42876981.47 42876981.72 0.0137 0.0037 Uranus 112682-02-05 09:20 G 42877350.68 42877350.89 42877351.13 0.0137 0.0062 Neptune 112690-07-16 20:37 G 42880434.31 42880434.36 42880434.42 0.0088 0.0085 Neptune 112691-07-19 07:10 G 42880801.65 42880801.80 42880802.01 0.0088 0.0064 Neptune 112692-07-20 18:41 G 42881169.07 42881169.28 42881169.53 0.0088 0.0042 Saturn 112692-09-24 07:25 G 42881234.57 42881234.81 42881235.06 0.0287 0.0033 Neptune 112693-07-23 06:13 G 42881536.52 42881536.76 42881537.02 0.0088 0.0020 Saturn 112693-10-08 09:49 G 42881613.78 42881613.91 42881614.08 0.0284 0.0225 Neptune 112694-07-25 17:58 G 42881903.99 42881904.25 42881904.51 0.0088 0.0003 Neptune 112695-07-28 04:46 G 42882271.46 42882271.70 42882271.96 0.0088 0.0025 Neptune 112696-07-29 16:03 G 42882638.96 42882639.17 42882639.40 0.0088 0.0047 Neptune 112697-08-01 03:05 G 42883006.50 42883006.63 42883006.82 0.0088 0.0069 Saturn 112707-03-17 06:41 G 42886520.65 42886520.78 42886520.92 0.0272 0.0225 Saturn 112708-03-28 08:22 G 42886897.61 42886897.85 42886898.09 0.0274 0.0011

Saturn 112709-04-09 14:22 G 42887274.95 42887275.10 42887275.26 0.0276 0.0210 Saturn 112721-09-19 17:44 G 42891821.02 42891821.24 42891821.45 0.0288 0.0146 Saturn 112722-10-03 22:03 G 42892200.20 42892200.42 42892200.65 0.0285 0.0115 Jupiter 112723-02-08 02:37 G 42892327.45 42892327.61 42892327.78 0.0516 0.0361 Uranus 112723-07-29 00:56 G 42892498.40 42892498.54 42892498.71 0.0141 0.0111 Uranus 112724-08-01 21:49 G 42892868.16 42892868.41 42892868.67 0.0141 0.0001 Uranus 112725-08-06 18:56 G 42893238.14 42893238.29 42893238.46 0.0142 0.0110 Mars 112725-11-15 09:05 G 42893338.80 42893338.88 42893338.97 0.1575 0.1393 Jupiter 112728-08-04 22:17 G 42894332.32 42894332.43 42894332.55 0.0512 0.0441 Jupiter 112735-02-12 21:05 G 42896715.15 42896715.38 42896715.61 0.0519 0.0025 Saturn 112737-03-23 07:10 G 42897484.59 42897484.80 42897485.03 0.0272 0.0107 Saturn 112738-04-04 11:01 G 42897861.74 42897861.96 42897862.18 0.0274 0.0111 Jupiter 112740-08-09 15:34 G 42898719.93 42898720.15 42898720.39 0.0510 0.0115 Jupiter 112747-02-17 16:32 G 42901103.01 42901103.19 42901103.37 0.0521 0.0320 Saturn 112750-09-13 15:34 G 42902407.06 42902407.15 42902407.25 0.0289 0.0265 Saturn 112751-09-27 23:01 G 42902786.21 42902786.46 42902786.71 0.0286 0.0005 Jupiter 112752-08-14 08:22 G 42903107.63 42903107.85 42903108.07 0.0508 0.0206 Saturn 112752-10-11 00:56 G 42903165.44 42903165.54 42903165.65 0.0284 0.0254 Uranus 112764-01-29 21:20 G 42907293.34 42907293.39 42907293.47 0.0137 0.0132 Uranus 112765-02-02 08:37 G 42907662.62 42907662.86 42907663.11 0.0137 0.0033 Pluto 112765-09-16 12:13 G 42907888.75 42907889.01 42907889.28 0.0079 0.0009 Uranus 112766-02-06 18:56 G 42908032.07 42908032.29 42908032.52 0.0137 0.0065 Saturn 112766-03-18 15:05 G 42908071.98 42908072.13 42908072.31 0.0272 0.0200 Saturn 112767-03-30 17:29 G 42908448.99 42908449.23 42908449.47 0.0274 0.0015 Saturn 112768-04-10 23:58 G 42908826.39 42908826.50 42908826.64 0.0276 0.0237 Neptune 112774-01-20 22:03 G 42910937.28 42910937.42 42910937.56 0.0089 0.0075 Neptune 112775-01-23 10:17 G 42911304.72 42911304.93 42911305.14 0.0090 0.0052 Neptune 112776-01-25 22:17 G 42911672.19 42911672.43 42911672.67 0.0090 0.0029 Neptune 112777-01-27 10:17 G 42912039.68 42912039.93 42912040.19 0.0090 0.0006 Neptune 112778-01-29 22:03 G 42912407.18 42912407.42 42912407.68 0.0090 0.0017

Neptune 112779-02-01 09:49 G 42912774.70 42912774.91 42912775.16 0.0090 0.0041 Neptune 112780-02-03 21:34 G 42913142.25 42913142.40 42913142.61 0.0090 0.0064 Saturn 112780-09-21 10:17 G 42913372.70 42913372.93 42913373.16 0.0287 0.0112 Neptune 112781-02-05 09:34 G 42913509.86 42913509.90 42913510.00 0.0090 0.0087 Saturn 112781-10-05 14:08 G 42913751.89 42913752.09 42913752.32 0.0285 0.0148 Saturn 112796-03-24 16:46 G 42919035.97 42919036.20 42919036.44 0.0272 0.0081 Saturn 112797-04-05 20:22 G 42919413.15 42919413.35 42919413.57 0.0275 0.0138 Jupiter 112806-02-07 06:41 G 42922642.64 42922642.78 42922642.92 0.0516 0.0404 Uranus 112807-07-29 10:17 G 42923179.78 42923179.93 42923180.11 0.0141 0.0107 Uranus 112808-08-02 07:10 G 42923549.55 42923549.80 42923550.06 0.0141 0.0004 Uranus 112809-08-07 04:17 G 42923919.55 42923919.68 42923919.85 0.0142 0.0115 Saturn 112809-09-15 06:41 G 42923958.65 42923958.78 42923958.94 0.0289 0.0234 Saturn 112810-09-29 14:08 G 42924337.84 42924338.09 42924338.33 0.0286 0.0031 Jupiter 112811-08-04 21:34 G 42924647.35 42924647.40 42924647.46 0.0512 0.0497 Jupiter 112818-02-11 23:29 G 42927030.25 42927030.48 42927030.71 0.0518 0.0071 Jupiter 112823-08-09 13:10 G 42929034.83 42929035.05 42929035.27 0.0511 0.0174 Saturn 112825-03-19 23:01 G 42929623.29 42929623.46 42929623.66 0.0272 0.0175 Saturn 112826-04-01 01:39 G 42930000.33 42930000.57 42930000.81 0.0274 0.0040 Saturn 112827-04-13 08:37 G 42930377.80 42930377.86 42930377.95 0.0277 0.0262 Jupiter 112830-02-16 15:34 G 42931417.96 42931418.15 42931418.35 0.0520 0.0262 Jupiter 112835-08-14 07:53 G 42933422.61 42933422.83 42933423.05 0.0509 0.0154 Saturn 112839-09-24 01:25 G 42934924.33 42934924.56 42934924.80 0.0287 0.0079 Saturn 112840-10-07 05:01 G 42935303.53 42935303.71 42935303.91 0.0285 0.0180 Jupiter 112847-08-19 03:05 G 42937810.56 42937810.63 42937810.71 0.0506 0.0479 Uranus 112848-01-30 07:10 G 42937974.74 42937974.80 42937974.91 0.0137 0.0128 Uranus 112849-02-02 18:27 G 42938344.03 42938344.27 42938344.52 0.0137 0.0029 Uranus 112850-02-07 05:01 G 42938713.50 42938713.71 42938713.93 0.0136 0.0069 Mars 112851-11-12 17:29 G 42939357.07 42939357.23 42939357.39 0.1574 0.0828 Saturn 112854-03-15 01:39 G 42940210.52 42940210.57 42940210.62 0.0270 0.0263 Saturn 112855-03-27 01:10 G 42940587.32 42940587.55 42940587.79 0.0272 0.0055

Neptune 112855-07-19 16:32 G 42940702.06 42940702.19 42940702.35 0.0088 0.0072 Saturn 112856-04-07 05:15 G 42940964.53 42940964.72 42940964.92 0.0275 0.0164 Neptune 112856-07-21 03:49 G 42941069.46 42941069.66 42941069.89 0.0088 0.0050 Neptune 112857-07-23 15:20 G 42941436.90 42941437.14 42941437.39 0.0088 0.0028 Neptune 112858-07-26 02:37 G 42941804.36 42941804.61 42941804.87 0.0088 0.0006 Neptune 112859-07-28 14:08 G 42942171.83 42942172.09 42942172.35 0.0088 0.0016 Neptune 112860-07-30 01:25 G 42942539.32 42942539.56 42942539.79 0.0088 0.0038 Neptune 112861-08-01 12:41 G 42942906.85 42942907.03 42942907.22 0.0088 0.0060 Neptune 112862-08-03 23:58 G 42943274.42 42943274.50 42943274.59 0.0088 0.0082 Saturn 112868-09-16 20:08 G 42945510.17 42945510.34 42945510.52 0.0289 0.0203 Saturn 112869-10-01 02:51 G 42945889.38 42945889.62 42945889.87 0.0286 0.0062 Saturn 112884-03-21 05:44 G 42951174.54 42951174.74 42951174.95 0.0272 0.0150 Saturn 112885-04-02 08:08 G 42951551.61 42951551.84 42951552.08 0.0274 0.0065 Jupiter 112889-02-06 08:22 G 42952957.75 42952957.85 42952957.96 0.0515 0.0452 Uranus 112891-07-29 20:37 G 42953861.20 42953861.36 42953861.55 0.0141 0.0102 Uranus 112892-08-02 17:44 G 42954230.99 42954231.24 42954231.50 0.0141 0.0009 Uranus 112893-08-07 15:05 G 42954601.01 42954601.13 42954601.28 0.0142 0.0120 Saturn 112898-09-25 13:39 G 42956475.83 42956476.07 42956476.32 0.0287 0.0048 Saturn 112899-10-09 17:15 G 42956855.05 42956855.22 42956855.39 0.0285 0.0209 Jupiter 112901-02-11 20:51 G 42957345.15 42957345.37 42957345.60 0.0517 0.0137 Jupiter 112906-08-09 18:41 G 42959350.07 42959350.28 42959350.50 0.0511 0.0212 Jupiter 112913-02-16 15:49 G 42961732.95 42961733.16 42961733.37 0.0520 0.0203 Saturn 112913-03-17 08:08 G 42961761.73 42961761.84 42961761.95 0.0270 0.0239 Saturn 112914-03-29 07:53 G 42962138.59 42962138.83 42962139.07 0.0272 0.0030 Saturn 112915-04-10 11:58 G 42962515.83 42962516.00 42962516.18 0.0275 0.0189 Jupiter 112918-08-14 13:10 G 42963737.82 42963738.05 42963738.28 0.0509 0.0115 Pluto 112924-03-21 00:56 G 42965783.31 42965783.54 42965783.81 0.0066 0.0017 Saturn 112927-09-20 06:56 G 42967061.60 42967061.79 42967062.00 0.0288 0.0173 Saturn 112928-10-03 13:25 G 42967440.83 42967441.06 42967441.30 0.0286 0.0090 Jupiter 112930-08-19 05:44 G 42968125.62 42968125.74 42968125.86 0.0507 0.0433

Mars 112930-11-15 16:46 G 42968214.02 42968214.20 42968214.37 0.1574 0.0649 Uranus 112932-01-31 17:29 G 42968656.14 42968656.23 42968656.36 0.0137 0.0123 Uranus 112933-02-04 04:46 G 42969025.46 42969025.70 42969025.96 0.0137 0.0025 Uranus 112934-02-08 15:05 G 42969394.93 42969395.13 42969395.35 0.0136 0.0074 Neptune 112938-01-21 05:58 G 42970837.69 42970837.75 42970837.85 0.0089 0.0085 Neptune 112939-01-23 18:27 G 42971205.10 42971205.27 42971205.47 0.0089 0.0062 Neptune 112940-01-26 06:27 G 42971572.56 42971572.77 42971573.02 0.0090 0.0039 Neptune 112941-01-27 18:56 G 42971940.04 42971940.29 42971940.55 0.0090 0.0015 Neptune 112942-01-30 06:56 G 42972307.54 42972307.79 42972308.05 0.0090 0.0008 Neptune 112943-02-01 18:56 G 42972675.06 42972675.29 42972675.54 0.0090 0.0031 Saturn 112943-03-24 10:17 G 42972725.72 42972725.93 42972726.15 0.0272 0.0126 Neptune 112944-02-04 07:10 G 42973042.60 42973042.80 42973043.00 0.0090 0.0054 Saturn 112944-04-04 12:56 G 42973102.82 42973103.04 42973103.27 0.0274 0.0090 Neptune 112945-02-05 18:41 G 42973410.16 42973410.28 42973410.42 0.0090 0.0077 Saturn 112956-09-13 13:25 G 42977648.03 42977648.06 42977648.11 0.0289 0.0284 Saturn 112957-09-27 22:32 G 42978027.19 42978027.44 42978027.69 0.0287 0.0020 Saturn 112958-10-12 01:25 G 42978406.44 42978406.56 42978406.71 0.0284 0.0237 Jupiter 112972-02-07 09:20 G 42983272.85 42983272.89 42983272.93 0.0514 0.0505 Saturn 112972-03-18 13:10 G 42983312.91 42983313.05 42983313.20 0.0270 0.0215 Saturn 112973-03-30 12:56 G 42983689.80 42983690.04 42983690.28 0.0272 0.0005 Saturn 112974-04-11 17:01 G 42984067.06 42984067.21 42984067.37 0.0275 0.0213 Uranus 112975-07-31 06:13 G 42984542.59 42984542.76 42984542.96 0.0141 0.0098 Uranus 112976-08-04 03:34 G 42984912.40 42984912.65 42984912.91 0.0141 0.0013 Uranus 112977-08-09 00:41 G 42985282.44 42985282.53 42985282.68 0.0142 0.0125 Jupiter 112984-02-12 04:17 G 42987660.47 42987660.68 42987660.90 0.0517 0.0170 Saturn 112986-09-21 14:08 G 42988612.88 42988613.09 42988613.31 0.0288 0.0147 Saturn 112987-10-05 20:22 G 42988992.13 42988992.35 42988992.58 0.0286 0.0116 Jupiter 112989-08-08 23:01 G 42989665.26 42989665.46 42989665.67 0.0511 0.0252 Jupiter 112996-02-16 23:15 G 42992048.25 42992048.47 42992048.69 0.0519 0.0169

### 114TH MILLENNIUM CE

### This is a list of transits of Earth in the 114th millennium CE.

FROM MAX- C START MAX END SUNRAD DEPTH S

TRANSIT

TIME

Jupiter 113001-08-14 14:51 G 42994052.89 42994053.12 42994053.35 0.0509 0.0067 Saturn 113002-03-26 13:10 G 42994276.83 42994277.05 42994277.28 0.0272 0.0103 Saturn 113003-04-07 15:34 G 42994653.93 42994654.15 42994654.37 0.0274 0.0112 Jupiter 113008-02-22 16:46 G 42996436.15 42996436.20 42996436.26 0.0521 0.0504 Pluto 113011-09-20 21:34 G 42997742.15 42997742.40 42997742.66 0.0078 0.0012 Jupiter 113013-08-19 09:20 G 42998440.75 42998440.89 42998441.05 0.0507 0.0391 Saturn 113015-09-16 18:56 G 42999199.19 42999199.29 42999199.41 0.0289 0.0258 Uranus 113016-02-02 05:15 G 42999337.61 42999337.72 42999337.87 0.0137 0.0117 Saturn 113016-09-30 04:03 G 42999578.42 42999578.67 42999578.92 0.0287 0.0007 Uranus 113017-02-05 16:17 G 42999706.94 42999707.18 42999707.44 0.0137 0.0019 Saturn 113017-10-14 07:10 G 42999957.71 42999957.80 42999957.90 0.0284 0.0262 Uranus 113018-02-10 02:51 G 43000076.42 43000076.62 43000076.83 0.0136 0.0080 Neptune 113019-07-21 01:53 G 43000602.51 43000602.58 43000602.71 0.0088 0.0081 Neptune 113020-07-22 12:56 G 43000969.87 43000970.04 43000970.25 0.0088 0.0059 Neptune 113021-07-25 00:13 G 43001337.29 43001337.51 43001337.76 0.0088 0.0037 Neptune 113022-07-27 11:29 G 43001704.73 43001704.98 43001705.25 0.0088 0.0015 Neptune 113023-07-29 22:46 G 43002072.20 43002072.45 43002072.72 0.0088 0.0008 Neptune 113024-07-31 09:49 G 43002439.69 43002439.91 43002440.17 0.0088 0.0030 Neptune 113025-08-02 21:20 G 43002807.19 43002807.39 43002807.61 0.0088 0.0052 Neptune 113026-08-05 08:22 G 43003174.73 43003174.85 43003175.01 0.0088 0.0074

Saturn 113031-03-21 16:17 G 43004864.02 43004864.18 43004864.36 0.0270 0.0192 Saturn 113032-04-01 16:03 G 43005240.93 43005241.17 43005241.41 0.0272 0.0019 Saturn 113033-04-13 19:53 G 43005618.22 43005618.33 43005618.47 0.0275 0.0236 Saturn 113045-09-23 18:13 G 43010164.03 43010164.26 43010164.49 0.0288 0.0122 Saturn 113046-10-07 23:58 G 43010543.29 43010543.50 43010543.73 0.0286 0.0141 Mars 113056-11-13 00:41 G 43014232.52 43014232.53 43014232.54 0.1575 0.1568 Uranus 113059-08-01 16:32 G 43015224.01 43015224.19 43015224.40 0.0141 0.0092 Uranus 113060-08-05 13:53 G 43015593.83 43015594.08 43015594.34 0.0141 0.0018 Saturn 113061-03-27 14:37 G 43015827.88 43015828.11 43015828.34 0.0272 0.0081 Uranus 113061-08-10 11:15 G 43015963.89 43015963.97 43015964.09 0.0142 0.0130 Saturn 113062-04-08 16:46 G 43016205.00 43016205.20 43016205.42 0.0274 0.0135 Jupiter 113067-02-12 11:01 G 43017975.75 43017975.96 43017976.18 0.0516 0.0207 Jupiter 113072-08-09 03:20 G 43019980.46 43019980.64 43019980.84 0.0512 0.0293 Saturn 113074-09-17 20:51 G 43020750.23 43020750.37 43020750.52 0.0289 0.0235 Saturn 113075-10-02 05:58 G 43021129.50 43021129.75 43021129.99 0.0287 0.0030 Saturn 113076-10-15 09:05 G 43021508.88 43021508.88 43021508.89 0.0284 0.0284 Jupiter 113079-02-16 23:29 G 43022363.26 43022363.48 43022363.71 0.0518 0.0114 Jupiter 113084-08-14 01:10 G 43024368.31 43024368.55 43024368.78 0.0510 0.0045 Saturn 113090-03-22 17:58 G 43026415.07 43026415.25 43026415.44 0.0270 0.0171 Jupiter 113091-02-21 18:56 G 43026751.18 43026751.29 43026751.41 0.0521 0.0453 Saturn 113091-04-03 17:29 G 43026792.00 43026792.23 43026792.48 0.0272 0.0041 Saturn 113092-04-14 21:20 G 43027169.32 43027169.39 43027169.49 0.0275 0.0257 Jupiter 113096-08-18 19:53 G 43028756.17 43028756.33 43028756.49 0.0508 0.0369 Uranus 113100-02-02 17:29 G 43030019.09 43030019.23 43030019.39 0.0137 0.0110 Uranus 113101-02-07 04:32 G 43030388.45 43030388.69 43030388.95 0.0137 0.0012 Uranus 113102-02-11 14:51 G 43030757.94 43030758.12 43030758.33 0.0136 0.0087 Neptune 113103-01-25 01:53 G 43031105.45 43031105.58 43031105.76 0.0089 0.0072 Neptune 113104-01-27 14:08 G 43031472.90 43031473.09 43031473.33 0.0089 0.0049 Saturn 113104-09-25 19:53 G 43031715.10 43031715.33 43031715.57 0.0288 0.0099 Neptune 113105-01-29 02:37 G 43031840.37 43031840.61 43031840.86 0.0090 0.0025 Saturn 113105-10-10 01:53 G 43032094.38 43032094.58 43032094.79 0.0286 0.0163 Neptune 113106-01-31 14:51 G 43032207.87 43032208.12 43032208.38 0.0090 0.0002 Neptune 113107-02-03 02:37 G 43032575.38 43032575.61 43032575.87 0.0090 0.0022 Neptune 113108-02-05 14:22 G 43032942.90 43032943.10 43032943.34 0.0090 0.0045 Neptune 113109-02-07 02:22 G 43033310.45 43033310.60 43033310.79 0.0090 0.0068 Saturn 113119-03-18 16:32 G 43037002.16 43037002.19 43037002.23 0.0270 0.0267 Saturn 113120-03-29 14:51 G 43037378.88 43037379.12 43037379.36 0.0272 0.0060 Saturn 113121-04-10 16:46 G 43037756.01 43037756.20 43037756.41 0.0274 0.0156 Saturn 113133-09-19 20:37 G 43042301.21 43042301.36 43042301.54 0.0289 0.0214 Saturn 113134-10-04 05:29 G 43042680.49 43042680.73 43042680.98 0.0287 0.0051 Mars 113135-11-17 01:10 G 43043089.36 43043089.55 43043089.74 0.1575 0.0074 Uranus 113143-08-03 01:25 G 43045905.38 43045905.56 43045905.78 0.0141 0.0089 Uranus 113144-08-06 23:01 G 43046275.21 43046275.46 43046275.71 0.0141 0.0023 Uranus 113145-08-11 20:22 G 43046645.28 43046645.35 43046645.45 0.0142 0.0134 Saturn 113149-03-24 18:56 G 43047966.09 43047966.29 43047966.49 0.0271 0.0151 Jupiter 113150-02-12 14:08 G 43048290.89 43048291.09 43048291.30 0.0515 0.0251 Saturn 113150-04-05 18:41 G 43048343.05 43048343.28 43048343.52 0.0273 0.0062 Jupiter 113155-08-10 14:22 G 43050295.92 43050296.10 43050296.29 0.0513 0.0312 Jupiter 113162-02-17 09:49 G 43052678.68 43052678.91 43052679.14 0.0518 0.0087 Saturn 113163-09-27 19:39 G 43053266.08 43053266.32 43053266.56 0.0288 0.0078 Saturn 113164-10-11 01:25 G 43053645.37 43053645.56 43053645.75 0.0286 0.0183 Jupiter 113167-08-15 10:03 G 43054683.68 43054683.92 43054684.15 0.0510 0.0018 Pluto 113169-03-23 16:32 G 43055270.15 43055270.19 43055270.30 0.0066 0.0063 Pluto 113170-03-25 05:29 G 43055636.51 43055636.73 43055637.00 0.0066 0.0021 Jupiter 113174-02-22 05:58 G 43057066.63 43057066.75 43057066.89 0.0520 0.0430 Saturn 113178-03-19 16:03 G 43058553.08 43058553.17 43058553.27 0.0270 0.0247 Saturn 113179-03-31 14:22 G 43058929.86 43058930.10 43058930.34 0.0272 0.0040 Jupiter 113179-08-20 01:53 G 43059071.41 43059071.58 43059071.76 0.0508 0.0333 Saturn 113180-04-11 16:32 G 43059307.01 43059307.19 43059307.38 0.0274 0.0176 Uranus 113184-02-04 05:58 G 43060700.59 43060700.75 43060700.92 0.0137 0.0103

Neptune 113184-07-22 21:34 G 43060870.26 43060870.40 43060870.59 0.0088 0.0068 Uranus 113185-02-07 17:15 G 43061069.97 43061070.22 43061070.47 0.0137 0.0004 Neptune 113185-07-25 08:51 G 43061237.67 43061237.87 43061238.11 0.0088 0.0046 Uranus 113186-02-12 03:20 G 43061439.47 43061439.64 43061439.84 0.0136 0.0093 Neptune 113186-07-27 19:53 G 43061605.10 43061605.33 43061605.59 0.0088 0.0024 Neptune 113187-07-30 07:25 G 43061972.55 43061972.81 43061973.07 0.0088 0.0002 Neptune 113188-07-31 18:27 G 43062340.03 43062340.27 43062340.53 0.0088 0.0021 Neptune 113189-08-03 05:29 G 43062707.52 43062707.73 43062707.97 0.0088 0.0043 Neptune 113190-08-05 16:46 G 43063075.05 43063075.20 43063075.40 0.0088 0.0065 Mars 113191-05-17 10:46 G 43063359.81 43063359.95 43063360.10 0.1968 0.1352 Neptune 113191-08-08 04:03 G 43063442.66 43063442.67 43063442.73 0.0088 0.0087 Saturn 113192-09-20 19:39 G 43063852.14 43063852.32 43063852.50 0.0289 0.0194 Saturn 113193-10-05 04:17 G 43064231.44 43064231.68 43064231.92 0.0287 0.0071 Saturn 113208-03-25 19:10 G 43069517.10 43069517.30 43069517.52 0.0271 0.0131 Saturn 113209-04-06 19:10 G 43069894.07 43069894.30 43069894.54 0.0273 0.0083 Mars 113214-11-19 01:10 G 43071946.47 43071946.55 43071946.63 0.1575 0.1419 Saturn 113222-09-28 19:10 G 43074817.06 43074817.30 43074817.54 0.0288 0.0057 Saturn 113223-10-13 00:27 G 43075196.36 43075196.52 43075196.71 0.0286 0.0204 Uranus 113227-08-03 11:58 G 43076586.81 43076587.00 43076587.22 0.0141 0.0083 Uranus 113228-08-07 09:20 G 43076956.64 43076956.89 43076957.15 0.0141 0.0028 Uranus 113229-08-12 06:27 G 43077326.74 43077326.77 43077326.83 0.0142 0.0139 Jupiter 113233-02-12 01:39 G 43078606.38 43078606.57 43078606.77 0.0515 0.0270 Saturn 113237-03-20 16:03 G 43080104.05 43080104.17 43080104.30 0.0270 0.0227 Saturn 113238-04-01 14:37 G 43080480.87 43080481.11 43080481.36 0.0272 0.0020 Jupiter 113238-08-09 20:22 G 43080611.19 43080611.35 43080611.53 0.0513 0.0347 Saturn 113239-04-13 16:46 G 43080858.04 43080858.20 43080858.38 0.0274 0.0196 Jupiter 113245-02-16 19:10 G 43082994.07 43082994.30 43082994.53 0.0517 0.0059 Jupiter 113250-08-14 16:17 G 43084998.95 43084999.18 43084999.42 0.0511 0.0019 Saturn 113251-09-22 18:13 G 43085403.07 43085403.26 43085403.47 0.0289 0.0174 Saturn 113252-10-06 02:22 G 43085782.37 43085782.60 43085782.84 0.0287 0.0092

Jupiter 113257-02-21 08:22 G 43087381.70 43087381.85 43087382.01 0.0519 0.0381 Pluto 113257-09-23 04:46 G 43087595.46 43087595.70 43087595.96 0.0078 0.0024 Jupiter 113262-08-19 12:27 G 43089386.83 43089387.02 43089387.20 0.0509 0.0313 Neptune 113267-01-24 08:51 G 43091005.79 43091005.87 43091006.00 0.0089 0.0082 Saturn 113267-03-27 20:08 G 43091068.12 43091068.34 43091068.56 0.0271 0.0111 Neptune 113268-01-26 21:20 G 43091373.21 43091373.39 43091373.60 0.0089 0.0059 Uranus 113268-02-04 17:44 G 43091382.07 43091382.24 43091382.42 0.0137 0.0097 Saturn 113268-04-07 20:22 G 43091445.13 43091445.35 43091445.57 0.0273 0.0103 Neptune 113269-01-28 09:34 G 43091740.69 43091740.90 43091741.16 0.0089 0.0036 Uranus 113269-02-08 05:01 G 43091751.46 43091751.71 43091751.96 0.0137 0.0002 Neptune 113270-01-30 22:17 G 43092108.18 43092108.43 43092108.69 0.0090 0.0012 Uranus 113270-02-12 15:05 G 43092120.98 43092121.13 43092121.32 0.0136 0.0099 Neptune 113271-02-02 10:17 G 43092475.68 43092475.93 43092476.19 0.0090 0.0012 Neptune 113272-02-04 22:17 G 43092843.20 43092843.43 43092843.67 0.0090 0.0035 Neptune 113273-02-06 10:17 G 43093210.75 43093210.93 43093211.13 0.0090 0.0058 Neptune 113274-02-08 22:03 G 43093578.33 43093578.42 43093578.54 0.0090 0.0081 Saturn 113281-09-29 19:25 G 43096368.06 43096368.31 43096368.55 0.0288 0.0036 Saturn 113282-10-14 00:27 G 43096747.37 43096747.52 43096747.68 0.0286 0.0224 Saturn 113296-03-21 16:32 G 43101655.05 43101655.19 43101655.35 0.0270 0.0208 Saturn 113297-04-02 15:20 G 43102031.90 43102032.14 43102032.39 0.0272 0.0006 Saturn 113298-04-14 17:44 G 43102409.10 43102409.24 43102409.40 0.0274 0.0217 Saturn 113310-09-24 18:27 G 43106954.06 43106954.27 43106954.48 0.0289 0.0153 Uranus 113311-08-04 21:34 G 43107268.20 43107268.40 43107268.63 0.0141 0.0079 Saturn 113311-10-09 02:22 G 43107333.37 43107333.60 43107333.83 0.0286 0.0112 Uranus 113312-08-08 18:41 G 43107638.03 43107638.28 43107638.53 0.0141 0.0032 Jupiter 113316-02-13 05:29 G 43108921.55 43108921.73 43108921.91 0.0514 0.0309 Jupiter 113321-08-10 04:32 G 43110926.53 43110926.69 43110926.85 0.0514 0.0373 Saturn 113326-03-29 22:03 G 43112619.20 43112619.42 43112619.65 0.0271 0.0091 Saturn 113327-04-10 22:32 G 43112996.23 43112996.44 43112996.66 0.0273 0.0124 Jupiter 113328-02-17 22:03 G 43113309.19 43113309.42 43113309.65 0.0516 0.0015

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Neptune 113761-01-30 02:51 G 43271441.47 43271441.62 43271441.81 0.0089 0.0068 Neptune 113762-02-01 14:51 G 43271808.92 43271809.12 43271809.37 0.0089 0.0045 Neptune 113763-02-04 03:34 G 43272176.41 43272176.65 43272176.91 0.0089 0.0021 Neptune 113764-02-06 15:49 G 43272543.90 43272544.16 43272544.42 0.0089 0.0003 Neptune 113765-02-08 04:03 G 43272911.42 43272911.67 43272911.91 0.0090 0.0026 Neptune 113766-02-10 15:34 G 43273278.96 43273279.15 43273279.39 0.0090 0.0050 Neptune 113767-02-13 03:49 G 43273646.54 43273646.66 43273646.83 0.0090 0.0073 Jupiter 113767-02-26 20:51 G 43273660.25 43273660.37 43273660.50 0.0518 0.0435 Saturn 113767-03-26 23:15 G 43273688.35 43273688.47 43273688.61 0.0270 0.0226 Saturn 113768-04-06 22:17 G 43274065.18 43274065.43 43274065.67 0.0272 0.0017 Saturn 113769-04-19 00:13 G 43274442.36 43274442.51 43274442.68 0.0274 0.0200 Uranus 113772-02-11 22:46 G 43275471.22 43275471.45 43275471.68 0.0137 0.0054 Jupiter 113772-08-24 00:27 G 43275665.37 43275665.52 43275665.68 0.0510 0.0378 Uranus 113773-02-15 09:20 G 43275840.66 43275840.89 43275841.14 0.0137 0.0044 Saturn 113781-09-26 23:58 G 43278986.33 43278986.50 43278986.70 0.0289 0.0192 Saturn 113782-10-11 08:22 G 43279365.61 43279365.85 43279366.09 0.0287 0.0074 Saturn 113797-04-02 03:05 G 43284652.42 43284652.63 43284652.86 0.0272 0.0112 Saturn 113798-04-14 04:32 G 43285029.46 43285029.69 43285029.91 0.0274 0.0103 Saturn 113811-10-06 18:56 G 43289952.05 43289952.29 43289952.54 0.0288 0.0036 Saturn 113812-10-20 00:27 G 43290331.38 43290331.52 43290331.69 0.0286 0.0225 Uranus 113815-08-11 15:05 G 43291356.89 43291357.13 43291357.37 0.0141 0.0044 Uranus 113816-08-15 11:44 G 43291726.77 43291726.99 43291727.22 0.0141 0.0066 Jupiter 113826-02-17 14:51 G 43295199.92 43295200.12 43295200.32 0.0513 0.0255 Saturn 113826-03-29 06:56 G 43295239.63 43295239.79 43295239.96 0.0270 0.0200 Saturn 113827-04-10 05:44 G 43295616.50 43295616.74 43295616.98 0.0272 0.0011 Saturn 113828-04-21 07:53 G 43295993.71 43295993.83 43295993.98 0.0274 0.0226 113829-11-21 01:39 G 43296572.41 43296572.57 43296572.74 0.1579 0.0764 Jupiter 113831-08-15 12:13 G 43297204.83 43297205.01 43297205.20 0.0516 0.0314 Jupiter 113838-02-22 08:51 G 43299587.64 43299587.87 43299588.10 0.0515 0.0070 Saturn 113840-09-29 11:58 G 43300537.80 43300538.00 43300538.21 0.0289 0.0161

Neptune 113841-07-27 15:20 G 43300839.07 43300839.14 43300839.23 0.0088 0.0083 Saturn 113841-10-13 19:53 G 43300917.11 43300917.33 43300917.57 0.0287 0.0104 Neptune 113842-07-30 02:22 G 43301206.43 43301206.60 43301206.80 0.0088 0.0061 Neptune 113843-08-01 13:25 G 43301573.84 43301574.06 43301574.31 0.0088 0.0039 Jupiter 113843-08-20 07:39 G 43301592.58 43301592.82 43301593.06 0.0513 0.0012 Neptune 113844-08-03 00:41 G 43301941.29 43301941.53 43301941.80 0.0088 0.0017 Neptune 113845-08-05 12:13 G 43302308.75 43302309.01 43302309.27 0.0088 0.0006 Neptune 113846-08-07 23:01 G 43302676.22 43302676.46 43302676.72 0.0088 0.0028 Neptune 113847-08-10 10:03 G 43303043.72 43303043.92 43303044.15 0.0088 0.0050 Neptune 113848-08-11 21:20 G 43303411.25 43303411.39 43303411.54 0.0088 0.0072 Jupiter 113850-02-27 02:22 G 43303975.46 43303975.60 43303975.75 0.0517 0.0396 Jupiter 113855-08-24 23:29 G 43305980.30 43305980.48 43305980.66 0.0511 0.0324 Uranus 113856-02-13 11:15 G 43306152.74 43306152.97 43306153.22 0.0137 0.0048 Saturn 113856-04-04 08:51 G 43306203.64 43306203.87 43306204.10 0.0272 0.0086 Uranus 113857-02-16 22:03 G 43306522.20 43306522.42 43306522.67 0.0137 0.0051 Saturn 113857-04-16 09:49 G 43306580.70 43306580.91 43306581.13 0.0274 0.0128 Saturn 113869-09-23 19:10 G 43311124.22 43311124.30 43311124.38 0.0289 0.0271 Saturn 113870-10-08 05:01 G 43311503.46 43311503.71 43311503.96 0.0288 0.0006 Saturn 113871-10-22 10:32 G 43311882.84 43311882.94 43311883.06 0.0285 0.0253 Saturn 113885-03-30 12:41 G 43316790.85 43316791.03 43316791.22 0.0270 0.0175 Saturn 113886-04-11 11:44 G 43317167.75 43317167.99 43317168.23 0.0272 0.0035 Saturn 113887-04-23 13:53 G 43317544.99 43317545.08 43317545.19 0.0274 0.0250 Uranus 113899-08-12 03:34 G 43322038.41 43322038.65 43322038.90 0.0141 0.0037 Saturn 113899-10-01 20:37 G 43322089.15 43322089.36 43322089.59 0.0289 0.0133 Uranus 113900-08-17 00:13 G 43322408.30 43322408.51 43322408.74 0.0141 0.0073 Saturn 113900-10-16 04:32 G 43322468.47 43322468.69 43322468.91 0.0287 0.0132 Pluto 113907-04-04 16:03 G 43324829.95 43324830.17 43324830.42 0.0066 0.0025 Pluto 113908-04-05 05:29 G 43325196.62 43325196.73 43325196.84 0.0066 0.0060 Mars 113908-11-24 02:22 G 43325429.43 43325429.60 43325429.77 0.1578 0.0761 Jupiter 113909-02-17 22:32 G 43325515.25 43325515.44 43325515.63 0.0512 0.0286

Saturn 113914-03-26 14:37 G 43327378.10 43327378.11 43327378.15 0.0270 0.0269 Jupiter 113914-08-15 12:13 G 43327519.85 43327520.01 43327520.18 0.0516 0.0367 Saturn 113915-04-07 12:41 G 43327754.80 43327755.03 43327755.27 0.0272 0.0063 Saturn 113916-04-18 13:39 G 43328131.88 43328132.07 43328132.28 0.0274 0.0152 Jupiter 113921-02-22 13:39 G 43329902.84 43329903.07 43329903.30 0.0514 0.0028 Neptune 113925-01-31 07:53 G 43331341.73 43331341.83 43331341.98 0.0089 0.0079 Neptune 113926-02-02 19:53 G 43331709.16 43331709.33 43331709.56 0.0089 0.0056 Jupiter 113926-08-20 09:05 G 43331907.65 43331907.88 43331908.12 0.0514 0.0038 Neptune 113927-02-05 08:37 G 43332076.63 43332076.86 43332077.11 0.0089 0.0032 Neptune 113928-02-07 20:37 G 43332444.11 43332444.36 43332444.62 0.0089 0.0009 Saturn 113928-09-26 02:08 G 43332675.45 43332675.59 43332675.72 0.0289 0.0244 Neptune 113929-02-09 08:51 G 43332811.62 43332811.87 43332812.12 0.0090 0.0015 Saturn 113929-10-10 11:58 G 43333054.75 43333055.00 43333055.24 0.0288 0.0023 Neptune 113930-02-11 20:22 G 43333179.14 43333179.35 43333179.60 0.0090 0.0039 Saturn 113930-10-24 17:01 G 43333434.18 43333434.21 43333434.27 0.0285 0.0280 Neptune 113931-02-14 08:22 G 43333546.69 43333546.85 43333547.06 0.0090 0.0062 Neptune 113932-02-16 20:37 G 43333914.30 43333914.36 43333914.47 0.0090 0.0085 Jupiter 113933-02-27 01:10 G 43334290.38 43334290.55 43334290.73 0.0516 0.0337 Jupiter 113938-08-25 07:25 G 43336295.62 43336295.81 43336296.01 0.0512 0.0296 Uranus 113940-02-14 23:58 G 43336834.26 43336834.50 43336834.74 0.0137 0.0041 Uranus 113941-02-18 10:46 G 43337203.73 43337203.95 43337204.18 0.0137 0.0057 Saturn 113944-04-01 17:15 G 43338342.02 43338342.22 43338342.42 0.0270 0.0151 Saturn 113945-04-13 15:49 G 43338718.93 43338719.16 43338719.40 0.0272 0.0059 Saturn 113946-04-25 18:13 G 43339096.25 43339096.26 43339096.28 0.0274 0.0273 Saturn 113958-10-04 01:53 G 43343640.35 43343640.58 43343640.81 0.0289 0.0107 Saturn 113959-10-18 09:49 G 43344019.70 43344019.91 43344020.12 0.0287 0.0157 Saturn 113973-03-27 17:15 G 43348929.13 43348929.22 43348929.33 0.0270 0.0246 Saturn 113974-04-08 15:20 G 43349305.90 43349306.14 43349306.38 0.0272 0.0040 Saturn 113975-04-20 15:49 G 43349682.99 43349683.16 43349683.36 0.0274 0.0175 Uranus 113982-08-08 18:41 G 43352350.27 43352350.28 43352350.32 0.0141 0.0140

Uranus 113983-08-13 14:37 G 43352719.87 43352720.11 43352720.37 0.0141 0.0032
Uranus 113984-08-17 11:44 G 43353089.78 43353089.99 43353090.21 0.0141 0.0079
Saturn 113987-09-28 05:15 G 43354226.56 43354226.72 43354226.88 0.0289 0.0220
Saturn 113988-10-11 15:05 G 43354605.89 43354606.13 43354606.38 0.0287 0.0047
Jupiter 113992-02-17 23:29 G 43355830.31 43355830.48 43355830.66 0.0511 0.0333
Pluto 113994-10-03 07:39 G 43356788.65 43356788.82 43356789.04 0.0079 0.0052
Jupiter 113997-08-14 20:37 G 43357835.22 43357835.36 43357835.52 0.0517 0.0393

# 115TH MILLENNIUM CE

### This is a list of transits of Earth in the 115th millennium CE.

FROM MAX- C START MAX END SUNRAD DEPTH S

TRANSIT

TIME

Saturn 114003-04-03 19:39 G 43359893.12 43359893.32 43359893.54 0.0270 0.0130

Jupiter 114004-02-22 15:49 G 43360217.93 43360218.16 43360218.39 0.0514 0.0019

Saturn 114004-04-14 18:27 G 43360270.04 43360270.27 43360270.51 0.0272 0.0082

Neptune 114006-07-30 08:22 G 43361106.71 43361106.85 43361107.01 0.0088 0.0071

Neptune 114007-08-01 19:25 G 43361474.11 43361474.31 43361474.54 0.0088 0.0049

Neptune 114008-08-03 06:41 G 43361841.55 43361841.78 43361842.04 0.0088 0.0027

Neptune 114009-08-05 18:13 G 43362209.00 43362209.26 43362209.52 0.0088 0.0005

Jupiter 114009-08-19 18:56 G 43362223.05 43362223.29 43362223.52 0.0515 0.0060

Neptune 114011-08-08 05:15 G 43362576.48 43362576.72 43362576.98 0.0088 0.0018

Neptune 114011-08-10 16:32 G 43362943.97 43362944.19 43362944.43 0.0088 0.0040

Neptune 114012-08-12 04:03 G 43363311.48 43363311.67 43363311.85 0.0088 0.0062

Neptune 114013-08-14 14:22 G 43363679.07 43363679.10 43363679.20 0.0088 0.0085

Jupiter 114016-02-27 10:17 G 43364605.75 43364605.93 43364606.12 0.0516 0.0308 Saturn 114017-10-05 05:01 G 43365191.47 43365191.71 43365191.95 0.0289 0.0083 Saturn 114018-10-19 12:13 G 43365570.83 43365571.01 43365571.22 0.0287 0.0181 Jupiter 114021-08-24 14:51 G 43366610.92 43366611.12 43366611.33 0.0512 0.0265 Uranus 114023-02-11 00:41 G 43367146.49 43367146.53 43367146.60 0.0137 0.0134 Uranus 114024-02-15 12:27 G 43367515.78 43367516.02 43367516.27 0.0137 0.0034 Uranus 114025-02-18 23:44 G 43367885.27 43367885.49 43367885.71 0.0137 0.0064 Saturn 114032-03-28 18:27 G 43370480.15 43370480.27 43370480.41 0.0270 0.0225 Saturn 114033-04-09 16:17 G 43370856.94 43370857.18 43370857.42 0.0272 0.0017 Saturn 114034-04-21 17:01 G 43371234.05 43371234.21 43371234.39 0.0274 0.0196 Mars 114034-11-21 08:22 G 43371447.81 43371447.85 43371447.90 0.1581 0.1528 Saturn 114046-09-29 05:58 G 43375777.57 43375777.75 43375777.93 0.0289 0.0198 Saturn 114047-10-13 15:49 G 43376156.92 43376157.16 43376157.40 0.0287 0.0069 Saturn 114062-04-04 21:34 G 43381444.18 43381444.40 43381444.62 0.0270 0.0108 Saturn 114063-04-16 20:08 G 43381821.12 43381821.34 43381821.57 0.0272 0.0104 Uranus 114066-08-09 07:53 G 43383031.76 43383031.83 43383031.93 0.0141 0.0132 Uranus 114067-08-14 04:17 G 43383401.43 43383401.68 43383401.94 0.0141 0.0023 Uranus 114068-08-18 01:10 G 43383771.35 43383771.55 43383771.76 0.0141 0.0087 Jupiter 114075-02-17 09:05 G 43386145.72 43386145.88 43386146.05 0.0511 0.0357 Saturn 114076-10-06 05:44 G 43386742.50 43386742.74 43386742.98 0.0289 0.0060 Saturn 114077-10-20 12:56 G 43387121.88 43387122.04 43387122.23 0.0287 0.0203 Jupiter 114080-08-14 05:15 G 43388150.59 43388150.72 43388150.86 0.0517 0.0418 Jupiter 114087-02-22 02:51 G 43390533.39 43390533.62 43390533.85 0.0513 0.0040 Neptune 114089-01-30 13:25 G 43391242.06 43391242.06 43391242.07 0.0089 0.0089 Neptune 114090-02-02 01:10 G 43391609.41 43391609.55 43391609.75 0.0089 0.0067 Neptune 114091-02-04 13:39 G 43391976.85 43391977.07 43391977.30 0.0089 0.0043 Saturn 114091-03-30 18:41 G 43392031.12 43392031.28 43392031.44 0.0270 0.0204 Neptune 114092-02-07 01:53 G 43392344.34 43392344.58 43392344.84 0.0089 0.0020 Saturn 114092-04-10 16:17 G 43392407.94 43392408.18 43392408.43 0.0272 0.0006 Jupiter 114092-08-18 23:44 G 43392538.26 43392538.49 43392538.72 0.0515 0.0096

Neptune 114093-02-08 13:53 G 43392711.83 43392712.08 43392712.34 0.0089 0.0004 Saturn 114093-04-22 17:15 G 43392785.08 43392785.22 43392785.37 0.0273 0.0217 Neptune 114094-02-11 02:08 G 43393079.35 43393079.59 43393079.84 0.0090 0.0027 Neptune 114095-02-13 13:39 G 43393446.88 43393447.07 43393447.31 0.0090 0.0051 Neptune 114096-02-16 01:39 G 43393814.45 43393814.57 43393814.74 0.0090 0.0074 Jupiter 114099-02-26 19:10 G 43394921.11 43394921.30 43394921.50 0.0515 0.0280 Jupiter 114104-08-24 20:22 G 43396926.14 43396926.35 43396926.56 0.0513 0.0228 Saturn 114105-10-01 05:29 G 43397328.54 43397328.73 43397328.93 0.0289 0.0176 Saturn 114106-10-15 15:05 G 43397707.90 43397708.13 43397708.37 0.0287 0.0090 Uranus 114107-02-12 14:08 G 43397827.99 43397828.09 43397828.19 0.0137 0.0126 Uranus 114108-02-17 01:53 G 43398197.34 43398197.58 43398197.83 0.0137 0.0027 Uranus 114109-02-20 12:56 G 43398566.83 43398567.04 43398567.26 0.0137 0.0072 Mars 114113-11-24 09:05 G 43400304.69 43400304.88 43400305.07 0.1580 0.0008 Saturn 114121-04-06 22:17 G 43402995.20 43402995.43 43402995.66 0.0271 0.0088 Saturn 114122-04-18 20:51 G 43403372.17 43403372.37 43403372.60 0.0272 0.0126 Mars 114122-05-24 21:20 G 43403408.22 43403408.39 43403408.56 0.1963 0.1015 Saturn 114135-10-09 05:29 G 43408293.49 43408293.73 43408293.98 0.0289 0.0039 Saturn 114136-10-22 12:41 G 43408672.88 43408673.03 43408673.19 0.0287 0.0223 Saturn 114150-04-01 18:41 G 43413582.12 43413582.28 43413582.47 0.0270 0.0185 Uranus 114150-08-10 19:39 G 43413713.22 43413713.32 43413713.45 0.0141 0.0125 Saturn 114151-04-13 16:46 G 43413958.96 43413959.20 43413959.44 0.0272 0.0024 Uranus 114151-08-15 16:03 G 43414082.92 43414083.17 43414083.43 0.0141 0.0017 Saturn 114152-04-24 17:15 G 43414336.12 43414336.22 43414336.35 0.0273 0.0238 Uranus 114152-08-19 12:41 G 43414452.85 43414453.03 43414453.23 0.0141 0.0093 Pluto 114153-04-07 00:56 G 43414683.30 43414683.54 43414683.80 0.0066 0.0011 Jupiter 114158-02-17 19:25 G 43416461.16 43416461.31 43416461.46 0.0510 0.0380 Jupiter 114163-08-15 10:03 G 43418465.81 43418465.92 43418466.03 0.0518 0.0457 Saturn 114164-10-02 04:17 G 43418879.47 43418879.68 43418879.89 0.0289 0.0156 Saturn 114165-10-16 13:39 G 43419258.85 43419259.07 43419259.31 0.0287 0.0110 Jupiter 114170-02-22 06:56 G 43420848.56 43420848.79 43420849.02 0.0512 0.0078

Neptune 114170-07-30 14:51 G 43421007.03 43421007.12 43421007.22 0.0088 0.0081 Neptune 114171-08-02 01:53 G 43421374.39 43421374.58 43421374.77 0.0088 0.0059 Neptune 114172-08-03 12:41 G 43421741.81 43421742.03 43421742.28 0.0088 0.0037 Neptune 114173-08-05 23:58 G 43422109.25 43422109.50 43422109.76 0.0088 0.0015 Neptune 114174-08-08 11:15 G 43422476.72 43422476.97 43422477.23 0.0088 0.0008 Neptune 114175-08-10 22:17 G 43422844.20 43422844.43 43422844.69 0.0088 0.0030 Jupiter 114175-08-20 08:22 G 43422853.62 43422853.85 43422854.08 0.0516 0.0120 Neptune 114176-08-12 09:20 G 43423211.71 43423211.89 43423212.13 0.0088 0.0053 Neptune 114177-08-14 20:22 G 43423579.25 43423579.35 43423579.52 0.0088 0.0075 Saturn 114180-04-07 22:46 G 43424546.22 43424546.45 43424546.69 0.0271 0.0068 Saturn 114181-04-19 21:49 G 43424923.22 43424923.41 43424923.62 0.0272 0.0145 Jupiter 114182-02-26 22:46 G 43425236.25 43425236.45 43425236.66 0.0514 0.0239 Jupiter 114187-08-25 06:27 G 43427241.56 43427241.77 43427241.99 0.0514 0.0211 Uranus 114191-02-13 03:34 G 43428509.54 43428509.65 43428509.79 0.0137 0.0118 Uranus 114192-02-17 15:34 G 43428878.90 43428879.15 43428879.40 0.0137 0.0018 Mars 114192-11-26 10:17 G 43429161.88 43429161.93 43429161.97 0.1579 0.1530 Uranus 114193-02-21 02:51 G 43429248.42 43429248.62 43429248.83 0.0137 0.0080 Saturn 114193-09-25 19:10 G 43429465.27 43429465.30 43429465.36 0.0290 0.0285 Saturn 114194-10-10 06:13 G 43429844.51 43429844.76 43429845.01 0.0288 0.0018 Saturn 114195-10-24 12:56 G 43430223.92 43430224.04 43430224.18 0.0286 0.0243 Saturn 114209-04-03 19:10 G 43435133.11 43435133.30 43435133.49 0.0270 0.0165 Saturn 114210-04-15 17:15 G 43435509.98 43435510.22 43435510.46 0.0272 0.0045 Saturn 114211-04-27 18:27 G 43435887.19 43435887.27 43435887.34 0.0274 0.0258 Saturn 114223-10-05 04:03 G 43440430.46 43440430.67 43440430.89 0.0289 0.0136 Saturn 114224-10-18 13:10 G 43440809.84 43440810.05 43440810.28 0.0287 0.0130 Uranus 114234-08-12 08:22 G 43444394.73 43444394.85 43444395.01 0.0141 0.0118 Uranus 114235-08-17 04:46 G 43444764.45 43444764.70 43444764.96 0.0141 0.0009 Uranus 114236-08-21 01:10 G 43445134.39 43445134.55 43445134.74 0.0141 0.0101 Saturn 114238-03-30 03:20 G 43445720.57 43445720.64 43445720.72 0.0270 0.0255 Saturn 114239-04-11 00:13 G 43446097.27 43446097.51 43446097.75 0.0271 0.0048

Saturn 114240-04-21 23:29 G 43446474.30 43446474.48 43446474.69 0.0273 0.0167 Pluto 114240-10-06 19:25 G 43446642.08 43446642.31 43446642.58 0.0079 0.0025 Jupiter 114241-02-17 23:58 G 43446776.36 43446776.50 43446776.63 0.0509 0.0413 Jupiter 114246-08-15 18:13 G 43448781.18 43448781.26 43448781.35 0.0519 0.0478 Saturn 114252-09-27 21:34 G 43451016.31 43451016.40 43451016.51 0.0290 0.0263 Jupiter 114253-02-22 15:20 G 43451163.92 43451164.14 43451164.37 0.0512 0.0105 Saturn 114253-10-12 07:53 G 43451395.58 43451395.83 43451396.08 0.0288 0.0004 Neptune 114254-02-03 06:13 G 43451509.65 43451509.76 43451509.91 0.0089 0.0077 Saturn 114254-10-26 14:08 G 43451775.01 43451775.09 43451775.19 0.0286 0.0264 Neptune 114255-02-05 18:27 G 43451877.09 43451877.27 43451877.50 0.0089 0.0055 Neptune 114256-02-08 06:41 G 43452244.55 43452244.78 43452245.03 0.0089 0.0031 Neptune 114257-02-09 19:10 G 43452612.04 43452612.30 43452612.56 0.0089 0.0007 Neptune 114258-02-12 07:10 G 43452979.55 43452979.80 43452980.05 0.0089 0.0016 Jupiter 114258-08-20 17:15 G 43453168.99 43453169.22 43453169.44 0.0516 0.0145 Neptune 114259-02-14 18:41 G 43453347.07 43453347.28 43453347.53 0.0089 0.0040 Neptune 114260-02-17 06:41 G 43453714.62 43453714.78 43453714.98 0.0090 0.0063 Neptune 114261-02-18 18:41 G 43454082.23 43454082.28 43454082.37 0.0090 0.0086 Jupiter 114265-02-27 09:05 G 43455551.67 43455551.88 43455552.09 0.0514 0.0214 Saturn 114268-04-04 20:22 G 43456684.15 43456684.35 43456684.55 0.0270 0.0146 Saturn 114269-04-16 18:41 G 43457061.05 43457061.28 43457061.52 0.0272 0.0065 Jupiter 114270-08-25 11:58 G 43457556.78 43457557.00 43457557.22 0.0514 0.0175 Uranus 114275-02-14 17:15 G 43459191.09 43459191.22 43459191.39 0.0137 0.0110 Uranus 114276-02-19 05:44 G 43459560.49 43459560.74 43459560.99 0.0137 0.0010 Uranus 114277-02-22 16:46 G 43459930.02 43459930.20 43459930.41 0.0137 0.0089 Jupiter 114282-08-30 07:39 G 43461944.76 43461944.82 43461944.88 0.0512 0.0492 Saturn 114282-10-06 05:44 G 43461981.52 43461981.74 43461981.98 0.0289 0.0115 Saturn 114283-10-20 15:05 G 43462360.92 43462361.13 43462361.34 0.0287 0.0151 Saturn 114297-03-31 05:01 G 43467271.60 43467271.71 43467271.83 0.0270 0.0236 Saturn 114298-04-12 02:37 G 43467648.37 43467648.61 43467648.85 0.0271 0.0028 Saturn 114299-04-24 02:22 G 43468025.43 43468025.60 43468025.78 0.0273 0.0187

Saturn 114311-10-01 02:22 G 43472567.47 43472567.60 43472567.75 0.0289 0.0239 Saturn 114312-10-14 12:13 G 43472946.76 43472947.01 43472947.26 0.0288 0.0028 Uranus 114318-08-13 19:53 G 43475076.19 43475076.33 43475076.50 0.0141 0.0111 Mars 114318-11-25 15:49 G 43475179.99 43475180.16 43475180.32 0.1583 0.0783 Uranus 114319-08-18 16:17 G 43475445.92 43475446.18 43475446.43 0.0141 0.0003 Uranus 114320-08-22 12:13 G 43475815.87 43475816.01 43475816.20 0.0141 0.0108 Jupiter 114324-02-19 08:37 G 43477091.75 43477091.86 43477091.98 0.0509 0.0440 Saturn 114327-04-07 23:15 G 43478235.26 43478235.47 43478235.68 0.0271 0.0125 Saturn 114328-04-18 22:03 G 43478612.20 43478612.42 43478612.66 0.0272 0.0087 Jupiter 114329-08-15 22:46 G 43479096.43 43479096.45 43479096.48 0.0519 0.0515 Neptune 114335-08-03 07:10 G 43481274.68 43481274.80 43481274.99 0.0088 0.0070 Jupiter 114336-02-24 00:13 G 43481479.29 43481479.51 43481479.74 0.0511 0.0131 Neptune 114336-08-04 18:56 G 43481642.07 43481642.29 43481642.51 0.0088 0.0047 Neptune 114337-08-07 05:44 G 43482009.50 43482009.74 43482010.00 0.0088 0.0025 Neptune 114338-08-09 17:01 G 43482376.96 43482377.21 43482377.47 0.0088 0.0003 Neptune 114339-08-12 04:17 G 43482744.44 43482744.68 43482744.94 0.0088 0.0020 Neptune 114340-08-13 15:20 G 43483111.93 43483112.14 43483112.38 0.0088 0.0042 Neptune 114341-08-16 03:05 G 43483479.46 43483479.63 43483479.81 0.0088 0.0064 Jupiter 114341-08-20 20:08 G 43483484.12 43483484.34 43483484.56 0.0517 0.0187 Saturn 114341-10-08 10:03 G 43483532.69 43483532.92 43483533.16 0.0289 0.0092 Neptune 114342-08-18 13:39 G 43483847.06 43483847.07 43483847.14 0.0088 0.0087 Saturn 114342-10-22 18:41 G 43483912.09 43483912.28 43483912.48 0.0287 0.0174 Jupiter 114348-02-28 13:10 G 43485866.83 43485867.05 43485867.27 0.0513 0.0177 Jupiter 114353-08-25 15:34 G 43487871.92 43487872.15 43487872.38 0.0515 0.0139 Saturn 114356-04-02 08:08 G 43488822.71 43488822.84 43488822.99 0.0270 0.0217 Saturn 114357-04-14 06:27 G 43489199.53 43489199.77 43489200.01 0.0272 0.0006 Saturn 114358-04-26 06:41 G 43489576.64 43489576.78 43489576.95 0.0273 0.0209 Uranus 114359-02-16 05:58 G 43489872.60 43489872.75 43489872.94 0.0137 0.0102 Uranus 114360-02-20 18:27 G 43490242.02 43490242.27 43490242.52 0.0137 0.0003 Jupiter 114360-03-04 04:17 G 43490254.62 43490254.68 43490254.76 0.0515 0.0489

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Jupiter 114431-02-27 16:32 G 43516181.96 43516182.19 43516182.41 0.0513 0.0133 Jupiter 114436-08-24 20:51 G 43518187.14 43518187.37 43518187.60 0.0516 0.0103 Uranus 114443-02-16 18:41 G 43520554.11 43520554.28 43520554.47 0.0137 0.0096 Jupiter 114443-03-04 09:34 G 43520569.80 43520569.90 43520570.02 0.0515 0.0450 Uranus 114444-02-21 07:10 G 43520923.55 43520923.80 43520924.05 0.0137 0.0004 Uranus 114445-02-24 18:27 G 43521293.11 43521293.27 43521293.45 0.0137 0.0102 Saturn 114445-04-10 10:03 G 43521337.69 43521337.92 43521338.15 0.0271 0.0079 Saturn 114446-04-22 09:48 G 43521714.70 43521714.91 43521715.12 0.0272 0.0134 Jupiter 114448-08-29 15:48 G 43522575.03 43522575.16 43522575.30 0.0513 0.0420 Saturn 114459-10-12 04:17 G 43526635.43 43526635.68 43526635.93 0.0288 0.0037 Saturn 114460-10-25 11:29 G 43527014.84 43527014.98 43527015.14 0.0286 0.0225 Saturn 114474-04-05 19:10 G 43531925.12 43531925.30 43531925.49 0.0271 0.0172 Saturn 114475-04-17 18:27 G 43532302.04 43532302.27 43532302.51 0.0272 0.0041 Saturn 114476-04-28 20:22 G 43532679.28 43532679.35 43532679.45 0.0274 0.0256 Uranus 114486-08-14 20:51 G 43536439.19 43536439.37 43536439.56 0.0140 0.0097 Pluto 114486-10-10 11:00 G 43536495.70 43536495.96 43536496.22 0.0078 0.0015 Uranus 114487-08-19 16:32 G 43536808.93 43536809.19 43536809.45 0.0141 0.0011 Uranus 114488-08-23 12:12 G 43537178.90 43537179.01 43537179.16 0.0141 0.0121 Saturn 114488-10-05 11:00 G 43537221.76 43537221.96 43537222.18 0.0289 0.0153 Saturn 114489-10-19 19:10 G 43537601.08 43537601.30 43537601.53 0.0287 0.0112 Neptune 114499-08-02 13:24 G 43541174.98 43541175.06 43541175.19 0.0088 0.0080 Neptune 114500-08-05 00:27 G 43541542.35 43541542.52 43541542.74 0.0088 0.0058 Neptune 114501-08-07 11:44 G 43541909.76 43541909.99 43541910.24 0.0088 0.0035 Jupiter 114502-02-23 06:12 G 43542109.55 43542109.76 43542109.97 0.0510 0.0214 Neptune 114502-08-09 23:00 G 43542277.21 43542277.46 43542277.72 0.0088 0.0013 Saturn 114503-04-01 19:39 G 43542512.27 43542512.32 43542512.38 0.0270 0.0262 Neptune 114503-08-12 10:03 G 43542644.67 43542644.92 43542645.18 0.0088 0.0010 Saturn 114504-04-12 17:29 G 43542889.00 43542889.23 43542889.47 0.0271 0.0055 Neptune 114504-08-13 20:51 G 43543012.15 43543012.37 43543012.63 0.0088 0.0032 Saturn 114505-04-24 17:58 G 43543266.05 43543266.25 43543266.44 0.0273 0.0159

Neptune 114505-08-16 08:22 G 43543379.65 43543379.85 43543380.06 0.0088 0.0054 Neptune 114506-08-18 19:10 G 43543747.20 43543747.30 43543747.45 0.0088 0.0077 Jupiter 114507-08-21 00:27 G 43544114.32 43544114.52 43544114.72 0.0518 0.0272 Jupiter 114514-02-27 22:03 G 43546497.20 43546497.42 43546497.65 0.0512 0.0097 Saturn 114517-09-30 07:24 G 43547807.74 43547807.81 43547807.90 0.0289 0.0274 Saturn 114518-10-14 17:44 G 43548186.99 43548187.24 43548187.49 0.0288 0.0008 Jupiter 114519-08-25 20:22 G 43548502.12 43548502.35 43548502.58 0.0516 0.0052 Saturn 114519-10-29 00:12 G 43548566.40 43548566.51 43548566.63 0.0286 0.0254 Jupiter 114526-03-04 12:41 G 43550884.89 43550885.03 43550885.17 0.0514 0.0407 Uranus 114527-02-18 05:44 G 43551235.57 43551235.74 43551235.96 0.0138 0.0091 Uranus 114528-02-22 18:27 G 43551605.02 43551605.27 43551605.52 0.0137 0.0010 Uranus 114529-02-26 05:44 G 43551974.60 43551974.74 43551974.91 0.0137 0.0108 Jupiter 114531-08-30 13:39 G 43552889.91 43552890.07 43552890.24 0.0514 0.0366 Saturn 114533-04-08 02:36 G 43553476.42 43553476.61 43553476.82 0.0271 0.0148 Saturn 114534-04-20 02:22 G 43553853.37 43553853.60 43553853.84 0.0273 0.0066 Saturn 114547-10-09 02:22 G 43558773.38 43558773.60 43558773.83 0.0288 0.0121 Saturn 114548-10-22 10:03 G 43559152.72 43559152.92 43559153.15 0.0287 0.0144 Saturn 114562-04-03 04:03 G 43564063.57 43564063.67 43564063.79 0.0270 0.0237 Saturn 114563-04-15 02:36 G 43564440.37 43564440.61 43564440.85 0.0271 0.0028 Saturn 114564-04-26 02:51 G 43564817.46 43564817.62 43564817.81 0.0273 0.0186 Uranus 114570-08-16 09:34 G 43567120.71 43567120.90 43567121.11 0.0140 0.0089 Uranus 114571-08-21 05:15 G 43567490.47 43567490.72 43567490.98 0.0141 0.0018 Uranus 114572-08-25 00:56 G 43567860.45 43567860.54 43567860.66 0.0141 0.0128 Saturn 114576-10-01 22:17 G 43569359.31 43569359.43 43569359.58 0.0289 0.0243 Saturn 114577-10-16 08:22 G 43569738.60 43569738.85 43569739.10 0.0288 0.0025 Saturn 114578-10-30 14:22 G 43570118.08 43570118.10 43570118.13 0.0286 0.0284 Neptune 114583-02-06 05:29 G 43571677.63 43571677.73 43571677.89 0.0089 0.0076 Neptune 114584-02-08 18:12 G 43572045.06 43572045.26 43572045.47 0.0089 0.0053 Neptune 114585-02-10 06:27 G 43572412.54 43572412.77 43572413.02 0.0089 0.0029 Jupiter 114585-02-22 10:03 G 43572424.73 43572424.92 43572425.13 0.0509 0.0252

Neptune 114586-02-12 18:41 G 43572780.03 43572780.28 43572780.54 0.0089 0.0007 Neptune 114587-02-15 06:56 G 43573147.54 43573147.79 43573148.04 0.0089 0.0018 Neptune 114588-02-17 19:10 G 43573515.07 43573515.30 43573515.53 0.0089 0.0041 Neptune 114589-02-19 06:27 G 43573882.62 43573882.77 43573882.98 0.0089 0.0065 Neptune 114590-02-21 18:27 G 43574250.24 43574250.27 43574250.35 0.0089 0.0088 Jupiter 114590-08-19 19:39 G 43574429.15 43574429.32 43574429.50 0.0520 0.0336 Saturn 114592-04-09 10:32 G 43575027.73 43575027.94 43575028.16 0.0272 0.0122 Saturn 114593-04-21 10:32 G 43575404.72 43575404.94 43575405.17 0.0273 0.0092 Jupiter 114597-02-26 23:15 G 43576812.24 43576812.47 43576812.70 0.0511 0.0048 Jupiter 114602-08-25 17:44 G 43578817.00 43578817.24 43578817.47 0.0517 0.0007 Mars 114602-11-28 22:03 G 43578912.23 43578912.42 43578912.61 0.1584 0.0050 Saturn 114606-10-11 18:56 G 43580325.06 43580325.29 43580325.53 0.0288 0.0086 Saturn 114607-10-26 02:08 G 43580704.41 43580704.59 43580704.79 0.0287 0.0177 Jupiter 114609-03-04 10:46 G 43581199.78 43581199.95 43581200.12 0.0513 0.0348 Uranus 114611-02-19 18:12 G 43581917.07 43581917.26 43581917.47 0.0138 0.0084 Uranus 114612-02-24 06:41 G 43582286.53 43582286.78 43582287.04 0.0137 0.0016 Uranus 114613-02-27 17:58 G 43582656.12 43582656.25 43582656.40 0.0137 0.0114 Jupiter 114614-08-30 16:46 G 43583205.02 43583205.20 43583205.39 0.0515 0.0324 Saturn 114621-04-05 13:10 G 43585614.90 43585615.05 43585615.20 0.0270 0.0211 Saturn 114622-04-17 11:29 G 43585991.74 43585991.98 43585992.22 0.0271 0.0003 Saturn 114623-04-29 12:27 G 43586368.88 43586369.02 43586369.18 0.0273 0.0212 Saturn 114635-10-05 13:53 G 43590910.92 43590911.08 43590911.26 0.0289 0.0209 Saturn 114636-10-18 23:15 G 43591290.23 43591290.47 43591290.71 0.0288 0.0057 Pluto 114644-04-13 05:15 G 43594023.67 43594023.72 43594023.81 0.0066 0.0063 Pluto 114645-04-14 18:12 G 43594390.03 43594390.26 43594390.51 0.0066 0.0022 Saturn 114651-04-12 18:27 G 43596579.05 43596579.27 43596579.50 0.0272 0.0096 Saturn 114652-04-23 18:41 G 43596956.07 43596956.28 43596956.50 0.0273 0.0118 Uranus 114654-08-17 22:17 G 43597802.23 43597802.43 43597802.64 0.0140 0.0082 Uranus 114655-08-22 17:29 G 43598171.98 43598172.23 43598172.48 0.0141 0.0026 Uranus 114656-08-26 13:24 G 43598541.99 43598542.06 43598542.14 0.0141 0.0134

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Saturn 114798-04-11 12:27 G 43650268.81 43650269.02 43650269.23 0.0270 0.0133 Saturn 114799-04-23 10:46 G 43650645.72 43650645.95 43650646.19 0.0272 0.0078 Mars 114807-11-29 03:20 G 43653787.48 43653787.64 43653787.80 0.1588 0.0870 Saturn 114812-10-11 03:05 G 43655565.41 43655565.63 43655565.86 0.0289 0.0116 Saturn 114813-10-25 11:29 G 43655944.78 43655944.98 43655945.20 0.0287 0.0149 Uranus 114822-08-19 21:34 G 43659165.20 43659165.40 43659165.64 0.0140 0.0069 Uranus 114823-08-24 16:46 G 43659534.97 43659535.20 43659535.46 0.0141 0.0040 Saturn 114827-04-06 14:08 G 43660855.98 43660856.09 43660856.24 0.0270 0.0228 Saturn 114828-04-17 12:27 G 43661232.78 43661233.02 43661233.26 0.0272 0.0019 Neptune 114828-08-05 12:56 G 43661342.95 43661343.04 43661343.18 0.0088 0.0078 Saturn 114829-04-29 12:27 G 43661609.86 43661610.02 43661610.20 0.0273 0.0194 Neptune 114829-08-08 00:12 G 43661710.33 43661710.51 43661710.73 0.0088 0.0056 Neptune 114830-08-10 11:44 G 43662077.76 43662077.99 43662078.24 0.0088 0.0033 Neptune 114831-08-12 22:46 G 43662445.20 43662445.45 43662445.72 0.0088 0.0011 Neptune 114832-08-14 09:48 G 43662812.67 43662812.91 43662813.18 0.0088 0.0012 Neptune 114833-08-16 21:05 G 43663180.15 43663180.38 43663180.63 0.0088 0.0034 Jupiter 114834-02-22 19:10 G 43663370.15 43663370.30 43663370.45 0.0507 0.0378 Neptune 114834-08-19 07:53 G 43663547.65 43663547.83 43663548.05 0.0088 0.0057 Neptune 114835-08-21 18:56 G 43663915.21 43663915.29 43663915.44 0.0088 0.0079 Jupiter 114839-08-19 23:00 G 43665374.38 43665374.46 43665374.56 0.0521 0.0477 Saturn 114841-10-05 09:05 G 43666151.73 43666151.88 43666152.03 0.0289 0.0226 Saturn 114842-10-19 18:56 G 43666531.05 43666531.29 43666531.54 0.0288 0.0040 Jupiter 114846-02-27 04:32 G 43667757.46 43667757.69 43667757.92 0.0509 0.0090 Jupiter 114851-08-25 00:12 G 43669762.28 43669762.51 43669762.74 0.0519 0.0139 Saturn 114857-04-12 17:15 G 43671820.01 43671820.22 43671820.45 0.0270 0.0109 Jupiter 114858-03-03 19:39 G 43672145.11 43672145.32 43672145.53 0.0512 0.0214 Saturn 114858-04-24 15:34 G 43672196.94 43672197.15 43672197.38 0.0272 0.0103 Uranus 114863-02-22 05:29 G 43673961.52 43673961.73 43673961.97 0.0138 0.0065 Jupiter 114863-08-29 23:00 G 43674150.24 43674150.46 43674150.68 0.0517 0.0191 Uranus 114864-02-26 17:58 G 43674331.01 43674331.25 43674331.49 0.0137 0.0035

Uranus 114865-03-02 05:15 G 43674700.67 43674700.72 43674700.79 0.0137 0.0133 Saturn 114871-10-13 10:03 G 43677116.68 43677116.92 43677117.16 0.0289 0.0089 Saturn 114872-10-26 18:41 G 43677496.08 43677496.28 43677496.47 0.0287 0.0176 Jupiter 114875-09-03 19:39 G 43678538.29 43678538.32 43678538.36 0.0514 0.0508 Saturn 114886-04-07 17:44 G 43682407.08 43682407.24 43682407.40 0.0270 0.0204 Mars 114886-12-01 04:32 G 43682644.52 43682644.69 43682644.86 0.1586 0.0700 Saturn 114887-04-19 15:20 G 43682783.90 43682784.14 43682784.38 0.0271 0.0005 Saturn 114888-04-30 15:34 G 43683161.00 43683161.15 43683161.29 0.0273 0.0216 Pluto 114890-04-16 14:08 G 43683876.92 43683877.09 43683877.27 0.0066 0.0048 Pluto 114891-04-18 02:36 G 43684243.43 43684243.61 43684243.85 0.0066 0.0037 Saturn 114900-10-07 13:53 G 43687702.91 43687703.08 43687703.26 0.0289 0.0201 Saturn 114901-10-21 23:58 G 43688082.26 43688082.50 43688082.74 0.0288 0.0065 Uranus 114906-08-21 08:51 G 43689846.65 43689846.87 43689847.11 0.0140 0.0062 Uranus 114907-08-26 04:03 G 43690216.44 43690216.67 43690216.93 0.0141 0.0046 Neptune 114912-02-10 07:53 G 43691845.71 43691845.83 43691845.99 0.0089 0.0074 Neptune 114913-02-11 19:53 G 43692213.14 43692213.33 43692213.56 0.0089 0.0051 Neptune 114914-02-14 08:08 G 43692580.61 43692580.84 43692581.10 0.0089 0.0028 Neptune 114915-02-16 20:36 G 43692948.11 43692948.36 43692948.62 0.0089 0.0004 Neptune 114916-02-19 08:36 G 43693315.62 43693315.86 43693316.12 0.0089 0.0020 Saturn 114916-04-14 21:05 G 43693371.15 43693371.38 43693371.61 0.0270 0.0086 Neptune 114917-02-20 20:36 G 43693683.15 43693683.36 43693683.60 0.0089 0.0044 Jupiter 114917-02-22 21:34 G 43693685.27 43693685.40 43693685.53 0.0506 0.0420 Saturn 114917-04-26 19:10 G 43693748.09 43693748.30 43693748.52 0.0272 0.0125 Neptune 114918-02-23 08:51 G 43694050.71 43694050.87 43694051.05 0.0089 0.0067 Jupiter 114922-08-20 07:24 G 43695689.76 43695689.81 43695689.88 0.0522 0.0501 Jupiter 114929-02-27 12:41 G 43698072.81 43698073.03 43698073.26 0.0509 0.0119 Saturn 114930-10-15 13:53 G 43698667.84 43698668.08 43698668.33 0.0289 0.0064 Saturn 114931-10-29 22:17 G 43699047.26 43699047.43 43699047.62 0.0287 0.0200 Jupiter 114934-08-25 06:56 G 43700077.57 43700077.79 43700078.01 0.0519 0.0169 Jupiter 114941-03-04 05:29 G 43702460.52 43702460.73 43702460.95 0.0511 0.0190

Saturn 114945-04-09 19:24 G 43703958.14 43703958.31 43703958.50 0.0270 0.0182 Saturn 114946-04-21 17:15 G 43704334.98 43704335.22 43704335.47 0.0271 0.0027 Jupiter 114946-08-30 01:39 G 43704465.35 43704465.57 43704465.80 0.0517 0.0148 Uranus 114947-02-23 17:00 G 43704642.99 43704643.21 43704643.45 0.0138 0.0059 Saturn 114947-05-03 17:00 G 43704712.11 43704712.21 43704712.34 0.0273 0.0238 Uranus 114948-02-28 05:15 G 43705012.49 43705012.72 43705012.97 0.0137 0.0041 Jupiter 114953-03-08 20:51 G 43706848.32 43706848.37 43706848.43 0.0513 0.0497 Jupiter 114958-09-03 23:00 G 43708853.37 43708853.46 43708853.56 0.0515 0.0467 Saturn 114959-10-09 15:34 G 43709253.96 43709254.15 43709254.35 0.0289 0.0178 Saturn 114960-10-23 01:53 G 43709633.34 43709633.58 43709633.82 0.0288 0.0089 Saturn 114975-04-16 23:15 G 43714922.24 43714922.47 43714922.71 0.0270 0.0065 Saturn 114976-04-27 21:34 G 43715299.20 43715299.40 43715299.60 0.0272 0.0147 Pluto 114978-10-18 08:22 G 43716202.76 43716202.85 43716203.00 0.0078 0.0069 Saturn 114989-10-16 16:03 G 43720218.92 43720219.17 43720219.42 0.0289 0.0041 Uranus 114990-08-21 20:22 G 43720528.13 43720528.35 43720528.60 0.0140 0.0056 Saturn 114990-10-30 23:58 G 43720598.36 43720598.50 43720598.67 0.0287 0.0223 Uranus 114991-08-26 15:34 G 43720897.92 43720898.15 43720898.40 0.0141 0.0051 Neptune 114992-08-05 20:22 G 43721243.35 43721243.35 43721243.37 0.0088 0.0088 Neptune 114993-08-08 07:10 G 43721610.66 43721610.80 43721611.00 0.0088 0.0066 Neptune 114994-08-10 18:41 G 43721978.07 43721978.28 43721978.52 0.0088 0.0043 Neptune 114995-08-13 05:58 G 43722345.51 43722345.75 43722346.01 0.0088 0.0021 Neptune 114996-08-14 17:29 G 43722712.97 43722713.23 43722713.49 0.0088 0.0002 Neptune 114997-08-17 04:32 G 43723080.44 43723080.69 43723080.94 0.0088 0.0024 Neptune 114998-08-19 15:20 G 43723447.94 43723448.14 43723448.38 0.0088 0.0047 Neptune 114999-08-22 02:36 G 43723815.46 43723815.61 43723815.78 0.0088 0.0069 Jupiter 115000-02-23 08:08 G 43724000.74 43724000.84 43724000.96 0.0506 0.0438

## 116TH MILLENNIUM CE

## This is a list of transits of Earth in the 116th millennium CE.

FROM MAX- C START MAX END SUNRAD DEPTH S

TRANSIT

TIME

Saturn 115004-04-11 20:36 G 43725509.17 43725509.36 43725509.55 0.0270 0.0161 Saturn 115005-04-23 18:12 G 43725886.02 43725886.26 43725886.50 0.0271 0.0048 Saturn 115006-05-05 18:12 G 43726263.19 43726263.26 43726263.34 0.0273 0.0259 Jupiter 115012-02-28 22:17 G 43728388.21 43728388.43 43728388.66 0.0508 0.0143 Jupiter 115017-08-25 10:32 G 43730392.73 43730392.94 43730393.16 0.0520 0.0209 Saturn 115018-10-11 15:48 G 43730804.96 43730805.16 43730805.38 0.0289 0.0157 Saturn 115019-10-26 01:53 G 43731184.36 43731184.58 43731184.82 0.0288 0.0110 Jupiter 115024-03-04 08:51 G 43732775.65 43732775.87 43732776.09 0.0510 0.0151 Jupiter 115029-08-30 09:48 G 43734780.69 43734780.91 43734781.14 0.0518 0.0124 Uranus 115031-02-25 02:08 G 43735324.38 43735324.59 43735324.84 0.0138 0.0056 Uranus 115032-02-29 14:36 G 43735693.88 43735694.11 43735694.36 0.0138 0.0045 Saturn 115033-04-07 04:03 G 43736096.59 43736096.67 43736096.77 0.0270 0.0251 Saturn 115034-04-19 00:41 G 43736473.30 43736473.53 43736473.78 0.0271 0.0044 Saturn 115035-04-30 22:46 G 43736850.27 43736850.45 43736850.65 0.0272 0.0169 Jupiter 115036-03-09 00:12 G 43737163.41 43737163.51 43737163.61 0.0512 0.0455 Jupiter 115041-09-04 09:05 G 43739168.77 43739168.88 43739169.00 0.0516 0.0450 Saturn 115047-10-05 05:58 G 43741390.71 43741390.75 43741390.79 0.0290 0.0285 Saturn 115048-10-18 16:32 G 43741769.95 43741770.19 43741770.44 0.0289 0.0020 Saturn 115049-11-02 00:41 G 43742149.40 43742149.53 43742149.66 0.0287 0.0243 Mars 115053-06-01 09:34 G 43743456.71 43743456.90 43743457.08 0.1953 0.0799 Saturn 115063-04-13 20:51 G 43747060.18 43747060.37 43747060.59 0.0270 0.0142 Saturn 115064-04-24 18:41 G 43747437.05 43747437.28 43747437.52 0.0271 0.0069

Uranus 115074-08-23 07:39 G 43751209.60 43751209.82 43751210.07 0.0140 0.0051 Uranus 115075-08-28 03:05 G 43751579.41 43751579.63 43751579.87 0.0140 0.0057 Neptune 115076-02-10 15:34 G 43751746.08 43751746.15 43751746.26 0.0089 0.0084 Neptune 115077-02-12 03:48 G 43752113.49 43752113.66 43752113.87 0.0089 0.0061 Saturn 115077-10-12 15:20 G 43752355.92 43752356.14 43752356.36 0.0289 0.0136 Neptune 115078-02-14 15:48 G 43752480.95 43752481.16 43752481.41 0.0089 0.0038 Saturn 115078-10-27 01:10 G 43752735.34 43752735.55 43752735.78 0.0288 0.0131 Neptune 115079-02-17 04:17 G 43752848.43 43752848.68 43752848.94 0.0089 0.0014 Neptune 115080-02-19 16:17 G 43753215.93 43753216.18 43753216.44 0.0089 0.0010 Neptune 115081-02-21 04:03 G 43753583.45 43753583.67 43753583.93 0.0089 0.0034 Neptune 115082-02-23 16:17 G 43753950.99 43753951.18 43753951.39 0.0089 0.0057 Jupiter 115083-02-23 13:53 G 43754316.00 43754316.08 43754316.17 0.0505 0.0467 Neptune 115083-02-26 04:32 G 43754318.59 43754318.69 43754318.81 0.0089 0.0080 Mars 115091-12-02 09:34 G 43757519.71 43757519.90 43757520.09 0.1590 0.0130 Saturn 115092-04-08 04:46 G 43757647.58 43757647.70 43757647.82 0.0270 0.0231 Saturn 115093-04-20 01:39 G 43758024.33 43758024.57 43758024.81 0.0271 0.0024 Saturn 115094-05-02 00:12 G 43758401.34 43758401.51 43758401.69 0.0272 0.0188 Jupiter 115095-02-28 03:20 G 43758703.42 43758703.64 43758703.86 0.0507 0.0175 Jupiter 115100-08-25 19:39 G 43760708.11 43760708.32 43760708.53 0.0521 0.0229 Saturn 115106-10-07 06:56 G 43762941.69 43762941.79 43762941.89 0.0289 0.0264 Jupiter 115107-03-05 18:12 G 43763091.04 43763091.26 43763091.49 0.0510 0.0126 Saturn 115107-10-21 17:29 G 43763320.98 43763321.23 43763321.47 0.0288 0.0005 Saturn 115108-11-04 00:56 G 43763700.46 43763700.54 43763700.65 0.0287 0.0264 Jupiter 115112-08-30 19:10 G 43765096.08 43765096.30 43765096.54 0.0518 0.0103 Uranus 115115-02-26 12:41 G 43766005.80 43766006.03 43766006.27 0.0138 0.0051 Uranus 115116-03-02 01:10 G 43766375.32 43766375.55 43766375.79 0.0138 0.0049 Jupiter 115119-03-10 11:00 G 43767478.85 43767478.96 43767479.09 0.0512 0.0435 Saturn 115122-04-15 21:34 G 43768611.19 43768611.40 43768611.62 0.0270 0.0121 Saturn 115123-04-27 19:24 G 43768988.09 43768988.31 43768988.54 0.0271 0.0089 Jupiter 115124-09-04 14:51 G 43769483.99 43769484.12 43769484.27 0.0516 0.0416

Pluto 115136-04-20 19:53 G 43773730.14 43773730.33 43773730.55 0.0066 0.0040 Saturn 115136-10-14 14:36 G 43773906.89 43773907.11 43773907.34 0.0289 0.0117 Pluto 115137-04-22 08:36 G 43774096.70 43774096.86 43774097.07 0.0066 0.0046 Saturn 115137-10-29 00:12 G 43774286.31 43774286.51 43774286.74 0.0287 0.0151 Saturn 115151-04-11 05:29 G 43779198.60 43779198.73 43779198.89 0.0270 0.0213 Saturn 115152-04-22 02:51 G 43779575.38 43779575.62 43779575.86 0.0271 0.0004 Saturn 115153-05-04 01:39 G 43779952.42 43779952.57 43779952.73 0.0272 0.0209 Neptune 115157-08-09 14:51 G 43781511.00 43781511.12 43781511.26 0.0088 0.0075 Neptune 115158-08-12 01:53 G 43781878.39 43781878.58 43781878.80 0.0088 0.0053 Uranus 115158-08-24 20:08 G 43781891.10 43781891.34 43781891.59 0.0140 0.0043 Neptune 115159-08-14 13:39 G 43782245.83 43782246.07 43782246.31 0.0088 0.0030 Uranus 115159-08-29 15:05 G 43782260.92 43782261.13 43782261.37 0.0140 0.0064 Neptune 115160-08-16 00:41 G 43782613.28 43782613.53 43782613.79 0.0088 0.0008 Neptune 115161-08-18 11:58 G 43782980.75 43782981.00 43782981.27 0.0088 0.0015 Neptune 115162-08-20 23:00 G 43783348.24 43783348.46 43783348.71 0.0088 0.0037 Neptune 115163-08-23 10:03 G 43783715.76 43783715.92 43783716.13 0.0088 0.0060 Neptune 115164-08-24 21:20 G 43784083.33 43784083.39 43784083.51 0.0088 0.0082 Saturn 115165-10-08 08:51 G 43784492.74 43784492.87 43784493.01 0.0289 0.0242 Jupiter 115166-02-23 22:32 G 43784631.40 43784631.44 43784631.50 0.0505 0.0491 Saturn 115166-10-22 19:10 G 43784872.05 43784872.30 43784872.54 0.0288 0.0024 Saturn 115167-11-06 02:22 G 43785251.58 43785251.60 43785251.64 0.0287 0.0285 Mars 115170-12-05 11:29 G 43786376.90 43786376.98 43786377.05 0.1588 0.1452 Jupiter 115178-02-28 13:24 G 43789018.85 43789019.06 43789019.28 0.0507 0.0197 Saturn 115181-04-16 22:32 G 43790162.22 43790162.44 43790162.67 0.0270 0.0102 Saturn 115182-04-28 20:36 G 43790539.15 43790539.36 43790539.59 0.0272 0.0110 Jupiter 115183-08-26 01:10 G 43791023.35 43791023.55 43791023.75 0.0521 0.0263 Jupiter 115190-03-05 04:32 G 43793406.46 43793406.69 43793406.92 0.0509 0.0103 Jupiter 115195-08-30 23:15 G 43795411.24 43795411.47 43795411.70 0.0519 0.0063 Saturn 115195-10-16 16:17 G 43795457.95 43795458.18 43795458.41 0.0289 0.0095 Saturn 115196-10-30 01:39 G 43795837.38 43795837.57 43795837.78 0.0287 0.0172

Uranus 115199-02-26 21:48 G 43796687.18 43796687.41 43796687.66 0.0138 0.0048 Uranus 115200-03-02 10:17 G 43797056.71 43797056.93 43797057.18 0.0138 0.0053 Jupiter 115202-03-09 16:17 G 43797794.04 43797794.18 43797794.32 0.0511 0.0400 Jupiter 115207-09-04 20:08 G 43799799.20 43799799.34 43799799.50 0.0517 0.0386 Saturn 115210-04-12 06:56 G 43800749.63 43800749.79 43800749.96 0.0270 0.0193 Saturn 115211-04-24 04:46 G 43801126.46 43801126.70 43801126.94 0.0271 0.0017 Saturn 115212-05-05 04:03 G 43801503.55 43801503.67 43801503.80 0.0272 0.0230 Pluto 115223-10-20 11:29 G 43805688.86 43805688.98 43805689.15 0.0079 0.0066 Saturn 115224-10-09 12:41 G 43806043.88 43806044.03 43806044.20 0.0289 0.0219 Saturn 115225-10-23 22:32 G 43806423.19 43806423.44 43806423.68 0.0288 0.0047 Saturn 115240-04-18 00:56 G 43811713.31 43811713.54 43811713.77 0.0271 0.0081 Neptune 115241-02-12 12:12 G 43812013.88 43812014.01 43812014.20 0.0089 0.0070 Saturn 115241-04-29 23:29 G 43812090.27 43812090.48 43812090.69 0.0272 0.0131 Neptune 115242-02-15 00:56 G 43812381.33 43812381.54 43812381.76 0.0089 0.0047 Uranus 115242-08-25 07:24 G 43812572.57 43812572.81 43812573.06 0.0140 0.0037 Neptune 115243-02-17 12:56 G 43812748.80 43812749.04 43812749.29 0.0089 0.0023 Uranus 115243-08-30 02:51 G 43812942.40 43812942.62 43812942.85 0.0140 0.0070 Neptune 115244-02-20 01:10 G 43813116.29 43813116.55 43813116.80 0.0089 0.0001 Neptune 115245-02-21 12:56 G 43813483.80 43813484.04 43813484.30 0.0089 0.0024 Neptune 115246-02-24 01:10 G 43813851.34 43813851.55 43813851.77 0.0089 0.0047 Neptune 115247-02-26 12:41 G 43814218.89 43814219.03 43814219.21 0.0089 0.0071 Saturn 115254-10-17 19:39 G 43817009.08 43817009.32 43817009.56 0.0289 0.0072 Saturn 115255-11-01 04:46 G 43817388.52 43817388.70 43817388.89 0.0287 0.0193 Jupiter 115261-02-27 19:53 G 43819334.12 43819334.33 43819334.54 0.0506 0.0223 Jupiter 115266-08-25 03:05 G 43821338.44 43821338.63 43821338.82 0.0523 0.0303 Saturn 115269-04-13 09:20 G 43822300.71 43822300.89 43822301.08 0.0271 0.0174 Saturn 115270-04-25 07:39 G 43822677.58 43822677.82 43822678.06 0.0272 0.0038 Saturn 115271-05-07 07:10 G 43823054.72 43823054.80 43823054.91 0.0273 0.0251 Jupiter 115273-03-04 08:51 G 43823721.64 43823721.87 43823722.10 0.0508 0.0069 Jupiter 115278-08-30 03:34 G 43825726.41 43825726.65 43825726.88 0.0520 0.0030

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Jupiter 115349-08-25 08:36 G 43851653.69 43851653.86 43851654.04 0.0523 0.0337 Jupiter 115356-03-04 14:36 G 43854036.87 43854037.11 43854037.34 0.0508 0.0035 Saturn 115357-04-10 11:44 G 43854438.89 43854438.99 43854439.09 0.0270 0.0245 Saturn 115358-04-22 09:34 G 43854815.67 43854815.90 43854816.15 0.0271 0.0037 Saturn 115359-05-04 09:05 G 43855192.70 43855192.88 43855193.07 0.0272 0.0176 Jupiter 115361-08-30 07:10 G 43856041.56 43856041.80 43856042.03 0.0520 0.0011 Uranus 115366-02-24 05:29 G 43857680.73 43857680.73 43857680.75 0.0138 0.0138 Uranus 115367-02-28 18:41 G 43858050.05 43858050.28 43858050.54 0.0138 0.0038 Uranus 115368-03-04 07:24 G 43858419.60 43858419.81 43858420.05 0.0138 0.0063 Jupiter 115368-03-09 05:29 G 43858424.56 43858424.73 43858424.91 0.0510 0.0334 Saturn 115371-10-08 01:39 G 43859732.54 43859732.57 43859732.61 0.0289 0.0286 Saturn 115372-10-21 11:44 G 43860111.74 43860111.99 43860112.24 0.0288 0.0020 Jupiter 115373-09-04 04:17 G 43860429.49 43860429.68 43860429.86 0.0518 0.0310 Saturn 115373-11-04 19:39 G 43860491.20 43860491.32 43860491.46 0.0287 0.0244 Mars 115375-12-05 16:17 G 43861252.00 43861252.18 43861252.35 0.1593 0.0627 Pluto 115382-04-24 02:08 G 43863583.39 43863583.59 43863583.84 0.0066 0.0031 Pluto 115383-04-25 15:05 G 43863950.01 43863950.13 43863950.29 0.0066 0.0056 Saturn 115387-04-17 18:27 G 43865403.06 43865403.27 43865403.49 0.0271 0.0130 Saturn 115388-04-28 17:44 G 43865780.01 43865780.24 43865780.47 0.0272 0.0083 Saturn 115401-10-16 18:41 G 43870698.06 43870698.28 43870698.50 0.0288 0.0135 Saturn 115402-10-31 02:51 G 43871077.40 43871077.62 43871077.85 0.0287 0.0130 Neptune 115405-02-13 21:20 G 43871914.28 43871914.39 43871914.51 0.0089 0.0080 Neptune 115406-02-16 09:20 G 43872281.70 43872281.89 43872282.10 0.0089 0.0056 Neptune 115407-02-18 21:20 G 43872649.17 43872649.39 43872649.65 0.0089 0.0033 Neptune 115408-02-21 09:48 G 43873016.66 43873016.91 43873017.17 0.0089 0.0010 Neptune 115409-02-22 21:48 G 43873384.16 43873384.41 43873384.67 0.0089 0.0014 Uranus 115409-08-23 11:15 G 43873565.88 43873565.97 43873566.05 0.0140 0.0131 Neptune 115410-02-25 09:34 G 43873751.68 43873751.90 43873752.15 0.0089 0.0038 Uranus 115410-08-28 05:29 G 43873935.48 43873935.73 43873935.98 0.0140 0.0026 Neptune 115411-02-27 21:34 G 43874119.23 43874119.40 43874119.61 0.0089 0.0061

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Neptune 115490-08-21 15:48 G 43903148.92 43903149.16 43903149.43 0.0088 0.0019 Saturn 115490-10-26 14:22 G 43903214.85 43903215.10 43903215.35 0.0288 0.0041 Neptune 115491-08-24 03:05 G 43903516.42 43903516.63 43903516.87 0.0088 0.0041 Neptune 115492-08-25 14:08 G 43903883.94 43903884.09 43903884.30 0.0088 0.0064 Uranus 115493-08-23 21:34 G 43904247.30 43904247.40 43904247.51 0.0140 0.0126 Neptune 115493-08-28 01:39 G 43904251.54 43904251.57 43904251.64 0.0088 0.0086 Uranus 115494-08-28 16:03 G 43904616.92 43904617.17 43904617.43 0.0140 0.0021 Uranus 115495-09-02 10:32 G 43904986.76 43904986.94 43904987.16 0.0140 0.0087 Saturn 115505-04-22 08:36 G 43908505.64 43908505.86 43908506.10 0.0272 0.0080 Saturn 115506-05-04 08:36 G 43908882.65 43908882.86 43908883.07 0.0273 0.0134 Jupiter 115510-03-01 09:48 G 43910279.74 43910279.91 43910280.08 0.0504 0.0331 Jupiter 115515-08-26 04:03 G 43912283.55 43912283.67 43912283.79 0.0525 0.0449 Saturn 115519-10-22 01:10 G 43913801.31 43913801.55 43913801.79 0.0288 0.0068 Saturn 115520-11-04 08:36 G 43914180.69 43914180.86 43914181.06 0.0287 0.0195 Jupiter 115522-03-05 18:41 G 43914667.05 43914667.28 43914667.51 0.0506 0.0053 Jupiter 115527-08-31 06:12 G 43916671.54 43916671.76 43916672.00 0.0522 0.0112 Uranus 115534-02-27 00:56 G 43919043.48 43919043.54 43919043.64 0.0138 0.0130 Jupiter 115534-03-10 08:36 G 43919054.66 43919054.86 43919055.07 0.0509 0.0242 Saturn 115534-04-17 11:15 G 43919092.79 43919092.97 43919093.16 0.0271 0.0169 Uranus 115535-03-03 14:51 G 43919412.87 43919413.12 43919413.37 0.0138 0.0029 Saturn 115535-04-29 09:48 G 43919469.68 43919469.91 43919470.16 0.0271 0.0042 Uranus 115536-03-07 03:05 G 43919782.43 43919782.63 43919782.87 0.0138 0.0071 Saturn 115536-05-10 10:03 G 43919846.84 43919846.92 43919847.02 0.0273 0.0253 Jupiter 115539-09-05 05:00 G 43921059.49 43921059.71 43921059.92 0.0520 0.0216 Saturn 115548-10-14 20:08 G 43924387.17 43924387.34 43924387.54 0.0289 0.0192 Saturn 115549-10-29 05:15 G 43924766.49 43924766.72 43924766.97 0.0288 0.0075 Saturn 115563-04-12 17:29 G 43929680.18 43929680.23 43929680.30 0.0271 0.0261 Saturn 115564-04-23 16:46 G 43930056.96 43930057.20 43930057.43 0.0272 0.0053 Saturn 115565-05-05 16:32 G 43930434.00 43930434.19 43930434.39 0.0273 0.0160 Neptune 115570-02-16 18:12 G 43932182.11 43932182.26 43932182.46 0.0089 0.0066

Neptune 115571-02-19 06:56 G 43932549.57 43932549.79 43932550.02 0.0089 0.0043 Neptune 115572-02-21 19:10 G 43932917.06 43932917.30 43932917.56 0.0089 0.0019 Neptune 115573-02-23 07:24 G 43933284.55 43933284.81 43933285.06 0.0089 0.0005 Neptune 115574-02-25 18:56 G 43933652.07 43933652.29 43933652.55 0.0089 0.0029 Neptune 115575-02-28 06:56 G 43934019.60 43934019.79 43934020.02 0.0089 0.0052 Neptune 115576-03-01 19:10 G 43934387.17 43934387.30 43934387.45 0.0089 0.0075 Uranus 115577-08-25 07:24 G 43934928.71 43934928.81 43934928.96 0.0140 0.0122 Uranus 115578-08-30 02:08 G 43935298.34 43935298.59 43935298.85 0.0140 0.0016 Saturn 115578-10-23 17:00 G 43935352.96 43935353.21 43935353.46 0.0288 0.0033 Uranus 115579-09-03 20:36 G 43935668.18 43935668.36 43935668.57 0.0140 0.0091 Saturn 115579-11-07 00:27 G 43935732.38 43935732.52 43935732.68 0.0287 0.0228 Mars 115580-12-05 20:51 G 43936127.18 43936127.37 43936127.56 0.1597 0.0211 Jupiter 115593-02-28 09:48 G 43940594.77 43940594.91 43940595.07 0.0504 0.0379 Saturn 115593-04-18 20:22 G 43940644.14 43940644.35 43940644.55 0.0271 0.0142 Saturn 115594-04-30 18:56 G 43941021.06 43941021.29 43941021.53 0.0272 0.0068 Jupiter 115598-08-25 06:56 G 43942598.71 43942598.79 43942598.88 0.0525 0.0488 Jupiter 115605-03-04 23:29 G 43944982.26 43944982.48 43944982.71 0.0506 0.0089 Saturn 115607-10-17 11:15 G 43945938.77 43945938.97 43945939.18 0.0289 0.0158 Saturn 115608-10-30 20:08 G 43946318.11 43946318.34 43946318.57 0.0288 0.0107 Jupiter 115610-08-30 05:58 G 43946986.53 43946986.75 43946986.98 0.0522 0.0161 Jupiter 115617-03-09 13:53 G 43949369.87 43949370.08 43949370.30 0.0508 0.0206 Uranus 115618-02-27 10:32 G 43949724.85 43949724.94 43949725.05 0.0138 0.0127 Uranus 115619-03-03 23:58 G 43950094.26 43950094.50 43950094.76 0.0138 0.0026 Uranus 115620-03-07 12:41 G 43950463.83 43950464.03 43950464.25 0.0138 0.0074 Saturn 115622-04-14 01:10 G 43951231.44 43951231.55 43951231.68 0.0271 0.0235 Jupiter 115622-09-04 00:27 G 43951374.29 43951374.52 43951374.74 0.0520 0.0152 Saturn 115623-04-26 00:12 G 43951608.27 43951608.51 43951608.75 0.0272 0.0026 Saturn 115624-05-07 00:12 G 43951985.34 43951985.51 43951985.69 0.0273 0.0186 Pluto 115628-04-27 06:41 G 43953436.56 43953436.78 43953437.03 0.0066 0.0026 Jupiter 115629-03-14 02:36 G 43953757.56 43953757.61 43953757.66 0.0510 0.0496

Pluto 115629-04-28 19:10 G 43953803.23 43953803.30 43953803.44 0.0066 0.0061 Jupiter 115634-09-08 22:32 G 43955762.35 43955762.44 43955762.54 0.0518 0.0471 Saturn 115636-10-10 21:20 G 43956525.31 43956525.39 43956525.50 0.0289 0.0265 Saturn 115637-10-25 07:10 G 43956904.55 43956904.80 43956905.05 0.0288 0.0003 Saturn 115638-11-08 14:22 G 43957284.01 43957284.10 43957284.21 0.0287 0.0260 Neptune 115650-08-13 04:17 G 43961579.61 43961579.68 43961579.81 0.0088 0.0081 Neptune 115651-08-15 15:20 G 43961946.97 43961947.14 43961947.35 0.0088 0.0059 Saturn 115652-04-20 05:00 G 43962195.49 43962195.71 43962195.93 0.0271 0.0115 Neptune 115652-08-17 02:36 G 43962314.39 43962314.61 43962314.86 0.0088 0.0036 Saturn 115653-05-02 03:20 G 43962572.42 43962572.64 43962572.87 0.0272 0.0096 Neptune 115653-08-19 13:53 G 43962681.83 43962682.08 43962682.34 0.0088 0.0013 Neptune 115654-08-22 01:10 G 43963049.29 43963049.55 43963049.80 0.0088 0.0009 Neptune 115655-08-24 11:58 G 43963416.77 43963417.00 43963417.25 0.0088 0.0032 Neptune 115656-08-25 22:46 G 43963784.27 43963784.45 43963784.68 0.0088 0.0055 Neptune 115657-08-28 10:32 G 43964151.83 43964151.94 43964152.08 0.0088 0.0077 Mars 115659-12-08 22:32 G 43964984.35 43964984.44 43964984.53 0.1595 0.1392 Uranus 115661-08-25 17:58 G 43965610.13 43965610.25 43965610.41 0.0140 0.0117 Uranus 115662-08-30 12:41 G 43965979.77 43965980.03 43965980.28 0.0140 0.0011 Uranus 115663-09-04 06:56 G 43966349.62 43966349.79 43966350.00 0.0140 0.0096 Saturn 115666-10-19 00:41 G 43967490.31 43967490.53 43967490.76 0.0289 0.0126 Saturn 115667-11-02 09:20 G 43967869.67 43967869.89 43967870.11 0.0287 0.0138 Jupiter 115676-02-28 16:32 G 43970910.05 43970910.19 43970910.32 0.0503 0.0409 Saturn 115681-04-15 07:53 G 43972782.69 43972782.83 43972783.00 0.0271 0.0209 Saturn 115682-04-27 06:56 G 43973159.55 43973159.79 43973160.03 0.0272 0.0000 Saturn 115683-05-09 06:56 G 43973536.65 43973536.79 43973536.95 0.0273 0.0212 Jupiter 115688-03-04 03:48 G 43975297.44 43975297.66 43975297.89 0.0505 0.0127 Jupiter 115693-08-29 02:36 G 43977301.40 43977301.61 43977301.82 0.0523 0.0220 Saturn 115695-10-13 09:20 G 43978076.76 43978076.89 43978077.05 0.0289 0.0234 Saturn 115696-10-26 19:10 G 43978456.05 43978456.30 43978456.54 0.0288 0.0032 Jupiter 115700-03-09 12:27 G 43979684.80 43979685.02 43979685.25 0.0507 0.0152

Uranus 115702-02-28 18:41 G 43980406.19 43980406.28 43980406.40 0.0138 0.0124 Uranus 115703-03-05 08:22 G 43980775.60 43980775.85 43980776.10 0.0138 0.0024 Uranus 115704-03-08 20:51 G 43981145.17 43981145.37 43981145.59 0.0138 0.0076 Jupiter 115705-09-04 04:17 G 43981689.46 43981689.68 43981689.91 0.0521 0.0116 Saturn 115711-04-23 12:27 G 43983746.79 43983747.02 43983747.25 0.0271 0.0089 Jupiter 115712-03-14 02:22 G 43984072.50 43984072.60 43984072.72 0.0510 0.0447 Saturn 115712-05-04 10:46 G 43984123.74 43984123.95 43984124.17 0.0272 0.0122 Pluto 115715-10-28 01:39 G 43985395.34 43985395.57 43985395.80 0.0078 0.0038 Jupiter 115717-09-09 04:03 G 43986077.55 43986077.67 43986077.79 0.0519 0.0439 Saturn 115725-10-21 11:15 G 43989041.74 43989041.97 43989042.21 0.0289 0.0096 Saturn 115726-11-04 19:39 G 43989421.12 43989421.32 43989421.53 0.0287 0.0169 Neptune 115734-02-17 03:34 G 43992082.53 43992082.65 43992082.80 0.0089 0.0075 Neptune 115735-02-19 15:48 G 43992449.97 43992450.16 43992450.39 0.0089 0.0052 Neptune 115736-02-22 04:17 G 43992817.45 43992817.68 43992817.94 0.0089 0.0029 Neptune 115737-02-23 16:46 G 43993184.95 43993185.20 43993185.46 0.0089 0.0005 Neptune 115738-02-26 04:46 G 43993552.46 43993552.70 43993552.96 0.0089 0.0019 Neptune 115739-02-28 16:46 G 43993919.99 43993920.20 43993920.44 0.0089 0.0042 Neptune 115740-03-02 04:46 G 43994287.55 43994287.70 43994287.89 0.0089 0.0066 Saturn 115740-04-17 14:08 G 43994333.91 43994334.09 43994334.27 0.0271 0.0183 Neptune 115741-03-04 16:46 G 43994655.19 43994655.20 43994655.24 0.0089 0.0089 Saturn 115741-04-29 12:27 G 43994710.78 43994711.02 43994711.26 0.0272 0.0026 Saturn 115742-05-11 12:12 G 43995087.90 43995088.01 43995088.14 0.0273 0.0237 Uranus 115745-08-27 04:32 G 43996291.55 43996291.69 43996291.86 0.0140 0.0112 Uranus 115746-08-31 23:00 G 43996661.20 43996661.46 43996661.71 0.0140 0.0006 Uranus 115747-09-05 17:44 G 43997031.06 43997031.24 43997031.42 0.0140 0.0100 Saturn 115754-10-15 18:12 G 43999628.10 43999628.26 43999628.44 0.0289 0.0204 Saturn 115755-10-30 03:48 G 44000007.42 44000007.66 44000007.91 0.0288 0.0061 Jupiter 115759-02-28 16:46 G 44001225.10 44001225.20 44001225.30 0.0502 0.0452 Saturn 115769-04-12 21:05 G 44004921.38 44004921.38 44004921.38 0.0270 0.0270 Saturn 115770-04-24 18:12 G 44005298.03 44005298.26 44005298.50 0.0271 0.0064

Jupiter 115771-03-05 05:00 G 44005612.50 44005612.71 44005612.93 0.0504 0.0171 Saturn 115771-05-06 16:46 G 44005674.99 44005675.20 44005675.40 0.0272 0.0147 Jupiter 115776-08-29 09:05 G 44007616.67 44007616.88 44007617.09 0.0524 0.0249 Jupiter 115783-03-09 19:24 G 44010000.08 44010000.31 44010000.53 0.0507 0.0121 Saturn 115784-10-22 19:24 G 44010593.08 44010593.31 44010593.56 0.0289 0.0068 Saturn 115785-11-06 03:48 G 44010972.49 44010972.66 44010972.85 0.0287 0.0197 Mars 115785-12-05 23:15 G 44011002.34 44011002.47 44011002.61 0.1603 0.1138 Uranus 115786-03-01 04:03 G 44011087.56 44011087.67 44011087.81 0.0138 0.0121 Uranus 115787-03-05 17:44 G 44011456.99 44011457.24 44011457.49 0.0138 0.0020 Uranus 115788-03-09 05:58 G 44011826.56 44011826.75 44011826.97 0.0138 0.0080 Jupiter 115788-09-03 08:51 G 44012004.64 44012004.87 44012005.10 0.0521 0.0078 Jupiter 115795-03-14 10:32 G 44014387.82 44014387.94 44014388.08 0.0509 0.0419 Saturn 115799-04-19 18:12 G 44015885.07 44015885.26 44015885.46 0.0271 0.0159 Saturn 115800-05-01 16:32 G 44016261.95 44016262.19 44016262.43 0.0272 0.0050 Jupiter 115800-09-09 04:03 G 44016392.52 44016392.67 44016392.82 0.0519 0.0389 Saturn 115801-05-13 16:03 G 44016639.11 44016639.17 44016639.25 0.0273 0.0261 Saturn 115813-10-17 23:58 G 44021179.31 44021179.50 44021179.70 0.0289 0.0179 Saturn 115814-11-01 09:20 G 44021558.66 44021558.89 44021559.13 0.0288 0.0087 Neptune 115815-08-17 01:24 G 44021847.42 44021847.56 44021847.75 0.0088 0.0067 Neptune 115816-08-18 12:56 G 44022214.82 44022215.04 44022215.26 0.0088 0.0045 Neptune 115817-08-20 23:44 G 44022582.25 44022582.49 44022582.75 0.0088 0.0022 Neptune 115818-08-23 11:00 G 44022949.70 44022949.96 44022950.22 0.0088 0.0001 Neptune 115819-08-25 21:48 G 44023317.17 44023317.41 44023317.67 0.0088 0.0023 Neptune 115820-08-27 08:36 G 44023684.66 44023684.86 44023685.11 0.0088 0.0046 Neptune 115821-08-29 20:08 G 44024052.19 44024052.34 44024052.51 0.0088 0.0068 Saturn 115828-04-15 01:39 G 44026472.48 44026472.57 44026472.67 0.0270 0.0247 Saturn 115829-04-26 22:46 G 44026849.21 44026849.45 44026849.69 0.0271 0.0040 Uranus 115829-08-28 14:36 G 44026972.96 44026973.11 44026973.28 0.0140 0.0107 Saturn 115830-05-08 21:05 G 44027226.20 44027226.38 44027226.57 0.0272 0.0171 Uranus 115830-09-02 08:51 G 44027342.62 44027342.87 44027343.13 0.0140 0.0003

Uranus 115831-09-07 03:34 G 44027712.49 44027712.65 44027712.82 0.0140 0.0105 Jupiter 115842-03-01 00:27 G 44031540.46 44031540.52 44031540.59 0.0502 0.0478 Saturn 115843-10-26 00:27 G 44032144.27 44032144.52 44032144.77 0.0289 0.0042 Saturn 115844-11-08 08:51 G 44032523.72 44032523.87 44032524.03 0.0287 0.0222 Jupiter 115854-03-05 14:22 G 44035927.89 44035928.10 44035928.32 0.0504 0.0194 Saturn 115858-04-21 20:51 G 44037436.16 44037436.37 44037436.58 0.0271 0.0137 Saturn 115859-05-03 18:56 G 44037813.06 44037813.29 44037813.52 0.0271 0.0073 Jupiter 115859-08-30 10:46 G 44037931.75 44037931.95 44037932.14 0.0524 0.0293 Mars 115864-12-09 02:36 G 44039859.43 44039859.61 44039859.79 0.1600 0.0529 Jupiter 115866-03-10 03:34 G 44040315.42 44040315.65 44040315.88 0.0506 0.0094 Uranus 115870-03-02 13:24 G 44041768.93 44041769.06 44041769.20 0.0138 0.0117 Uranus 115871-03-07 02:51 G 44042138.37 44042138.62 44042138.87 0.0138 0.0016 Jupiter 115871-09-04 10:17 G 44042319.70 44042319.93 44042320.16 0.0522 0.0033 Uranus 115872-03-10 14:51 G 44042507.93 44042508.12 44042508.34 0.0138 0.0083 Saturn 115872-10-19 03:05 G 44042730.43 44042730.63 44042730.85 0.0289 0.0155 Saturn 115873-11-02 12:56 G 44043109.81 44043110.04 44043110.27 0.0288 0.0111 Pluto 115874-05-01 11:00 G 44043289.72 44043289.96 44043290.21 0.0066 0.0022 Pluto 115875-05-02 23:15 G 44043656.44 44043656.47 44043656.56 0.0066 0.0065 Jupiter 115878-03-14 12:41 G 44044702.88 44044703.03 44044703.19 0.0508 0.0376 Jupiter 115883-09-09 10:32 G 44046707.78 44046707.94 44046708.12 0.0520 0.0363 Saturn 115887-04-17 04:32 G 44048023.56 44048023.69 44048023.83 0.0270 0.0226 Saturn 115888-04-28 01:39 G 44048400.33 44048400.57 44048400.81 0.0271 0.0018 Saturn 115889-05-09 23:44 G 44048777.33 44048777.49 44048777.67 0.0272 0.0193 Neptune 115898-02-17 13:24 G 44051982.98 44051983.06 44051983.14 0.0089 0.0085 Neptune 115899-02-20 01:10 G 44052350.38 44052350.55 44052350.76 0.0089 0.0062 Neptune 115900-02-22 13:39 G 44052717.85 44052718.07 44052718.32 0.0089 0.0038 Neptune 115901-02-25 01:53 G 44053085.34 44053085.58 44053085.84 0.0089 0.0015 Saturn 115901-10-13 17:29 G 44053316.19 44053316.23 44053316.29 0.0289 0.0282 Neptune 115902-02-27 14:22 G 44053452.85 44053453.10 44053453.36 0.0089 0.0009 Saturn 115902-10-28 03:20 G 44053695.39 44053695.64 44053695.89 0.0288 0.0018

Neptune 115903-03-02 02:51 G 44053820.38 44053820.62 44053820.86 0.0089 0.0033 Saturn 115903-11-11 11:44 G 44054074.86 44054074.99 44054075.12 0.0287 0.0245 Neptune 115904-03-03 14:22 G 44054187.92 44054188.10 44054188.32 0.0089 0.0057 Neptune 115905-03-06 02:36 G 44054555.51 44054555.61 44054555.74 0.0089 0.0080 Uranus 115913-08-30 00:27 G 44057654.35 44057654.52 44057654.70 0.0140 0.0102 Uranus 115914-09-03 18:41 G 44058024.02 44058024.28 44058024.53 0.0140 0.0004 Uranus 115915-09-08 13:10 G 44058393.90 44058394.05 44058394.22 0.0140 0.0110 Saturn 115917-04-23 22:32 G 44058987.23 44058987.44 44058987.66 0.0271 0.0115 Saturn 115918-05-05 20:36 G 44059364.14 44059364.36 44059364.59 0.0271 0.0095 Jupiter 115925-03-01 10:32 G 44061855.91 44061855.94 44061855.96 0.0502 0.0498 Saturn 115931-10-22 03:48 G 44064281.44 44064281.66 44064281.88 0.0289 0.0133 Saturn 115932-11-04 13:24 G 44064660.85 44064661.06 44064661.29 0.0288 0.0133 Jupiter 115937-03-05 19:10 G 44066243.09 44066243.30 44066243.51 0.0503 0.0224 Jupiter 115942-08-30 16:17 G 44068247.00 44068247.18 44068247.36 0.0526 0.0323 Saturn 115946-04-19 05:58 G 44069574.60 44069574.75 44069574.91 0.0270 0.0207 Saturn 115947-05-01 03:20 G 44069951.40 44069951.64 44069951.89 0.0271 0.0006 Saturn 115948-05-12 01:24 G 44070328.43 44070328.56 44070328.72 0.0272 0.0214 Jupiter 115949-03-10 07:53 G 44070630.60 44070630.83 44070631.06 0.0505 0.0060 Uranus 115954-03-03 23:00 G 44072450.34 44072450.46 44072450.63 0.0138 0.0113 Jupiter 115954-09-04 18:56 G 44072635.06 44072635.29 44072635.53 0.0523 0.0014 Uranus 115955-03-08 12:41 G 44072819.78 44072820.03 44072820.28 0.0138 0.0012 Uranus 115956-03-12 01:10 G 44073189.36 44073189.55 44073189.75 0.0138 0.0087 Saturn 115960-10-14 19:24 G 44074867.21 44074867.31 44074867.42 0.0289 0.0260 Jupiter 115961-03-14 22:03 G 44075018.25 44075018.42 44075018.58 0.0508 0.0351 Saturn 115961-10-29 04:46 G 44075246.46 44075246.70 44075246.95 0.0288 0.0007 Pluto 115961-10-31 07:53 G 44075248.59 44075248.83 44075249.08 0.0078 0.0026 Saturn 115962-11-12 12:56 G 44075625.96 44075626.04 44075626.14 0.0287 0.0266 Jupiter 115966-09-09 19:24 G 44077023.14 44077023.31 44077023.49 0.0521 0.0339 Saturn 115976-04-24 23:15 G 44080538.24 44080538.47 44080538.70 0.0271 0.0096 Saturn 115977-05-06 21:20 G 44080915.17 44080915.39 44080915.61 0.0271 0.0115

Neptune 115979-08-17 11:00 G 44081747.86 44081747.96 44081748.11 0.0088 0.0076

Neptune 115980-08-18 22:32 G 44082115.25 44082115.44 44082115.66 0.0088 0.0053

Neptune 115981-08-21 09:34 G 44082482.67 44082482.90 44082483.16 0.0088 0.0031

Neptune 115982-08-23 20:51 G 44082850.11 44082850.37 44082850.63 0.0088 0.0008

Neptune 115983-08-26 07:53 G 44083217.58 44083217.83 44083218.09 0.0088 0.0014

Mars 115984-06-09 09:48 G 44083505.76 44083505.91 44083506.07 0.1940 0.1200

Neptune 115984-08-27 18:56 G 44083585.06 44083585.29 44083585.53 0.0088 0.0037

Neptune 115985-08-30 05:29 G 44083952.57 44083952.73 44083952.95 0.0088 0.0060

Neptune 115986-09-01 16:46 G 44084320.13 44084320.20 44084320.32 0.0088 0.0082

Saturn 115990-10-23 03:34 G 44085832.42 44085832.65 440885832.88 0.0289 0.0113

Saturn 115997-08-30 09:34 G 44088335.73 44088335.90 44088336.09 0.0140 0.0098

Uranus 115998-09-04 03:48 G 44088705.41 44088705.66 44088705.92 0.0140 0.0008

## 117TH MILLENNIUM CE

## This is a list of transits of Earth in the 117th millennium CE.

FROM MAX- C START MAX END SUNRAD DEPTH S

TRANSIT

TIME

 Saturn
 116005-04-20 06:56 G
 44091125.63
 44091125.79
 44091125.97
 0.0271
 0.0188

 Saturn
 116006-05-02 04:46 G
 44091502.45
 44091502.70
 44091502.94
 0.0271
 0.0023

 Saturn
 116007-05-14 03:05 G
 44091879.52
 44091879.63
 44091879.76
 0.0272
 0.0234

 Saturn
 116019-10-16 20:08 G
 44096418.22
 44096418.34
 44096418.50
 0.0289
 0.0240

 Jupiter
 116020-03-05 04:17 G
 44096558.49
 44096558.68
 44096558.89
 0.0503
 0.0246

Saturn 116020-10-30 05:44 G 44096797.50 44096797.74 44096797.99 0.0288 0.0026 Saturn 116021-11-13 13:39 G 44097177.06 44097177.07 44097177.09 0.0287 0.0287 Jupiter 116025-08-30 01:39 G 44098562.39 44098562.57 44098562.75 0.0526 0.0344 Jupiter 116032-03-09 18:41 G 44100946.05 44100946.28 44100946.51 0.0505 0.0041 Saturn 116035-04-26 23:44 G 44102089.26 44102089.49 44102089.73 0.0271 0.0076 Saturn 116036-05-07 21:48 G 44102466.21 44102466.41 44102466.63 0.0271 0.0135 Jupiter 116037-09-04 00:27 G 44102950.29 44102950.52 44102950.76 0.0523 0.0022 Uranus 116038-03-04 08:22 G 44103131.70 44103131.85 44103132.01 0.0138 0.0109 Uranus 116039-03-08 21:48 G 44103501.16 44103501.41 44103501.66 0.0138 0.0009 Uranus 116040-03-12 09:48 G 44103870.74 44103870.91 44103871.12 0.0138 0.0091 Jupiter 116044-03-14 08:36 G 44105333.69 44105333.86 44105334.04 0.0507 0.0331 Jupiter 116049-09-08 23:29 G 44107338.29 44107338.48 44107338.67 0.0521 0.0301 Saturn 116049-10-24 03:20 G 44107383.41 44107383.64 44107383.88 0.0288 0.0093 Saturn 116050-11-07 12:56 G 44107762.85 44107763.04 44107763.24 0.0288 0.0173 Neptune 116063-02-20 11:44 G 44112250.83 44112250.99 44112251.14 0.0089 0.0071 Neptune 116064-02-22 23:15 G 44112618.27 44112618.47 44112618.71 0.0089 0.0048 Saturn 116064-04-21 07:24 G 44112676.63 44112676.81 44112677.01 0.0271 0.0169 Neptune 116065-02-24 11:44 G 44112985.76 44112985.99 44112986.25 0.0089 0.0024 Saturn 116065-05-03 05:29 G 44113053.50 44113053.73 44113053.97 0.0271 0.0043 Neptune 116066-02-27 00:27 G 44113353.26 44113353.52 44113353.77 0.0089 0.0001 Saturn 116066-05-15 04:17 G 44113430.60 44113430.68 44113430.78 0.0272 0.0253 Neptune 116067-03-01 12:27 G 44113720.78 44113721.02 44113721.27 0.0089 0.0024 Neptune 116068-03-03 00:27 G 44114088.32 44114088.52 44114088.76 0.0089 0.0047 Neptune 116069-03-05 12:27 G 44114455.89 44114456.02 44114456.20 0.0089 0.0071 Mars 116069-12-09 04:03 G 44114734.49 44114734.67 44114734.86 0.1606 0.0415 Saturn 116078-10-17 22:17 G 44117969.28 44117969.43 44117969.60 0.0289 0.0217 Saturn 116079-11-01 07:24 G 44118348.57 44118348.81 44118349.06 0.0288 0.0048 Uranus 116081-08-30 18:27 G 44119017.10 44119017.27 44119017.48 0.0140 0.0095 Uranus 116082-09-04 12:56 G 44119386.79 44119387.04 44119387.30 0.0140 0.0011 Uranus 116083-09-09 07:39 G 44119756.70 44119756.82 44119756.98 0.0140 0.0118

Saturn 116093-04-16 02:36 G 44123263.57 44123263.61 44123263.67 0.0270 0.0263 Saturn 116094-04-28 00:41 G 44123640.29 44123640.53 44123640.77 0.0271 0.0056 Saturn 116095-05-09 23:15 G 44124017.27 44124017.47 44124017.67 0.0272 0.0155 Jupiter 116103-03-06 15:34 G 44126873.95 44126874.15 44126874.35 0.0502 0.0264 Jupiter 116108-08-30 04:46 G 44128877.55 44128877.70 44128877.87 0.0526 0.0384 Saturn 116108-10-26 04:03 G 44128934.43 44128934.67 44128934.91 0.0288 0.0072 Saturn 116109-11-09 13:24 G 44129313.88 44129314.06 44129314.24 0.0287 0.0193 Jupiter 116115-03-11 01:53 G 44131261.34 44131261.58 44131261.81 0.0504 0.0019 Pluto 116120-05-04 12:27 G 44133142.80 44133143.02 44133143.27 0.0066 0.0025 Jupiter 116120-09-04 03:48 G 44133265.43 44133265.66 44133265.89 0.0525 0.0056 Pluto 116121-05-06 01:24 G 44133509.48 44133509.56 44133509.67 0.0066 0.0062 Uranus 116122-03-05 17:29 G 44133813.07 44133813.23 44133813.39 0.0138 0.0106 Uranus 116123-03-10 06:41 G 44134182.53 44134182.78 44134183.03 0.0138 0.0005 Saturn 116123-04-24 08:51 G 44134227.67 44134227.87 44134228.07 0.0271 0.0149 Uranus 116124-03-13 18:56 G 44134552.12 44134552.29 44134552.49 0.0138 0.0094 Saturn 116124-05-05 06:56 G 44134604.56 44134604.79 44134605.03 0.0271 0.0062 Jupiter 116127-03-15 14:08 G 44135648.91 44135649.09 44135649.28 0.0506 0.0300 Jupiter 116132-09-09 05:29 G 44137653.54 44137653.73 44137653.93 0.0522 0.0275 Saturn 116137-10-20 01:53 G 44139520.40 44139520.58 44139520.76 0.0288 0.0195 Saturn 116138-11-03 10:46 G 44139899.71 44139899.95 44139900.19 0.0288 0.0070 Neptune 116143-08-17 21:05 G 44141648.35 44141648.38 44141648.48 0.0088 0.0086 Neptune 116144-08-19 08:36 G 44142015.70 44142015.86 44142016.06 0.0088 0.0062 Neptune 116145-08-21 20:08 G 44142383.11 44142383.34 44142383.57 0.0088 0.0040 Neptune 116146-08-24 06:56 G 44142750.55 44142750.79 44142751.05 0.0088 0.0017 Neptune 116147-08-26 18:12 G 44143118.00 44143118.26 44143118.52 0.0088 0.0006 Neptune 116148-08-28 05:00 G 44143485.48 44143485.71 44143485.97 0.0088 0.0029 Mars 116148-12-12 06:56 G 44143591.67 44143591.79 44143591.91 0.1603 0.1243 Neptune 116149-08-30 16:03 G 44143852.97 44143853.17 44143853.39 0.0088 0.0051 Neptune 116150-09-02 02:51 G 44144220.51 44144220.62 44144220.79 0.0088 0.0074 Saturn 116152-04-18 04:03 G 44144814.58 44144814.67 44144814.78 0.0270 0.0244

Saturn 116153-04-30 02:36 G 44145191.37 44145191.61 44145191.85 0.0271 0.0036 Saturn 116154-05-12 01:10 G 44145568.37 44145568.55 44145568.74 0.0272 0.0176 Uranus 116165-09-01 03:48 G 44149698.48 44149698.66 44149698.86 0.0140 0.0091 Uranus 116166-09-05 22:17 G 44150068.18 44150068.43 44150068.69 0.0140 0.0015 Uranus 116167-09-10 17:15 G 44150438.10 44150438.22 44150438.36 0.0140 0.0121 Saturn 116167-10-28 06:56 G 44150485.55 44150485.79 44150486.04 0.0288 0.0051 Saturn 116168-11-10 16:03 G 44150865.01 44150865.17 44150865.34 0.0287 0.0214 Saturn 116182-04-25 10:32 G 44155778.73 44155778.94 44155779.16 0.0271 0.0129 Saturn 116183-05-07 09:20 G 44156155.66 44156155.89 44156156.12 0.0272 0.0083 Jupiter 116186-03-05 22:03 G 44157189.23 44157189.42 44157189.61 0.0501 0.0289 Jupiter 116191-08-30 07:39 G 44159192.69 44159192.82 44159192.97 0.0528 0.0421 Saturn 116196-10-21 07:53 G 44161071.63 44161071.83 44161072.03 0.0288 0.0169 Saturn 116197-11-04 16:03 G 44161450.95 44161451.17 44161451.42 0.0288 0.0096 Jupiter 116198-03-10 08:22 G 44161576.62 44161576.85 44161577.08 0.0504 0.0015 Jupiter 116203-09-05 11:15 G 44163580.74 44163580.97 44163581.20 0.0525 0.0084 Uranus 116206-03-07 01:24 G 44164494.41 44164494.56 44164494.74 0.0138 0.0103 Uranus 116207-03-11 15:05 G 44164863.88 44164864.13 44164864.38 0.0138 0.0003 Pluto 116207-11-04 08:08 G 44165101.62 44165101.84 44165102.10 0.0078 0.0033 Uranus 116208-03-15 03:34 G 44165233.47 44165233.65 44165233.84 0.0138 0.0096 Jupiter 116210-03-15 22:03 G 44165964.23 44165964.42 44165964.62 0.0506 0.0271 Saturn 116211-04-21 06:41 G 44166365.66 44166365.78 44166365.93 0.0271 0.0224 Saturn 116212-05-02 05:29 G 44166742.49 44166742.73 44166742.97 0.0271 0.0014 Saturn 116213-05-14 04:46 G 44167119.54 44167119.70 44167119.87 0.0272 0.0197 Jupiter 116215-09-10 10:32 G 44167968.74 44167968.94 44167969.15 0.0522 0.0240 Saturn 116226-10-30 12:12 G 44172036.77 44172037.01 44172037.26 0.0288 0.0026 Neptune 116227-02-21 20:36 G 44172151.27 44172151.36 44172151.50 0.0089 0.0080 Saturn 116227-11-13 20:36 G 44172416.24 44172416.36 44172416.51 0.0287 0.0238 Neptune 116228-02-24 09:20 G 44172518.70 44172518.89 44172519.10 0.0089 0.0057 Neptune 116229-02-25 21:20 G 44172886.17 44172886.39 44172886.65 0.0089 0.0034 Neptune 116230-02-28 09:48 G 44173253.66 44173253.91 44173254.17 0.0089 0.0010

Neptune 116231-03-02 22:03 G 44173621.17 44173621.42 44173621.68 0.0089 0.0014 Neptune 116232-03-04 10:17 G 44173988.70 44173988.93 44173989.16 0.0089 0.0038 Neptune 116233-03-06 22:03 G 44174356.26 44174356.42 44174356.63 0.0089 0.0062 Neptune 116234-03-09 10:32 G 44174723.88 44174723.94 44174724.04 0.0089 0.0085 Saturn 116241-04-27 13:39 G 44177329.85 44177330.07 44177330.30 0.0272 0.0108 Saturn 116242-05-09 12:56 G 44177706.82 44177707.04 44177707.26 0.0272 0.0105 Uranus 116249-09-02 13:24 G 44180379.87 44180380.06 44180380.27 0.0140 0.0087 Uranus 116250-09-07 07:53 G 44180749.59 44180749.83 44180750.09 0.0140 0.0019 Uranus 116251-09-12 03:20 G 44181119.53 44181119.64 44181119.76 0.0140 0.0125 Saturn 116255-10-24 16:46 G 44182622.98 44182623.20 44182623.42 0.0288 0.0141 Saturn 116256-11-07 00:41 G 44183002.31 44183002.53 44183002.76 0.0287 0.0122 Mars 116268-06-10 14:36 G 44187235.91 44187236.11 44187236.31 0.1933 0.0146 Jupiter 116269-03-06 04:03 G 44187504.50 44187504.67 44187504.85 0.0501 0.0321 Saturn 116270-04-22 11:15 G 44187916.81 44187916.97 44187917.13 0.0271 0.0201 Saturn 116271-05-04 10:03 G 44188293.68 44188293.92 44188294.16 0.0271 0.0009 Saturn 116272-05-15 09:20 G 44188670.76 44188670.89 44188671.04 0.0272 0.0220 Jupiter 116274-08-30 12:12 G 44189507.89 44189508.01 44189508.12 0.0528 0.0456 Mars 116274-12-10 04:32 G 44189609.60 44189609.69 44189609.78 0.1612 0.1413 Jupiter 116281-03-10 16:46 G 44191891.97 44191892.20 44191892.43 0.0503 0.0040 Saturn 116284-10-17 12:12 G 44193208.92 44193209.01 44193209.12 0.0288 0.0262 Saturn 116285-10-31 21:05 G 44193588.13 44193588.38 44193588.63 0.0288 0.0001 Jupiter 116286-09-04 12:12 G 44193895.78 44193896.01 44193896.23 0.0526 0.0129 Saturn 116286-11-15 05:00 G 44193967.62 44193967.71 44193967.81 0.0287 0.0263 Uranus 116290-03-07 10:17 G 44195175.77 44195175.93 44195176.12 0.0138 0.0100 Uranus 116291-03-11 23:58 G 44195545.25 44195545.50 44195545.75 0.0138 0.0001 Uranus 116292-03-15 12:27 G 44195914.86 44195915.02 44195915.21 0.0138 0.0099 Jupiter 116293-03-15 04:32 G 44196279.49 44196279.69 44196279.90 0.0505 0.0243 Jupiter 116298-09-09 08:22 G 44198283.64 44198283.85 44198284.07 0.0524 0.0188 Saturn 116300-04-29 18:12 G 44198881.03 44198881.26 44198881.49 0.0272 0.0085 Saturn 116301-05-11 17:58 G 44199258.04 44199258.25 44199258.47 0.0272 0.0128

Neptune 116308-08-20 18:27 G 44201916.14 44201916.27 44201916.44 0.0088 0.0071 Neptune 116309-08-23 05:58 G 44202283.54 44202283.75 44202283.97 0.0088 0.0048 Neptune 116310-08-25 17:00 G 44202650.97 44202651.21 44202651.47 0.0088 0.0026 Jupiter 116310-09-15 08:51 G 44202671.82 44202671.87 44202671.92 0.0521 0.0509 Neptune 116311-08-28 04:32 G 44203018.43 44203018.69 44203018.95 0.0088 0.0003 Neptune 116312-08-29 15:20 G 44203385.90 44203386.14 44203386.41 0.0088 0.0020 Neptune 116313-09-01 02:36 G 44203753.39 44203753.61 44203753.84 0.0088 0.0042 Neptune 116314-09-03 13:24 G 44204120.91 44204121.06 44204121.25 0.0088 0.0065 Saturn 116314-10-27 03:48 G 44204174.44 44204174.66 44204174.90 0.0288 0.0112 Neptune 116315-09-06 01:10 G 44204488.53 44204488.55 44204488.57 0.0088 0.0087 Saturn 116315-11-10 11:44 G 44204553.78 44204553.99 44204554.20 0.0287 0.0151 Saturn 116329-04-24 17:15 G 44209468.04 44209468.22 44209468.41 0.0271 0.0177 Saturn 116330-05-06 16:32 G 44209844.95 44209845.19 44209845.43 0.0271 0.0034 Saturn 116331-05-18 16:03 G 44210222.08 44210222.17 44210222.29 0.0272 0.0245 Uranus 116333-09-03 23:00 G 44211061.27 44211061.46 44211061.68 0.0140 0.0083 Uranus 116334-09-08 17:44 G 44211430.99 44211431.24 44211431.50 0.0140 0.0023 Uranus 116335-09-13 12:27 G 44211800.94 44211801.02 44211801.14 0.0140 0.0129 Saturn 116343-10-20 23:29 G 44214760.35 44214760.48 44214760.64 0.0288 0.0234 Saturn 116344-11-03 08:08 G 44215139.59 44215139.84 44215140.09 0.0288 0.0031 Jupiter 116352-03-06 10:46 G 44217819.79 44217819.95 44217820.12 0.0500 0.0347 Mars 116353-12-13 07:53 G 44218466.64 44218466.83 44218467.02 0.1610 0.0292 Jupiter 116357-08-30 07:10 G 44219822.76 44219822.80 44219822.84 0.0529 0.0518 Saturn 116358-04-19 23:44 G 44220055.48 44220055.49 44220055.53 0.0272 0.0270 Saturn 116359-05-01 23:44 G 44220432.26 44220432.49 44220432.73 0.0272 0.0060 Saturn 116360-05-12 23:44 G 44220809.30 44220809.49 44220809.70 0.0273 0.0153 Jupiter 116364-03-10 21:05 G 44222207.15 44222207.38 44222207.61 0.0502 0.0075 Pluto 116366-05-08 11:58 G 44222995.80 44222996.00 44222996.24 0.0066 0.0033 Pluto 116367-05-10 01:39 G 44223362.42 44223362.57 44223362.72 0.0066 0.0054 Jupiter 116369-09-04 08:36 G 44224210.65 44224210.86 44224211.09 0.0527 0.0187 Saturn 116373-10-28 17:58 G 44225726.01 44225726.25 44225726.49 0.0288 0.0079

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Jupiter 116720-03-20 11:00 G 44352242.79 44352242.96 44352243.14 0.0504 0.0330

Neptune 116721-02-28 02:51 G 44352587.45 44352587.62 44352587.83 0.0089 0.0061 Neptune 116722-03-02 15:20 G 44352954.92 44352955.14 44352955.39 0.0089 0.0038 Neptune 116723-03-05 03:34 G 44353322.41 44353322.65 44353322.92 0.0089 0.0015 Neptune 116724-03-06 16:03 G 44353689.92 44353690.17 44353690.43 0.0089 0.0010 Neptune 116725-03-09 04:03 G 44354057.44 44354057.67 44354057.92 0.0089 0.0033 Jupiter 116725-09-14 09:48 G 44354246.72 44354246.91 44354247.11 0.0524 0.0273 Neptune 116726-03-11 15:48 G 44354424.99 44354425.16 44354425.38 0.0089 0.0058 Saturn 116726-10-28 11:29 G 44354655.78 44354655.98 44354656.20 0.0288 0.0153 Neptune 116727-03-14 03:48 G 44354792.58 44354792.66 44354792.80 0.0089 0.0081 Saturn 116727-11-11 19:39 G 44355035.10 44355035.32 44355035.56 0.0287 0.0112 Saturn 116741-04-27 00:41 G 44359950.37 44359950.53 44359950.69 0.0271 0.0203 Saturn 116742-05-08 23:15 G 44360327.23 44360327.47 44360327.71 0.0271 0.0007 Saturn 116743-05-20 21:34 G 44360704.27 44360704.40 44360704.56 0.0272 0.0217 Uranus 116753-09-08 20:22 G 44364468.14 44364468.35 44364468.59 0.0140 0.0064 Uranus 116754-09-13 14:36 G 44364837.88 44364838.11 44364838.36 0.0140 0.0042 Saturn 116755-10-22 03:48 G 44365241.61 44365241.66 44365241.74 0.0288 0.0278 Saturn 116756-11-04 12:12 G 44365620.76 44365621.01 44365621.26 0.0288 0.0016 Saturn 116757-11-18 19:39 G 44366000.20 44366000.32 44366000.46 0.0287 0.0245 Saturn 116771-05-03 20:51 G 44370914.14 44370914.37 44370914.60 0.0271 0.0091 Saturn 116772-05-14 19:39 G 44371291.11 44371291.32 44371291.54 0.0272 0.0120 Jupiter 116779-03-11 18:56 G 44373783.09 44373783.29 44373783.49 0.0500 0.0248 Jupiter 116784-09-03 11:29 G 44375785.84 44375785.98 44375786.13 0.0530 0.0416 Saturn 116785-10-29 15:34 G 44376206.93 44376207.15 44376207.38 0.0288 0.0128 Saturn 116786-11-12 23:58 G 44376586.29 44376586.50 44376586.72 0.0287 0.0135 Jupiter 116791-03-16 02:36 G 44378170.37 44378170.61 44378170.84 0.0501 0.0019 Uranus 116794-03-13 20:22 G 44379264.15 44379264.35 44379264.58 0.0138 0.0076 Uranus 116795-03-18 09:48 G 44379633.66 44379633.91 44379634.16 0.0138 0.0023 Uranus 116796-03-21 21:48 G 44380003.31 44380003.41 44380003.55 0.0137 0.0122 Jupiter 116796-09-08 13:53 G 44380173.85 44380174.08 44380174.31 0.0528 0.0082 Saturn 116800-04-28 04:32 G 44381501.51 44381501.69 44381501.87 0.0271 0.0181

Saturn 116801-05-10 02:51 G 44381878.39 44381878.62 44381878.87 0.0271 0.0030 Neptune 116801-08-24 11:58 G 44381984.90 44381985.00 44381985.17 0.0088 0.0076 Saturn 116802-05-22 01:39 G 44382255.47 44382255.57 44382255.69 0.0272 0.0239 Neptune 116802-08-26 23:15 G 44382352.28 44382352.47 44382352.69 0.0088 0.0053 Jupiter 116803-03-20 14:22 G 44382557.91 44382558.10 44382558.29 0.0503 0.0292 Neptune 116803-08-29 10:03 G 44382719.69 44382719.92 44382720.18 0.0088 0.0030 Neptune 116804-08-30 21:20 G 44383087.14 44383087.39 44383087.65 0.0088 0.0007 Neptune 116805-09-02 08:08 G 44383454.60 44383454.84 44383455.11 0.0088 0.0016 Neptune 116806-09-04 19:24 G 44383822.09 44383822.31 44383822.55 0.0088 0.0038 Neptune 116807-09-07 06:12 G 44384189.59 44384189.76 44384189.96 0.0088 0.0061 Neptune 116808-09-08 17:15 G 44384557.17 44384557.22 44384557.33 0.0088 0.0084 Jupiter 116808-09-13 17:15 G 44384562.02 44384562.22 44384562.43 0.0525 0.0250 Saturn 116814-10-23 07:24 G 44386792.71 44386792.81 44386792.94 0.0288 0.0254 Saturn 116815-11-06 15:34 G 44387171.91 44387172.15 44387172.40 0.0288 0.0010 Saturn 116816-11-19 23:15 G 44387551.40 44387551.47 44387551.57 0.0287 0.0269 Saturn 116830-05-04 23:15 G 44392465.24 44392465.47 44392465.71 0.0271 0.0069 Saturn 116831-05-16 22:03 G 44392842.22 44392842.42 44392842.63 0.0272 0.0142 Uranus 116837-09-09 05:44 G 44395149.52 44395149.74 44395149.98 0.0140 0.0060 Uranus 116838-09-14 00:12 G 44395519.27 44395519.51 44395519.76 0.0140 0.0045 Mars 116842-12-16 09:34 G 44397073.71 44397073.90 44397074.09 0.1620 0.0070 Saturn 116844-10-30 17:15 G 44397757.99 44397758.22 44397758.45 0.0288 0.0106 Saturn 116845-11-14 01:39 G 44398137.37 44398137.57 44398137.78 0.0287 0.0158 Saturn 116859-04-30 06:41 G 44403052.60 44403052.78 44403052.98 0.0271 0.0161 Pluto 116859-05-15 16:17 G 44403067.94 44403068.18 44403068.44 0.0066 0.0017 Saturn 116860-05-11 05:15 G 44403429.48 44403429.72 44403429.96 0.0271 0.0050 Saturn 116861-05-23 04:03 G 44403806.61 44403806.67 44403806.74 0.0272 0.0260 Jupiter 116862-03-11 00:12 G 44404098.32 44404098.51 44404098.70 0.0499 0.0274 Jupiter 116867-09-03 18:27 G 44406101.14 44406101.27 44406101.40 0.0531 0.0441 Saturn 116873-10-24 10:17 G 44408343.79 44408343.93 44408344.08 0.0288 0.0231 Jupiter 116874-03-15 11:29 G 44408485.74 44408485.98 44408486.21 0.0501 0.0010

Saturn 116874-11-07 18:12 G 44408723.01 44408723.26 44408723.51 0.0288 0.0031 Uranus 116878-03-14 05:58 G 44409945.54 44409945.75 44409945.98 0.0138 0.0072 Uranus 116879-03-18 19:10 G 44410315.06 44410315.30 44410315.55 0.0138 0.0027 Jupiter 116879-09-08 22:17 G 44410489.20 44410489.43 44410489.66 0.0528 0.0106 Uranus 116880-03-22 07:24 G 44410684.72 44410684.81 44410684.93 0.0137 0.0125 Neptune 116885-02-27 12:12 G 44412487.86 44412488.01 44412488.17 0.0089 0.0071 Neptune 116886-03-02 00:27 G 44412855.32 44412855.52 44412855.75 0.0089 0.0047 Jupiter 116886-03-20 00:41 G 44412873.34 44412873.53 44412873.73 0.0503 0.0273 Neptune 116887-03-04 13:10 G 44413222.81 44413223.05 44413223.30 0.0089 0.0024 Neptune 116888-03-06 01:39 G 44413590.31 44413590.57 44413590.83 0.0089 0.0000 Saturn 116888-04-24 01:24 G 44413639.49 44413639.56 44413639.64 0.0271 0.0256 Neptune 116889-03-08 13:39 G 44413957.83 44413958.07 44413958.33 0.0089 0.0024 Saturn 116889-05-06 00:27 G 44414016.29 44414016.52 44414016.77 0.0271 0.0048 Neptune 116890-03-11 01:39 G 44414325.37 44414325.57 44414325.81 0.0089 0.0048 Saturn 116890-05-17 23:29 G 44414393.29 44414393.48 44414393.68 0.0272 0.0163 Neptune 116891-03-13 13:39 G 44414692.95 44414693.07 44414693.25 0.0089 0.0072 Jupiter 116891-09-13 21:34 G 44414877.19 44414877.40 44414877.62 0.0526 0.0214 Saturn 116903-11-02 17:15 G 44419308.98 44419309.22 44419309.46 0.0288 0.0085 Saturn 116904-11-16 01:39 G 44419688.39 44419688.57 44419688.77 0.0287 0.0179 Mars 116915-06-18 16:32 G 44423555.17 44423555.19 44423555.22 0.1923 0.1901 Saturn 116918-05-02 08:08 G 44424603.64 44424603.84 44424604.05 0.0271 0.0141 Saturn 116919-05-14 06:56 G 44424980.56 44424980.79 44424981.02 0.0271 0.0071 Uranus 116921-09-10 14:51 G 44425830.90 44425831.12 44425831.36 0.0140 0.0056 Uranus 116922-09-15 08:51 G 44426200.65 44426200.87 44426201.12 0.0140 0.0050 Saturn 116932-10-26 11:29 G 44429894.82 44429894.98 44429895.16 0.0288 0.0210 Saturn 116933-11-09 19:24 G 44430274.06 44430274.31 44430274.55 0.0288 0.0053 Jupiter 116945-03-11 10:32 G 44434413.76 44434413.94 44434414.13 0.0499 0.0293 Pluto 116946-11-14 19:39 G 44435027.13 44435027.32 44435027.55 0.0078 0.0045 Saturn 116947-04-27 01:53 G 44435190.47 44435190.58 44435190.71 0.0271 0.0237 Saturn 116948-05-08 01:10 G 44435567.31 44435567.55 44435567.79 0.0271 0.0028

Saturn 116949-05-19 23:58 G 44435944.34 44435944.50 44435944.69 0.0272 0.0183 Jupiter 116950-09-03 23:44 G 44436416.39 44436416.49 44436416.60 0.0531 0.0472 Jupiter 116957-03-15 22:32 G 44438801.20 44438801.44 44438801.67 0.0501 0.0023 Uranus 116962-03-15 16:32 G 44440626.97 44440627.19 44440627.41 0.0138 0.0067 Jupiter 116962-09-09 01:24 G 44440804.33 44440804.56 44440804.78 0.0529 0.0145 Saturn 116962-11-03 17:15 G 44440859.98 44440860.22 44440860.46 0.0288 0.0065 Uranus 116963-03-20 05:29 G 44440996.49 44440996.73 44440996.98 0.0138 0.0032 Saturn 116963-11-18 01:39 G 44441239.40 44441239.57 44441239.76 0.0287 0.0198 Uranus 116964-03-23 17:15 G 44441366.16 44441366.22 44441366.33 0.0137 0.0130 Neptune 116965-08-24 22:17 G 44441885.38 44441885.43 44441885.54 0.0088 0.0084 Neptune 116966-08-27 09:34 G 44442252.73 44442252.90 44442253.10 0.0088 0.0061 Neptune 116967-08-29 20:36 G 44442620.13 44442620.36 44442620.60 0.0088 0.0039 Neptune 116968-08-31 07:24 G 44442987.56 44442987.81 44442988.07 0.0088 0.0016 Jupiter 116969-03-20 07:39 G 44443188.62 44443188.82 44443189.03 0.0502 0.0248 Neptune 116969-09-02 18:27 G 44443355.02 44443355.27 44443355.53 0.0088 0.0007 Neptune 116970-09-05 05:15 G 44443722.48 44443722.72 44443722.97 0.0088 0.0029 Neptune 116971-09-07 16:03 G 44444089.98 44444090.17 44444090.40 0.0088 0.0052 Neptune 116972-09-09 02:51 G 44444457.52 44444457.62 44444457.78 0.0088 0.0075 Jupiter 116974-09-14 01:24 G 44445192.34 44445192.56 44445192.78 0.0527 0.0181 Saturn 116977-05-03 08:51 G 44446154.65 44446154.87 44446155.09 0.0271 0.0121 Saturn 116978-05-15 07:39 G 44446531.60 44446531.82 44446532.06 0.0272 0.0091 Jupiter 116986-09-19 04:32 G 44449580.63 44449580.69 44449580.75 0.0525 0.0507 Saturn 116991-10-28 13:39 G 44451445.88 44451446.07 44451446.26 0.0288 0.0188 Saturn 116992-11-10 20:51 G 44451825.13 44451825.37 44451825.62 0.0287 0.0074

## 118TH MILLENNIUM CE

## This is a list of transits of Earth in the 118th millennium CE.

FROM MAX- C START MAX END SUNRAD DEPTH S

TRANSIT

TIME

Uranus 117005-09-12 00:27 G 44456512.29 44456512.52 44456512.76 0.0140 0.0052 Saturn 117006-04-29 02:51 G 44456741.48 44456741.62 44456741.76 0.0271 0.0218 Uranus 117006-09-16 18:56 G 44456882.06 44456882.29 44456882.53 0.0140 0.0053 Saturn 117007-05-11 02:08 G 44457118.35 44457118.59 44457118.84 0.0271 0.0010 Saturn 117008-05-22 01:10 G 44457495.40 44457495.55 44457495.72 0.0272 0.0203 Saturn 117021-11-05 17:29 G 44462410.99 44462411.23 44462411.48 0.0288 0.0045 Saturn 117022-11-20 01:39 G 44462790.42 44462790.57 44462790.74 0.0287 0.0219 Jupiter 117028-03-11 19:10 G 44464729.13 44464729.30 44464729.49 0.0498 0.0311 Jupiter 117033-09-04 00:56 G 44466731.49 44466731.54 44466731.61 0.0532 0.0513 Saturn 117036-05-05 09:05 G 44467705.67 44467705.88 44467706.12 0.0272 0.0103 Saturn 117037-05-17 08:51 G 44468082.65 44468082.87 44468083.09 0.0272 0.0110 Jupiter 117040-03-16 05:44 G 44469116.51 44469116.74 44469116.98 0.0499 0.0046 Jupiter 117045-09-09 05:44 G 44471119.52 44471119.74 44471119.96 0.0530 0.0177 Uranus 117046-03-17 03:05 G 44471308.42 44471308.63 44471308.87 0.0138 0.0062 Uranus 117047-03-21 16:03 G 44471677.93 44471678.17 44471678.42 0.0138 0.0037 Mars 117047-12-17 07:39 G 44471948.69 44471948.82 44471948.96 0.1628 0.1159 Uranus 117048-03-25 04:03 G 44472047.64 44472047.67 44472047.74 0.0137 0.0135 Neptune 117049-02-28 20:36 G 44472388.26 44472388.36 44472388.48 0.0089 0.0081 Neptune 117050-03-03 08:51 G 44472755.69 44472755.87 44472756.09 0.0089 0.0057 Saturn 117050-10-30 16:46 G 44472997.00 44472997.20 44472997.41 0.0287 0.0165 Neptune 117051-03-05 21:34 G 44473123.17 44473123.40 44473123.65 0.0089 0.0034 Saturn 117051-11-13 23:58 G 44473376.27 44473376.50 44473376.74 0.0287 0.0098 Neptune 117052-03-07 09:48 G 44473490.67 44473490.91 44473491.18 0.0089 0.0011 Jupiter 117052-03-20 15:48 G 44473503.95 44473504.16 44473504.37 0.0502 0.0222 Neptune 117053-03-09 22:17 G 44473858.18 44473858.43 44473858.69 0.0089 0.0014

Neptune 117054-03-12 10:46 G 44474225.72 44474225.95 44474226.19 0.0089 0.0038 Neptune 117055-03-14 22:32 G 44474593.28 44474593.44 44474593.65 0.0089 0.0062 Neptune 117056-03-16 11:00 G 44474960.89 44474960.96 44474961.05 0.0089 0.0085 Jupiter 117057-09-14 10:03 G 44475507.70 44475507.92 44475508.15 0.0527 0.0157 Jupiter 117064-03-25 05:00 G 44477891.69 44477891.71 44477891.75 0.0504 0.0498 Saturn 117065-04-30 03:48 G 44478292.50 44478292.66 44478292.83 0.0271 0.0198 Saturn 117066-05-12 03:20 G 44478669.40 44478669.64 44478669.89 0.0271 0.0014 Saturn 117067-05-24 02:51 G 44479046.49 44479046.62 44479046.76 0.0272 0.0223 Jupiter 117069-09-19 10:32 G 44479895.84 44479895.94 44479896.04 0.0525 0.0475 Saturn 117079-10-24 12:12 G 44483582.99 44483583.01 44483583.06 0.0288 0.0284 Saturn 117080-11-06 19:53 G 44483962.08 44483962.33 44483962.58 0.0288 0.0023 Saturn 117081-11-21 03:34 G 44484341.52 44484341.65 44484341.79 0.0287 0.0239 Uranus 117089-09-12 09:05 G 44487193.66 44487193.88 44487194.14 0.0140 0.0048 Uranus 117090-09-17 03:34 G 44487563.42 44487563.65 44487563.89 0.0140 0.0058 Saturn 117095-05-07 10:46 G 44489256.72 44489256.95 44489257.18 0.0272 0.0082 Saturn 117096-05-18 10:32 G 44489633.73 44489633.94 44489634.16 0.0272 0.0131 Pluto 117105-05-19 09:48 G 44492920.67 44492920.91 44492921.17 0.0066 0.0009 Saturn 117109-11-01 21:48 G 44494548.20 44494548.41 44494548.63 0.0287 0.0140 Saturn 117110-11-16 04:32 G 44494927.47 44494927.69 44494927.92 0.0287 0.0121 Jupiter 117111-03-13 02:51 G 44495044.45 44495044.62 44495044.79 0.0497 0.0337 Jupiter 117123-03-17 14:08 G 44499431.86 44499432.09 44499432.32 0.0499 0.0071 Saturn 117124-05-02 05:58 G 44499843.57 44499843.75 44499843.94 0.0271 0.0178 Saturn 117125-05-14 05:58 G 44500220.51 44500220.75 44500220.99 0.0272 0.0033 Saturn 117126-05-26 05:29 G 44500597.64 44500597.73 44500597.85 0.0272 0.0244 Mars 117126-12-20 12:27 G 44500805.84 44500806.02 44500806.19 0.1624 0.0628 Jupiter 117128-09-09 11:29 G 44501434.77 44501434.98 44501435.19 0.0530 0.0207 Uranus 117130-03-18 14:36 G 44501989.88 44501990.11 44501990.34 0.0138 0.0056 Neptune 117130-08-28 18:56 G 44502153.15 44502153.29 44502153.46 0.0088 0.0071 Uranus 117131-03-23 03:20 G 44502359.41 44502359.64 44502359.89 0.0138 0.0042 Neptune 117131-08-31 05:44 G 44502520.55 44502520.74 44502520.98 0.0088 0.0049

Neptune 117132-09-01 17:00 G 44502887.98 44502888.21 44502888.47 0.0088 0.0025 Neptune 117133-09-04 04:03 G 44503255.41 44503255.67 44503255.93 0.0088 0.0003 Neptune 117134-09-06 15:05 G 44503622.88 44503623.13 44503623.38 0.0088 0.0020 Jupiter 117135-03-22 01:53 G 44503819.37 44503819.58 44503819.80 0.0501 0.0202 Neptune 117135-09-09 01:39 G 44503990.36 44503990.57 44503990.81 0.0088 0.0043 Neptune 117136-09-10 12:27 G 44504357.88 44504358.02 44504358.22 0.0088 0.0066 Saturn 117138-10-26 17:15 G 44505134.13 44505134.22 44505134.34 0.0288 0.0261 Saturn 117139-11-10 00:41 G 44505513.28 44505513.53 44505513.78 0.0287 0.0003 Jupiter 117140-09-14 12:27 G 44505822.79 44505823.02 44505823.25 0.0528 0.0117 Saturn 117140-11-23 08:22 G 44505892.75 44505892.85 44505892.95 0.0287 0.0261 Jupiter 117147-03-26 12:56 G 44508206.97 44508207.04 44508207.12 0.0503 0.0474 Jupiter 117152-09-19 10:03 G 44510210.79 44510210.92 44510211.06 0.0526 0.0430 Saturn 117153-04-27 11:58 G 44510430.99 44510431.00 44510431.03 0.0272 0.0271 Saturn 117154-05-09 12:56 G 44510807.81 44510808.04 44510808.28 0.0272 0.0061 Saturn 117155-05-21 13:24 G 44511184.86 44511185.06 44511185.26 0.0273 0.0152 Saturn 117168-11-03 05:44 G 44516099.51 44516099.74 44516099.97 0.0287 0.0113 Saturn 117169-11-17 11:58 G 44516478.80 44516479.00 44516479.23 0.0287 0.0148 Uranus 117173-09-13 18:41 G 44517875.04 44517875.28 44517875.53 0.0140 0.0044 Uranus 117174-09-18 13:24 G 44518244.84 44518245.06 44518245.29 0.0140 0.0062 Saturn 117183-05-04 09:34 G 44521394.71 44521394.90 44521395.10 0.0272 0.0156 Saturn 117184-05-15 09:48 G 44521771.68 44521771.91 44521772.15 0.0272 0.0056 Saturn 117185-05-27 10:17 G 44522148.88 44522148.93 44522148.98 0.0272 0.0266 Pluto 117192-11-17 06:27 G 44524879.51 44524879.77 44524880.04 0.0078 0.0006 Jupiter 117194-03-12 11:44 G 44525359.84 44525359.99 44525360.16 0.0497 0.0358 Saturn 117197-10-28 01:10 G 44526685.42 44526685.55 44526685.70 0.0287 0.0234 Saturn 117198-11-11 08:08 G 44527064.59 44527064.84 44527065.09 0.0287 0.0027 117199-06-20 03:05 G 44527285.46 44527285.63 44527285.81 0.1915 0.0867 Saturn 117199-11-25 15:20 G 44527444.13 44527444.14 44527444.15 0.0287 0.0286 Jupiter 117206-03-16 22:17 G 44529747.20 44529747.43 44529747.66 0.0498 0.0093 Jupiter 117211-09-09 08:08 G 44531749.63 44531749.84 44531750.04 0.0531 0.0264

Saturn 117212-04-28 15:20 G 44531982.06 44531982.14 44531982.25 0.0272 0.0250 Saturn 117213-05-10 16:46 G 44532358.97 44532359.20 44532359.45 0.0272 0.0039 Neptune 117214-03-03 17:15 G 44532656.07 44532656.22 44532656.41 0.0089 0.0068 Uranus 117214-03-19 01:24 G 44532671.33 44532671.56 44532671.80 0.0138 0.0051 Saturn 117214-05-22 17:29 G 44532736.05 44532736.23 44532736.42 0.0273 0.0175 Neptune 117215-03-06 05:58 G 44533023.53 44533023.75 44533023.98 0.0089 0.0044 Uranus 117215-03-23 14:08 G 44533040.86 44533041.09 44533041.34 0.0138 0.0048 Neptune 117216-03-07 18:12 G 44533391.02 44533391.26 44533391.52 0.0089 0.0020 Neptune 117217-03-10 06:56 G 44533758.53 44533758.79 44533759.05 0.0089 0.0004 Neptune 117218-03-12 19:10 G 44534126.06 44534126.30 44534126.55 0.0089 0.0028 Jupiter 117218-03-21 08:08 G 44534134.62 44534134.84 44534135.06 0.0500 0.0172 Neptune 117219-03-15 07:10 G 44534493.61 44534493.80 44534494.03 0.0089 0.0052 Neptune 117220-03-16 19:39 G 44534861.19 44534861.32 44534861.47 0.0089 0.0075 Jupiter 117223-09-14 11:00 G 44536137.73 44536137.96 44536138.19 0.0529 0.0065 Saturn 117227-11-05 16:03 G 44537650.94 44537651.17 44537651.41 0.0287 0.0084 Saturn 117228-11-18 22:17 G 44538030.24 44538030.43 44538030.63 0.0287 0.0177 Jupiter 117230-03-25 16:46 G 44538522.08 44538522.20 44538522.31 0.0502 0.0435 Jupiter 117235-09-19 15:20 G 44540525.99 44540526.14 44540526.29 0.0526 0.0396 Saturn 117242-05-05 15:05 G 44542945.92 44542946.13 44542946.34 0.0272 0.0132 Saturn 117243-05-17 15:34 G 44543322.92 44543323.15 44543323.38 0.0272 0.0080 Saturn 117256-10-29 11:58 G 44548236.83 44548237.00 44548237.18 0.0287 0.0205 Uranus 117257-09-14 03:34 G 44548556.41 44548556.65 44548556.90 0.0140 0.0041 Saturn 117257-11-12 18:27 G 44548616.03 44548616.27 44548616.52 0.0287 0.0056 Uranus 117258-09-18 22:17 G 44548926.21 44548926.43 44548926.66 0.0140 0.0065 Saturn 117271-04-30 20:22 G 44553533.22 44553533.35 44553533.49 0.0273 0.0225 Saturn 117272-05-11 22:03 G 44553910.18 44553910.42 44553910.66 0.0273 0.0014 Saturn 117273-05-23 23:00 G 44554287.31 44554287.46 44554287.63 0.0273 0.0199 Jupiter 117277-03-11 17:58 G 44555675.12 44555675.25 44555675.41 0.0496 0.0386 Saturn 117286-11-07 04:46 G 44559202.46 44559202.70 44559202.95 0.0287 0.0052 Saturn 117287-11-21 11:00 G 44559581.79 44559581.96 44559582.13 0.0286 0.0207

Jupiter 117289-03-16 00:56 G 44560062.31 44560062.54 44560062.76 0.0498 0.0132 Neptune 117294-08-28 04:03 G 44562053.59 44562053.67 44562053.81 0.0088 0.0080 Jupiter 117294-09-08 11:29 G 44562064.79 44562064.98 44562065.17 0.0532 0.0303 Neptune 117295-08-30 15:20 G 44562420.96 44562421.14 44562421.35 0.0088 0.0057 Neptune 117296-09-01 02:22 G 44562788.37 44562788.60 44562788.85 0.0088 0.0035 Neptune 117297-09-03 13:10 G 44563155.81 44563156.05 44563156.32 0.0088 0.0012 Uranus 117298-03-19 12:27 G 44563352.79 44563353.02 44563353.26 0.0138 0.0046 Neptune 117298-09-06 00:12 G 44563523.26 44563523.51 44563523.77 0.0088 0.0011 Uranus 117299-03-24 01:39 G 44563722.33 44563722.57 44563722.80 0.0138 0.0052 Neptune 117299-09-08 11:00 G 44563890.74 44563890.96 44563891.21 0.0088 0.0034 Neptune 117300-09-10 22:03 G 44564258.23 44564258.42 44564258.62 0.0088 0.0056 Jupiter 117301-03-21 11:29 G 44564449.76 44564449.98 44564450.21 0.0500 0.0134 Saturn 117301-05-07 22:03 G 44564497.20 44564497.42 44564497.64 0.0272 0.0106 Neptune 117301-09-13 08:36 G 44564625.77 44564625.86 44564625.99 0.0088 0.0079 Saturn 117302-05-19 22:32 G 44564874.22 44564874.44 44564874.67 0.0272 0.0106 Jupiter 117306-09-14 14:36 G 44566452.87 44566453.11 44566453.34 0.0529 0.0029 Jupiter 117313-03-25 23:15 G 44568837.34 44568837.47 44568837.61 0.0502 0.0406 Saturn 117315-11-02 00:41 G 44569788.34 44569788.53 44569788.73 0.0287 0.0174 Saturn 117316-11-15 06:56 G 44570167.56 44570167.79 44570168.03 0.0287 0.0086 Jupiter 117318-09-19 15:05 G 44570840.96 44570841.13 44570841.31 0.0527 0.0349 Saturn 117330-05-03 02:51 G 44575084.46 44575084.62 44575084.79 0.0273 0.0200 Saturn 117331-05-15 04:32 G 44575461.45 44575461.69 44575461.93 0.0273 0.0012 Mars 117331-12-20 09:34 G 44575680.72 44575680.90 44575681.08 0.1632 0.0489 Saturn 117332-05-26 05:29 G 44575838.61 44575838.73 44575838.88 0.0273 0.0224 Uranus 117340-09-10 20:08 G 44578868.33 44578868.34 44578868.37 0.0140 0.0139 Uranus 117341-09-15 13:53 G 44579237.84 44579238.08 44579238.34 0.0140 0.0036 Uranus 117342-09-20 08:36 G 44579607.65 44579607.86 44579608.09 0.0140 0.0069 Saturn 117344-10-26 13:39 G 44580375.01 44580375.07 44580375.14 0.0287 0.0276 Saturn 117345-11-09 19:10 G 44580754.05 44580754.30 44580754.55 0.0287 0.0019 Saturn 117346-11-24 00:56 G 44581133.42 44581133.54 44581133.69 0.0286 0.0240

Pluto 117351-05-22 00:56 G 44582773.35 44582773.54 44582773.75 0.0066 0.0040 Pluto 117352-05-22 13:24 G 44583139.91 44583140.06 44583140.27 0.0066 0.0048 Jupiter 117360-03-11 20:22 G 44585990.24 44585990.35 44585990.47 0.0496 0.0424 Saturn 117360-05-09 06:12 G 44586048.53 44586048.76 44586048.99 0.0272 0.0079 Saturn 117361-05-21 06:56 G 44586425.58 44586425.79 44586426.00 0.0272 0.0133 Jupiter 117372-03-16 06:27 G 44590377.55 44590377.77 44590377.99 0.0498 0.0162 Saturn 117374-11-03 15:20 G 44591339.93 44591340.14 44591340.36 0.0287 0.0141 Saturn 117375-11-17 21:34 G 44591719.17 44591719.40 44591719.63 0.0287 0.0119 Jupiter 117377-09-08 11:00 G 44592379.79 44592379.96 44592380.13 0.0532 0.0351 Neptune 117378-03-04 00:56 G 44592556.43 44592556.54 44592556.68 0.0089 0.0077 Neptune 117379-03-06 13:10 G 44592923.86 44592924.05 44592924.27 0.0089 0.0054 Neptune 117380-03-08 01:39 G 44593291.34 44593291.57 44593291.83 0.0089 0.0031 Neptune 117381-03-10 14:22 G 44593658.84 44593659.10 44593659.36 0.0089 0.0007 Neptune 117382-03-13 02:36 G 44594026.36 44594026.61 44594026.87 0.0089 0.0017 Uranus 117382-03-20 23:29 G 44594034.24 44594034.48 44594034.73 0.0138 0.0041 Neptune 117383-03-15 14:22 G 44594393.90 44594394.10 44594394.35 0.0089 0.0042 Uranus 117383-03-25 12:41 G 44594403.80 44594404.03 44594404.26 0.0138 0.0057 Neptune 117384-03-17 03:05 G 44594761.47 44594761.63 44594761.83 0.0089 0.0065 Jupiter 117384-03-20 17:58 G 44594765.02 44594765.25 44594765.48 0.0499 0.0104 Neptune 117385-03-19 15:05 G 44595129.12 44595129.13 44595129.21 0.0089 0.0089 Saturn 117389-05-04 10:03 G 44596635.74 44596635.92 44596636.12 0.0273 0.0173 Jupiter 117389-09-13 08:08 G 44596767.61 44596767.84 44596768.07 0.0530 0.0037 Saturn 117390-05-16 11:58 G 44597012.76 44597013.00 44597013.24 0.0273 0.0040 Saturn 117391-05-28 13:10 G 44597389.96 44597390.05 44597390.15 0.0273 0.0251 Jupiter 117396-03-25 03:34 G 44599152.50 44599152.65 44599152.81 0.0501 0.0369 Jupiter 117401-09-19 09:20 G 44601155.70 44601155.89 44601156.09 0.0528 0.0286 Saturn 117403-10-30 04:03 G 44601926.55 44601926.67 44601926.81 0.0287 0.0243 Saturn 117404-11-12 10:03 G 44602305.67 44602305.92 44602306.16 0.0287 0.0016 Saturn 117405-11-26 15:48 G 44602685.10 44602685.16 44602685.25 0.0286 0.0273 Mars 117410-12-23 15:05 G 44604538.03 44604538.13 44604538.24 0.1629 0.1335

Saturn 117418-04-30 13:53 G 44607223.02 44607223.08 44607223.15 0.0272 0.0262 Saturn 117419-05-12 15:20 G 44607599.90 44607600.14 44607600.38 0.0272 0.0051 Saturn 117420-05-23 15:48 G 44607976.97 44607977.16 44607977.36 0.0272 0.0160 Uranus 117424-09-12 05:29 G 44609549.68 44609549.73 44609549.80 0.0140 0.0135 Uranus 117425-09-16 23:29 G 44609919.24 44609919.48 44609919.74 0.0140 0.0032 Uranus 117426-09-21 17:58 G 44610289.05 44610289.25 44610289.49 0.0140 0.0074 Saturn 117433-11-06 05:58 G 44612891.52 44612891.75 44612891.98 0.0287 0.0107 Saturn 117434-11-20 11:58 G 44613270.80 44613271.00 44613271.22 0.0287 0.0153 Pluto 117438-11-20 16:17 G 44614732.03 44614732.18 44614732.39 0.0078 0.0057 Jupiter 117443-03-13 02:36 G 44616305.52 44616305.61 44616305.71 0.0495 0.0451 Saturn 117448-05-06 17:58 G 44618187.06 44618187.25 44618187.47 0.0273 0.0146 Saturn 117449-05-18 19:39 G 44618564.08 44618564.32 44618564.55 0.0273 0.0067 Jupiter 117455-03-17 11:29 G 44620692.77 44620692.98 44620693.19 0.0497 0.0194 Neptune 117459-09-01 00:27 G 44622321.35 44622321.52 44622321.69 0.0088 0.0067 Neptune 117460-09-02 11:00 G 44622688.75 44622688.96 44622689.20 0.0088 0.0044 Jupiter 117460-09-08 04:17 G 44622694.54 44622694.68 44622694.83 0.0533 0.0417 Neptune 117461-09-04 22:17 G 44623056.18 44623056.43 44623056.68 0.0088 0.0021 Neptune 117462-09-07 09:20 G 44623423.64 44623423.89 44623424.15 0.0088 0.0002 Saturn 117462-10-31 18:41 G 44623478.13 44623478.28 44623478.46 0.0287 0.0210 Neptune 117463-09-09 20:08 G 44623791.10 44623791.34 44623791.60 0.0088 0.0025 Saturn 117463-11-15 00:41 G 44623857.29 44623857.53 44623857.78 0.0287 0.0049 Neptune 117464-09-11 06:56 G 44624158.59 44624158.79 44624159.02 0.0088 0.0047 Uranus 117465-03-17 21:20 G 44624346.35 44624346.39 44624346.45 0.0138 0.0135 Neptune 117465-09-13 17:29 G 44624526.10 44624526.23 44624526.42 0.0088 0.0070 Uranus 117466-03-22 11:00 G 44624715.73 44624715.96 44624716.22 0.0138 0.0036 Jupiter 117467-03-21 17:29 G 44625080.00 44625080.23 44625080.46 0.0499 0.0059 Uranus 117467-03-27 00:12 G 44625085.30 44625085.51 44625085.75 0.0138 0.0063 Jupiter 117472-09-13 09:20 G 44627082.66 44627082.89 44627083.12 0.0531 0.0080 Saturn 117477-05-01 23:15 G 44628774.35 44628774.47 44628774.60 0.0272 0.0234 Saturn 117478-05-14 00:27 G 44629151.28 44629151.52 44629151.76 0.0272 0.0024

Jupiter 117479-03-26 03:48 G 44629467.49 44629467.66 44629467.84 0.0501 0.0324 Saturn 117479-05-26 00:56 G 44629528.36 44629528.54 44629528.71 0.0272 0.0188 Mars 117483-06-21 16:46 G 44631016.01 44631016.20 44631016.40 0.1907 0.0025 Jupiter 117484-09-18 12:56 G 44631470.84 44631471.04 44631471.25 0.0528 0.0249 Saturn 117492-11-07 19:53 G 44634443.09 44634443.33 44634443.57 0.0287 0.0075 Saturn 117493-11-22 01:39 G 44634822.39 44634822.57 44634822.77 0.0287 0.0185 Saturn 117507-05-10 01:53 G 44639738.37 44639738.58 44639738.81 0.0272 0.0119 Saturn 117508-05-21 03:20 G 44640115.42 44640115.64 44640115.87 0.0273 0.0094 Uranus 117508-09-13 16:32 G 44640231.12 44640231.19 44640231.31 0.0140 0.0130 Uranus 117509-09-18 10:46 G 44640600.71 44640600.95 44640601.21 0.0140 0.0026 Uranus 117510-09-23 05:29 G 44640970.52 44640970.73 44640970.95 0.0140 0.0079 Saturn 117521-11-03 07:10 G 44645029.62 44645029.80 44645030.01 0.0287 0.0179 Saturn 117522-11-17 13:24 G 44645408.83 44645409.06 44645409.30 0.0287 0.0081 Jupiter 117526-03-13 03:05 G 44646620.61 44646620.63 44646620.67 0.0494 0.0490 Saturn 117536-05-04 07:53 G 44650325.69 44650325.83 44650326.00 0.0272 0.0208 Saturn 117537-05-16 08:51 G 44650702.63 44650702.87 44650703.11 0.0272 0.0004 Jupiter 117538-03-17 12:27 G 44651007.82 44651008.02 44651008.23 0.0496 0.0234 Saturn 117538-05-28 09:05 G 44651079.74 44651079.88 44651080.03 0.0272 0.0214 Neptune 117542-03-05 07:53 G 44652456.82 44652456.83 44652456.90 0.0089 0.0088 Neptune 117543-03-07 20:22 G 44652824.19 44652824.35 44652824.55 0.0089 0.0065 Jupiter 117543-09-09 08:08 G 44653009.72 44653009.84 44653009.96 0.0533 0.0451 Neptune 117544-03-09 08:51 G 44653191.66 44653191.87 44653192.12 0.0089 0.0041 Neptune 117545-03-11 21:20 G 44653559.15 44653559.39 44653559.66 0.0089 0.0018 Neptune 117546-03-14 09:48 G 44653926.65 44653926.91 44653927.16 0.0089 0.0007 Neptune 117547-03-16 21:48 G 44654294.18 44654294.41 44654294.67 0.0089 0.0030 Neptune 117548-03-18 10:17 G 44654661.73 44654661.93 44654662.14 0.0089 0.0054 Uranus 117549-03-19 09:20 G 44655027.81 44655027.89 44655028.00 0.0138 0.0128 Neptune 117549-03-20 22:17 G 44655029.32 44655029.43 44655029.57 0.0089 0.0078 Jupiter 117550-03-21 22:46 G 44655395.22 44655395.45 44655395.69 0.0498 0.0029 Uranus 117550-03-23 23:29 G 44655397.24 44655397.48 44655397.73 0.0138 0.0029

Uranus 117551-03-28 12:41 G 44655766.82 44655767.03 44655767.25 0.0138 0.0069 Saturn 117551-11-11 08:22 G 44655994.61 44655994.85 44655995.10 0.0287 0.0043 Saturn 117552-11-24 14:36 G 44656373.95 44656374.11 44656374.27 0.0287 0.0216 Jupiter 117555-09-14 11:15 G 44657397.75 44657397.97 44657398.20 0.0531 0.0121 Jupiter 117562-03-26 10:46 G 44659782.77 44659782.95 44659783.14 0.0500 0.0296 Saturn 117566-05-11 09:05 G 44661289.65 44661289.88 44661290.11 0.0272 0.0092 Saturn 117567-05-23 09:48 G 44661666.70 44661666.91 44661667.13 0.0273 0.0121 Jupiter 117567-09-19 09:20 G 44661785.67 44661785.89 44661786.11 0.0529 0.0193 Jupiter 117579-09-24 09:48 G 44666173.86 44666173.91 44666173.98 0.0527 0.0509 Saturn 117580-11-04 17:44 G 44666581.03 44666581.24 44666581.46 0.0287 0.0149 Saturn 117581-11-18 23:58 G 44666960.28 44666960.50 44666960.73 0.0287 0.0111 Uranus 117592-09-14 02:22 G 44670912.50 44670912.60 44670912.73 0.0140 0.0125 Uranus 117593-09-18 20:36 G 44671282.11 44671282.36 44671282.62 0.0140 0.0022 Uranus 117594-09-23 14:51 G 44671651.93 44671652.12 44671652.34 0.0140 0.0084 Saturn 117595-05-06 16:03 G 44671877.00 44671877.17 44671877.36 0.0272 0.0182 Saturn 117596-05-17 16:46 G 44672253.96 44672254.20 44672254.44 0.0272 0.0030 Saturn 117597-05-29 16:17 G 44672631.08 44672631.18 44672631.31 0.0272 0.0241 Pluto 117598-05-26 03:20 G 44672992.39 44672992.64 44672992.90 0.0066 0.0010 Saturn 117609-10-29 12:41 G 44677166.95 44677167.03 44677167.12 0.0287 0.0270 Saturn 117610-11-12 18:12 G 44677546.01 44677546.26 44677546.51 0.0287 0.0013 Saturn 117611-11-27 00:12 G 44677925.39 44677925.51 44677925.64 0.0287 0.0245 Mars 117615-12-23 11:15 G 44679412.78 44679412.97 44679413.16 0.1637 0.0196 Jupiter 117621-03-16 20:08 G 44681323.14 44681323.34 44681323.54 0.0496 0.0258 Neptune 117623-09-01 08:22 G 44682221.73 44682221.85 44682221.99 0.0088 0.0076 Neptune 117624-09-02 18:41 G 44682589.11 44682589.28 44682589.51 0.0088 0.0055 Saturn 117625-05-12 14:51 G 44682840.89 44682841.12 44682841.36 0.0272 0.0067 Neptune 117625-09-05 05:58 G 44682956.53 44682956.75 44682957.01 0.0088 0.0032 Saturn 117626-05-24 15:20 G 44683217.95 44683218.14 44683218.36 0.0272 0.0146 Neptune 117626-09-07 17:29 G 44683323.97 44683324.23 44683324.48 0.0088 0.0008 Jupiter 117626-09-08 06:27 G 44683324.69 44683324.77 44683324.84 0.0533 0.0501

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Saturn 117773-05-23 06:27 G 44736907.54 44736907.77 44736907.99 0.0272 0.0099 Saturn 117786-11-04 03:34 G 44741820.47 44741820.65 44741820.83 0.0287 0.0197 Jupiter 117787-03-17 08:51 G 44741953.70 44741953.87 44741954.06 0.0495 0.0308 Neptune 117787-09-01 16:03 G 44742122.15 44742122.17 44742122.25 0.0088 0.0087 Saturn 117787-11-18 09:05 G 44742199.64 44742199.88 44742200.13 0.0287 0.0062 Neptune 117788-09-03 02:51 G 44742489.47 44742489.62 44742489.82 0.0088 0.0064 Neptune 117789-09-05 13:53 G 44742856.87 44742857.08 44742857.33 0.0088 0.0042 Neptune 117790-09-08 01:10 G 44743224.30 44743224.55 44743224.80 0.0088 0.0018 Neptune 117791-09-10 11:58 G 44743591.75 44743592.00 44743592.26 0.0088 0.0005 Neptune 117792-09-11 23:00 G 44743959.22 44743959.46 44743959.72 0.0088 0.0027 Neptune 117793-09-14 09:48 G 44744326.72 44744326.91 44744327.14 0.0088 0.0050 Neptune 117794-09-16 20:36 G 44744694.25 44744694.36 44744694.53 0.0088 0.0073 Jupiter 117799-03-21 19:53 G 44746341.10 44746341.33 44746341.57 0.0497 0.0049 Uranus 117801-03-22 23:58 G 44747072.36 44747072.50 44747072.68 0.0138 0.0108 Saturn 117801-05-06 23:43 G 44747117.34 44747117.49 44747117.65 0.0272 0.0210 Uranus 117802-03-27 14:22 G 44747441.85 44747442.10 44747442.35 0.0138 0.0008 Saturn 117802-05-19 00:55 G 44747494.29 44747494.54 44747494.78 0.0272 0.0004 Uranus 117803-04-01 03:05 G 44747811.45 44747811.63 44747811.84 0.0138 0.0090 Saturn 117803-05-31 00:41 G 44747871.39 44747871.53 44747871.69 0.0272 0.0212 Jupiter 117804-09-13 17:58 G 44748343.04 44748343.25 44748343.46 0.0533 0.0238 Jupiter 117811-03-27 06:41 G 44750728.57 44750728.78 44750728.99 0.0499 0.0215 Jupiter 117816-09-18 20:07 G 44752731.11 44752731.34 44752731.57 0.0531 0.0087 Saturn 117816-11-12 09:19 G 44752785.64 44752785.89 44752786.13 0.0287 0.0054 Saturn 117817-11-26 15:48 G 44753165.00 44753165.16 44753165.35 0.0287 0.0207 Mars 117820-12-23 05:15 G 44754287.58 44754287.72 44754287.87 0.1646 0.1072 Jupiter 117823-03-31 15:05 G 44755116.06 44755116.13 44755116.20 0.0500 0.0474 Jupiter 117828-09-23 21:19 G 44757119.25 44757119.39 44757119.54 0.0529 0.0409 Saturn 117831-05-14 08:07 G 44758081.62 44758081.84 44758082.07 0.0272 0.0093 Saturn 117832-05-25 08:22 G 44758458.63 44758458.85 44758459.07 0.0272 0.0119 Pluto 117844-05-28 12:41 G 44762844.84 44762845.03 44762845.26 0.0066 0.0037

Uranus 117844-09-17 11:00 G 44762956.82 44762956.96 44762957.13 0.0140 0.0109 Pluto 117845-05-30 01:10 G 44763211.42 44763211.55 44763211.75 0.0066 0.0052 Uranus 117845-09-22 05:00 G 44763326.45 44763326.71 44763326.96 0.0140 0.0006 Saturn 117845-11-06 05:43 G 44763371.55 44763371.74 44763371.94 0.0287 0.0176 Uranus 117846-09-26 22:46 G 44763696.29 44763696.45 44763696.65 0.0140 0.0099 Saturn 117846-11-20 11:00 G 44763750.73 44763750.96 44763751.21 0.0287 0.0084 Saturn 117860-05-08 00:41 G 44768668.37 44768668.53 44768668.71 0.0272 0.0191 Saturn 117861-05-20 01:53 G 44769045.34 44769045.58 44769045.83 0.0272 0.0022 Saturn 117862-06-01 02:07 G 44769422.47 44769422.59 44769422.73 0.0272 0.0231 Jupiter 117870-03-17 20:07 G 44772269.16 44772269.34 44772269.52 0.0495 0.0321 Neptune 117871-03-08 08:22 G 44772624.81 44772624.85 44772624.93 0.0089 0.0087 Neptune 117872-03-09 20:36 G 44772992.21 44772992.36 44772992.57 0.0089 0.0064 Neptune 117873-03-12 09:19 G 44773359.68 44773359.89 44773360.14 0.0089 0.0040 Neptune 117874-03-14 22:03 G 44773727.16 44773727.42 44773727.67 0.0089 0.0016 Neptune 117875-03-17 10:17 G 44774094.68 44774094.93 44774095.19 0.0089 0.0008 Saturn 117875-11-14 09:19 G 44774336.64 44774336.89 44774337.14 0.0287 0.0034 Neptune 117876-03-18 22:31 G 44774462.20 44774462.44 44774462.68 0.0089 0.0032 Saturn 117876-11-27 15:48 G 44774716.03 44774716.16 44774716.33 0.0287 0.0227 Neptune 117877-03-21 10:31 G 44774829.75 44774829.94 44774830.15 0.0089 0.0056 Neptune 117878-03-23 23:00 G 44775197.34 44775197.46 44775197.58 0.0089 0.0079 Jupiter 117882-03-22 04:17 G 44776656.45 44776656.68 44776656.92 0.0496 0.0067 Uranus 117885-03-23 12:27 G 44777753.87 44777754.02 44777754.21 0.0138 0.0101 Uranus 117886-03-28 02:36 G 44778123.36 44778123.61 44778123.87 0.0138 0.0003 Uranus 117887-04-01 15:34 G 44778492.98 44778493.15 44778493.35 0.0138 0.0096 Jupiter 117887-09-13 19:10 G 44778658.11 44778658.30 44778658.51 0.0534 0.0277 Saturn 117890-05-15 08:51 G 44779632.64 44779632.87 44779633.11 0.0272 0.0073 Saturn 117891-05-27 09:34 G 44780009.69 44780009.90 44780010.11 0.0272 0.0140 Jupiter 117894-03-26 14:07 G 44781043.88 44781044.09 44781044.31 0.0497 0.0192 Jupiter 117899-09-19 01:10 G 44783046.32 44783046.55 44783046.78 0.0532 0.0057 Mars 117899-12-26 11:43 G 44783144.83 44783144.99 44783145.16 0.1642 0.0842

Saturn 117904-11-08 07:10 G 44784922.60 44784922.80 44784923.02 0.0287 0.0154 Saturn 117905-11-22 12:27 G 44785301.79 44785302.02 44785302.26 0.0287 0.0106 Jupiter 117906-03-31 23:58 G 44785431.40 44785431.50 44785431.60 0.0500 0.0450 Jupiter 117911-09-25 06:27 G 44787434.61 44787434.77 44787434.93 0.0529 0.0386 Saturn 117919-05-11 01:53 G 44790219.39 44790219.58 44790219.77 0.0272 0.0171 Saturn 117920-05-22 02:51 G 44790596.39 44790596.62 44790596.86 0.0272 0.0042 Saturn 117921-06-03 03:05 G 44790973.56 44790973.63 44790973.74 0.0272 0.0252 Uranus 117928-09-18 21:05 G 44793638.23 44793638.38 44793638.56 0.0140 0.0105 Uranus 117929-09-23 14:51 G 44794007.87 44794008.12 44794008.38 0.0140 0.0003 Uranus 117930-09-28 08:36 G 44794377.71 44794377.86 44794378.05 0.0140 0.0103 Pluto 117931-11-28 04:17 G 44794803.50 44794803.68 44794803.90 0.0078 0.0051 Saturn 117933-11-02 04:31 G 44795508.62 44795508.69 44795508.78 0.0287 0.0270 Saturn 117934-11-16 09:34 G 44795887.65 44795887.90 44795888.15 0.0287 0.0013 Saturn 117935-11-30 16:03 G 44796267.05 44796267.17 44796267.31 0.0287 0.0246 Saturn 117948-05-05 06:41 G 44800806.74 44800806.78 44800806.85 0.0273 0.0265 Saturn 117949-05-17 09:34 G 44801183.66 44801183.90 44801184.14 0.0273 0.0053 Saturn 117950-05-29 10:17 G 44801560.74 44801560.93 44801561.13 0.0273 0.0160 Neptune 117952-09-04 10:03 G 44802389.81 44802389.92 44802390.09 0.0088 0.0075 Jupiter 117953-03-18 05:00 G 44802584.55 44802584.71 44802584.88 0.0493 0.0340 Neptune 117953-09-06 21:05 G 44802757.19 44802757.38 44802757.61 0.0088 0.0052 Neptune 117954-09-09 08:22 G 44803124.60 44803124.85 44803125.09 0.0088 0.0029 Neptune 117955-09-11 19:10 G 44803492.04 44803492.30 44803492.56 0.0088 0.0006 Neptune 117956-09-13 05:58 G 44803859.50 44803859.75 44803860.01 0.0088 0.0017 Neptune 117957-09-15 16:46 G 44804226.99 44804227.20 44804227.45 0.0088 0.0040 Neptune 117958-09-18 04:03 G 44804594.49 44804594.67 44804594.85 0.0088 0.0062 Neptune 117959-09-20 14:51 G 44804962.08 44804962.12 44804962.20 0.0088 0.0085 Saturn 117963-11-10 10:17 G 44806473.72 44806473.93 44806474.16 0.0286 0.0131 Saturn 117964-11-23 15:19 G 44806852.92 44806853.14 44806853.36 0.0286 0.0128 Jupiter 117965-03-22 12:55 G 44806971.81 44806972.04 44806972.27 0.0495 0.0090 Uranus 117969-03-25 01:10 G 44808435.38 44808435.55 44808435.74 0.0138 0.0095

Uranus 117970-03-29 15:19 G 44808804.89 44808805.14 44808805.40 0.0138 0.0005

Jupiter 117970-09-14 03:48 G 44808973.47 44808973.66 44808973.86 0.0534 0.0302

Uranus 117971-04-03 04:03 G 44809174.52 44809174.67 44809174.85 0.0138 0.0102

Jupiter 117977-03-26 23:43 G 44811359.27 44811359.49 44811359.71 0.0497 0.0170

Saturn 117978-05-12 02:36 G 44811770.42 44811770.61 44811770.82 0.0272 0.0151

Saturn 117979-05-24 04:03 G 44812147.44 44812147.67 44812147.91 0.0272 0.0062

Saturn 117980-06-04 04:46 G 44812524.68 44812524.70 44812524.73 0.0272 0.0271

Jupiter 117982-09-19 07:39 G 44813361.58 44813361.82 44813362.05 0.0532 0.0030

Jupiter 117989-03-31 10:46 G 44815746.84 44815746.95 44815747.07 0.0499 0.0434

Saturn 117992-11-03 06:27 G 44817059.66 44817059.77 44817059.90 0.0286 0.0249

Saturn 117993-11-17 11:15 G 44817438.72 44817438.97 44817439.22 0.0287 0.0009

Jupiter 117994-09-24 09:19 G 44817749.73 44817749.89 44817750.07 0.0530 0.0350

Saturn 117994-12-01 17:15 G 44817818.14 44817818.22 44817818.32 0.0286 0.0267

## 119TH MILLENNIUM CE

## This is a list of transits of Earth in the 119th millennium CE.

FROM MAX- C START MAX END SUNRAD DEPTH S

TRANSIT

Saturn 118007-05-07 07:24 G 44822357.72 44822357.81 44822357.93 0.0273 0.0245

Saturn 118008-05-18 10:17 G 44822734.70 44822734.93 44822735.18 0.0273 0.0033

Saturn 118009-05-30 11:43 G 44823111.82 44823111.99 44823112.18 0.0273 0.0180

Uranus 118012-09-19 09:19 G 44824319.73 44824319.89 44824320.09 0.0140 0.0098

Uranus 118013-09-24 03:05 G 44824689.38 44824689.63 44824689.89 0.0140 0.0006

Uranus 118014-09-28 20:51 G 44825059.23 44825059.37 44825059.55 0.0140 0.0110

Saturn 118022-11-11 14:36 G 44828024.89 44828025.11 44828025.35 0.0286 0.0106 Saturn 118023-11-25 19:24 G 44828404.11 44828404.31 44828404.53 0.0286 0.0152 Neptune 118036-03-10 02:07 G 44832892.47 44832892.59 44832892.75 0.0089 0.0074 Jupiter 118036-03-17 13:24 G 44832899.91 44832900.06 44832900.23 0.0493 0.0362 Neptune 118037-03-12 15:05 G 44833259.91 44833260.13 44833260.34 0.0089 0.0051 Saturn 118037-05-13 04:17 G 44833321.47 44833321.68 44833321.90 0.0272 0.0130 Neptune 118038-03-15 03:19 G 44833627.41 44833627.64 44833627.90 0.0089 0.0027 Saturn 118038-05-25 05:58 G 44833698.52 44833698.75 44833698.98 0.0272 0.0083 Neptune 118039-03-17 16:03 G 44833994.91 44833995.17 44833995.43 0.0089 0.0003 Neptune 118040-03-19 04:03 G 44834362.43 44834362.67 44834362.93 0.0089 0.0021 Neptune 118041-03-21 16:03 G 44834729.97 44834730.17 44834730.41 0.0089 0.0045 Neptune 118042-03-24 04:31 G 44835097.54 44835097.69 44835097.87 0.0089 0.0068 Jupiter 118048-03-21 23:29 G 44837287.25 44837287.48 44837287.71 0.0495 0.0106 Mars 118051-06-24 23:43 G 44838477.36 44838477.49 44838477.61 0.1890 0.1435 Saturn 118051-11-05 10:46 G 44838610.82 44838610.95 44838611.12 0.0286 0.0226 Saturn 118052-11-18 15:19 G 44838989.89 44838990.14 44838990.39 0.0287 0.0032 Uranus 118053-03-25 13:53 G 44839116.90 44839117.08 44839117.29 0.0138 0.0088 Jupiter 118053-09-13 06:41 G 44839288.60 44839288.78 44839288.96 0.0535 0.0339 Uranus 118054-03-30 04:03 G 44839486.42 44839486.67 44839486.92 0.0138 0.0011 Uranus 118055-04-03 16:46 G 44839856.07 44839856.20 44839856.37 0.0138 0.0109 Jupiter 118060-03-26 09:05 G 44841674.66 44841674.88 44841675.10 0.0497 0.0151 Jupiter 118065-09-18 05:29 G 44843676.50 44843676.73 44843676.97 0.0533 0.0026 Saturn 118066-05-08 08:51 G 44843908.74 44843908.87 44843909.02 0.0273 0.0224 Saturn 118067-05-20 11:58 G 44844285.76 44844286.00 44844286.25 0.0273 0.0012 Saturn 118068-05-31 13:39 G 44844662.92 44844663.07 44844663.24 0.0273 0.0202 Jupiter 118072-03-30 18:27 G 44846062.14 44846062.27 44846062.41 0.0498 0.0408 Jupiter 118077-09-23 10:03 G 44848064.73 44848064.92 44848065.11 0.0531 0.0305 Saturn 118081-11-12 21:19 G 44849576.16 44849576.39 44849576.63 0.0286 0.0079 Saturn 118082-11-27 01:39 G 44849955.38 44849955.57 44849955.77 0.0286 0.0178 Pluto 118091-06-01 08:51 G 44853063.62 44853063.87 44853064.13 0.0066 0.0004

Saturn 118096-05-14 07:39 G 44854872.60 44854872.82 44854873.04 0.0273 0.0107 Uranus 118096-09-19 20:22 G 44855001.18 44855001.35 44855001.56 0.0140 0.0092 Saturn 118097-05-26 09:34 G 44855249.68 44855249.90 44855250.13 0.0272 0.0106 Uranus 118097-09-24 14:07 G 44855370.83 44855371.09 44855371.34 0.0140 0.0011 Uranus 118098-09-29 07:53 G 44855740.70 44855740.83 44855740.99 0.0140 0.0115 Mars 118104-12-26 03:48 G 44858019.47 44858019.66 44858019.84 0.1651 0.0482 Saturn 118110-11-07 17:29 G 44860162.06 44860162.23 44860162.42 0.0286 0.0199 Saturn 118111-11-21 21:48 G 44860541.17 44860541.41 44860541.66 0.0286 0.0058 Neptune 118116-09-04 17:15 G 44862290.17 44862290.22 44862290.32 0.0088 0.0085 Neptune 118117-09-07 04:31 G 44862657.51 44862657.69 44862657.87 0.0088 0.0062 Neptune 118118-09-09 14:51 G 44863024.91 44863025.12 44863025.37 0.0088 0.0039 Jupiter 118119-03-18 23:00 G 44863215.32 44863215.46 44863215.62 0.0493 0.0379 Neptune 118119-09-12 01:53 G 44863392.33 44863392.58 44863392.84 0.0088 0.0016 Neptune 118120-09-13 12:55 G 44863759.79 44863760.04 44863760.30 0.0088 0.0007 Neptune 118121-09-15 23:29 G 44864127.24 44864127.48 44864127.73 0.0088 0.0029 Neptune 118122-09-18 10:17 G 44864494.74 44864494.93 44864495.15 0.0088 0.0052 Neptune 118123-09-20 21:05 G 44864862.27 44864862.38 44864862.54 0.0088 0.0075 Saturn 118125-05-10 11:15 G 44865459.82 44865459.97 44865460.14 0.0274 0.0202 Saturn 118126-05-22 14:51 G 44865836.88 44865837.12 44865837.36 0.0273 0.0012 Saturn 118127-06-03 17:00 G 44866214.08 44866214.21 44866214.35 0.0273 0.0223 Jupiter 118131-03-23 07:24 G 44867602.59 44867602.81 44867603.04 0.0494 0.0130 Jupiter 118136-09-13 03:48 G 44869603.50 44869603.66 44869603.81 0.0536 0.0394 Uranus 118137-03-27 02:51 G 44869798.43 44869798.62 44869798.85 0.0138 0.0081 Uranus 118138-03-31 17:15 G 44870167.97 44870168.22 44870168.48 0.0138 0.0019 Uranus 118139-04-05 06:12 G 44870537.63 44870537.76 44870537.90 0.0138 0.0116 Saturn 118140-11-15 06:41 G 44871127.54 44871127.78 44871128.03 0.0286 0.0051 Saturn 118141-11-29 11:00 G 44871506.80 44871506.96 44871507.14 0.0286 0.0206 Jupiter 118143-03-27 13:53 G 44871989.86 44871990.08 44871990.31 0.0496 0.0120 Jupiter 118148-09-18 10:31 G 44873991.71 44873991.94 44873992.18 0.0534 0.0057 Jupiter 118155-03-31 23:58 G 44876377.36 44876377.50 44876377.66 0.0498 0.0377

Saturn 118155-05-17 11:43 G 44876423.77 44876423.99 44876424.23 0.0273 0.0084 Saturn 118156-05-28 14:07 G 44876800.88 44876801.09 44876801.31 0.0273 0.0129 Jupiter 118160-09-23 14:51 G 44878379.92 44878380.12 44878380.32 0.0531 0.0273 Saturn 118169-11-09 03:05 G 44881713.44 44881713.63 44881713.83 0.0286 0.0171 Saturn 118170-11-23 06:55 G 44882092.56 44882092.79 44882093.03 0.0286 0.0086 Pluto 118178-12-01 05:00 G 44885022.45 44885022.71 44885022.97 0.0078 0.0003 Uranus 118180-09-21 09:05 G 44885682.69 44885682.88 44885683.09 0.0140 0.0085 Uranus 118181-09-26 02:36 G 44886052.36 44886052.61 44886052.87 0.0140 0.0018 Uranus 118182-09-30 20:51 G 44886422.25 44886422.37 44886422.50 0.0140 0.0122 Mars 118183-12-29 10:31 G 44886876.85 44886876.94 44886877.03 0.1647 0.1450 Saturn 118184-05-11 15:48 G 44887010.98 44887011.16 44887011.34 0.0274 0.0178 Saturn 118185-05-23 19:24 G 44887388.07 44887388.31 44887388.55 0.0273 0.0036 Saturn 118186-06-04 21:34 G 44887765.31 44887765.40 44887765.52 0.0274 0.0248 Saturn 118198-11-03 16:03 G 44892300.10 44892300.17 44892300.25 0.0285 0.0272 Saturn 118199-11-17 18:27 G 44892679.02 44892679.27 44892679.52 0.0286 0.0020 Neptune 118200-03-11 07:10 G 44892792.73 44892792.80 44892792.87 0.0089 0.0085 Saturn 118200-12-01 22:17 G 44893058.30 44893058.43 44893058.58 0.0286 0.0236 Neptune 118201-03-13 19:24 G 44893160.14 44893160.31 44893160.51 0.0089 0.0062 Neptune 118202-03-16 08:07 G 44893527.61 44893527.84 44893528.08 0.0089 0.0038 Jupiter 118202-03-19 03:05 G 44893530.50 44893530.63 44893530.76 0.0492 0.0410 Neptune 118203-03-18 20:36 G 44893895.11 44893895.36 44893895.62 0.0089 0.0015 Neptune 118204-03-20 08:51 G 44894262.62 44894262.87 44894263.14 0.0089 0.0010 Neptune 118205-03-22 21:19 G 44894630.16 44894630.39 44894630.64 0.0089 0.0033 Neptune 118206-03-25 09:19 G 44894997.71 44894997.89 44894998.11 0.0089 0.0057 Neptune 118207-03-27 21:48 G 44895365.31 44895365.41 44895365.53 0.0089 0.0080 Saturn 118213-05-07 14:07 G 44897598.07 44897598.09 44897598.13 0.0273 0.0271 Jupiter 118214-03-23 11:43 G 44897917.77 44897917.99 44897918.21 0.0494 0.0162 Saturn 118214-05-19 18:12 G 44897975.02 44897975.26 44897975.50 0.0273 0.0058 Saturn 118215-05-31 20:22 G 44898352.16 44898352.35 44898352.56 0.0273 0.0155 Jupiter 118219-09-14 07:53 G 44899918.69 44899918.83 44899918.97 0.0536 0.0427

Uranus 118221-03-28 16:31 G 44900479.99 44900480.19 44900480.42 0.0138 0.0073 Uranus 118222-04-02 06:41 G 44900849.53 44900849.78 44900850.03 0.0138 0.0027 Uranus 118223-04-06 19:39 G 44901219.23 44901219.32 44901219.45 0.0138 0.0124 Jupiter 118226-03-27 21:05 G 44902305.15 44902305.38 44902305.61 0.0496 0.0093 Saturn 118228-11-11 15:19 G 44903264.93 44903265.14 44903265.36 0.0286 0.0140 Saturn 118229-11-25 18:55 G 44903644.07 44903644.29 44903644.52 0.0286 0.0117 Jupiter 118231-09-19 11:15 G 44904306.74 44904306.97 44904307.19 0.0534 0.0101 Jupiter 118238-04-01 07:39 G 44906692.66 44906692.82 44906692.99 0.0497 0.0350 Saturn 118243-05-14 21:05 G 44908562.19 44908562.38 44908562.59 0.0274 0.0153 Jupiter 118243-09-24 08:51 G 44908694.66 44908694.87 44908695.09 0.0532 0.0209 Saturn 118244-05-26 01:10 G 44908939.31 44908939.55 44908939.78 0.0274 0.0062 Saturn 118245-06-07 03:48 G 44909316.64 44909316.66 44909316.68 0.0274 0.0272 Jupiter 118255-09-29 11:15 G 44913082.96 44913082.97 44913082.99 0.0530 0.0528 Saturn 118257-11-06 05:15 G 44913851.59 44913851.72 44913851.85 0.0285 0.0240 Saturn 118258-11-20 07:53 G 44914230.58 44914230.83 44914231.08 0.0286 0.0013 Saturn 118259-12-04 11:58 G 44914609.92 44914610.00 44914610.09 0.0286 0.0267 Uranus 118264-09-22 20:07 G 44916364.15 44916364.34 44916364.57 0.0140 0.0079 Uranus 118265-09-27 13:53 G 44916733.83 44916734.08 44916734.34 0.0140 0.0024 Uranus 118266-10-02 07:53 G 44917103.74 44917103.83 44917103.95 0.0140 0.0128 Saturn 118272-05-08 22:17 G 44919149.32 44919149.43 44919149.54 0.0273 0.0244 Saturn 118273-05-21 02:07 G 44919526.35 44919526.59 44919526.83 0.0273 0.0031 Saturn 118274-06-02 04:17 G 44919903.51 44919903.68 44919903.87 0.0273 0.0181 Neptune 118281-09-07 10:17 G 44922557.81 44922557.93 44922558.10 0.0088 0.0073 Neptune 118282-09-09 21:05 G 44922925.19 44922925.38 44922925.61 0.0088 0.0050 Neptune 118283-09-12 08:22 G 44923292.62 44923292.85 44923293.11 0.0088 0.0027 Neptune 118284-09-13 19:24 G 44923660.05 44923660.31 44923660.56 0.0088 0.0004 Jupiter 118285-03-18 08:51 G 44923845.77 44923845.87 44923845.98 0.0492 0.0438 Neptune 118285-09-16 06:12 G 44924027.51 44924027.76 44924028.01 0.0088 0.0019 Neptune 118286-09-18 17:00 G 44924394.99 44924395.21 44924395.44 0.0088 0.0041 Neptune 118287-09-21 03:34 G 44924762.50 44924762.65 44924762.85 0.0088 0.0064 Saturn 118287-11-14 04:46 G 44924816.47 44924816.70 44924816.93 0.0286 0.0108 Neptune 118288-09-22 14:22 G 44925130.09 44925130.10 44925130.17 0.0088 0.0087 Saturn 118288-11-27 08:22 G 44925195.64 44925195.85 44925196.06 0.0286 0.0148 Jupiter 118297-03-22 18:41 G 44928233.06 44928233.28 44928233.50 0.0494 0.0187 Saturn 118302-05-17 04:17 G 44930113.47 44930113.68 44930113.90 0.0274 0.0126 Jupiter 118302-09-14 00:55 G 44930233.46 44930233.54 44930233.64 0.0536 0.0492 Saturn 118303-05-29 08:07 G 44930490.61 44930490.84 44930491.07 0.0274 0.0088 Uranus 118305-03-30 05:29 G 44931161.52 44931161.73 44931161.96 0.0138 0.0065 Uranus 118306-04-03 19:53 G 44931531.09 44931531.33 44931531.58 0.0138 0.0034 Uranus 118307-04-08 08:51 G 44931900.81 44931900.87 44931900.96 0.0138 0.0131 Jupiter 118309-03-28 02:51 G 44932620.39 44932620.62 44932620.85 0.0495 0.0063 Jupiter 118314-09-19 04:03 G 44934621.45 44934621.67 44934621.90 0.0535 0.0166 Saturn 118316-11-08 19:24 G 44935403.14 44935403.31 44935403.48 0.0285 0.0208 Saturn 118317-11-22 22:17 G 44935782.18 44935782.43 44935782.67 0.0286 0.0046 Jupiter 118321-04-01 08:22 G 44937007.67 44937007.85 44937008.04 0.0497 0.0310 Jupiter 118326-09-24 10:03 G 44939009.70 44939009.92 44939010.15 0.0533 0.0168 Saturn 118331-05-12 07:24 G 44940700.66 44940700.81 44940700.96 0.0273 0.0217 Saturn 118332-05-23 11:00 G 44941077.72 44941077.96 44941078.20 0.0273 0.0004 Saturn 118333-06-04 12:55 G 44941454.90 44941455.04 44941455.21 0.0273 0.0208 Pluto 118338-06-06 00:12 G 44943282.26 44943282.51 44943282.76 0.0066 0.0016 Jupiter 118338-09-29 14:22 G 44943398.02 44943398.10 44943398.19 0.0530 0.0492 Saturn 118346-11-16 19:10 G 44946368.07 44946368.30 44946368.55 0.0286 0.0075 Saturn 118347-11-30 22:46 G 44946747.27 44946747.45 44946747.65 0.0286 0.0181 Uranus 118348-09-24 08:51 G 44947045.67 44947045.87 44947046.10 0.0140 0.0072 Uranus 118349-09-29 02:22 G 44947415.36 44947415.60 44947415.86 0.0140 0.0031 Uranus 118350-10-03 20:36 G 44947785.30 44947785.36 44947785.45 0.0140 0.0134 Saturn 118361-05-18 12:27 G 44951664.80 44951665.02 44951665.25 0.0274 0.0098 Saturn 118362-05-30 15:48 G 44952041.95 44952042.16 44952042.38 0.0274 0.0116 Neptune 118365-03-14 00:12 G 44953060.40 44953060.51 44953060.69 0.0089 0.0074 Neptune 118366-03-16 12:55 G 44953427.84 44953428.04 44953428.27 0.0089 0.0050

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Jupiter 118504-09-28 09:48 G 45004027.75 45004027.91 45004028.06 0.0532 0.0390 Saturn 118508-05-17 11:15 G 45005354.77 45005354.97 45005355.19 0.0273 0.0134 Saturn 118509-05-29 13:53 G 45005731.85 45005732.08 45005732.31 0.0273 0.0079 Uranus 118516-09-26 09:34 G 45008408.68 45008408.90 45008409.15 0.0139 0.0059 Uranus 118517-10-01 03:05 G 45008778.40 45008778.63 45008778.88 0.0140 0.0044 Saturn 118522-11-09 05:58 G 45010643.62 45010643.75 45010643.90 0.0286 0.0233 Saturn 118523-11-23 08:36 G 45011022.61 45011022.86 45011023.11 0.0286 0.0020 Saturn 118524-12-06 12:27 G 45011401.96 45011402.02 45011402.10 0.0286 0.0274 Neptune 118529-03-14 05:29 G 45012960.68 45012960.73 45012960.83 0.0089 0.0085 Neptune 118530-03-16 18:27 G 45013328.09 45013328.27 45013328.46 0.0089 0.0061 Neptune 118531-03-19 06:27 G 45013695.56 45013695.77 45013696.02 0.0089 0.0038 Neptune 118532-03-20 19:10 G 45014063.05 45014063.30 45014063.56 0.0089 0.0014 Neptune 118533-03-23 07:53 G 45014430.57 45014430.83 45014431.08 0.0089 0.0009 Neptune 118534-03-25 19:39 G 45014798.10 45014798.32 45014798.58 0.0089 0.0033 Neptune 118535-03-28 08:22 G 45015165.66 45015165.85 45015166.06 0.0089 0.0057 Neptune 118536-03-29 20:22 G 45015533.26 45015533.35 45015533.48 0.0089 0.0081 Saturn 118537-05-12 07:10 G 45015941.67 45015941.80 45015941.93 0.0273 0.0230 Saturn 118538-05-24 11:15 G 45016318.73 45016318.97 45016319.21 0.0273 0.0017 Saturn 118539-06-05 13:39 G 45016695.91 45016696.07 45016696.24 0.0273 0.0194 Jupiter 118546-03-23 07:39 G 45019178.63 45019178.82 45019179.02 0.0492 0.0278 Saturn 118552-11-16 17:15 G 45021608.99 45021609.22 45021609.46 0.0286 0.0087 Saturn 118553-11-30 21:34 G 45021988.20 45021988.40 45021988.60 0.0286 0.0169 Uranus 118557-04-01 19:39 G 45023206.09 45023206.32 45023206.56 0.0139 0.0046 Jupiter 118558-03-27 13:10 G 45023565.82 45023566.05 45023566.29 0.0493 0.0036 Uranus 118558-04-06 09:48 G 45023575.69 45023575.91 45023576.16 0.0138 0.0054 Jupiter 118563-09-18 02:36 G 45025566.42 45025566.61 45025566.81 0.0537 0.0301 Saturn 118567-05-19 18:27 G 45026906.05 45026906.27 45026906.50 0.0273 0.0110 Saturn 118568-05-30 21:05 G 45027283.15 45027283.38 45027283.60 0.0273 0.0104 Jupiter 118570-03-31 22:03 G 45027953.22 45027953.42 45027953.63 0.0495 0.0216 Jupiter 118575-09-23 09:19 G 45029954.66 45029954.89 45029955.12 0.0535 0.0033

Saturn 118581-11-10 13:53 G 45032194.91 45032195.08 45032195.25 0.0286 0.0206 Jupiter 118582-04-05 07:24 G 45032340.74 45032340.81 45032340.89 0.0497 0.0468 Saturn 118582-11-24 16:31 G 45032573.95 45032574.19 45032574.44 0.0286 0.0048 Pluto 118584-06-06 23:00 G 45033134.39 45033134.46 45033134.61 0.0066 0.0060 Pluto 118585-06-08 12:12 G 45033500.80 45033501.01 45033501.26 0.0066 0.0028 Jupiter 118587-09-28 14:22 G 45034342.93 45034343.10 45034343.28 0.0532 0.0358 Mars 118593-12-28 14:51 G 45036626.01 45036626.12 45036626.23 0.1667 0.1359 Saturn 118596-05-13 13:10 G 45037492.89 45037493.05 45037493.21 0.0273 0.0206 Saturn 118597-05-25 16:46 G 45037869.96 45037870.20 45037870.45 0.0273 0.0009 Saturn 118598-06-06 18:55 G 45038247.16 45038247.29 45038247.44 0.0273 0.0219 Uranus 118600-09-27 22:17 G 45039090.20 45039090.43 45039090.67 0.0139 0.0051 Uranus 118601-10-02 15:19 G 45039459.92 45039460.14 45039460.39 0.0140 0.0051 Neptune 118610-09-11 09:05 G 45042725.74 45042725.88 45042726.04 0.0088 0.0072 Neptune 118611-09-13 19:53 G 45043093.14 45043093.33 45043093.56 0.0088 0.0050 Saturn 118611-11-19 22:31 G 45043160.20 45043160.44 45043160.69 0.0286 0.0061 Neptune 118612-09-15 06:55 G 45043460.56 45043460.79 45043461.05 0.0088 0.0026 Saturn 118612-12-03 03:05 G 45043539.45 45043539.63 45043539.81 0.0286 0.0195 Neptune 118613-09-17 18:12 G 45043828.01 45043828.26 45043828.52 0.0088 0.0004 Neptune 118614-09-20 05:15 G 45044195.47 45044195.72 45044195.97 0.0088 0.0020 Neptune 118615-09-22 15:48 G 45044562.95 45044563.16 45044563.40 0.0088 0.0043 Neptune 118616-09-24 02:36 G 45044930.46 45044930.61 45044930.80 0.0088 0.0065 Neptune 118617-09-26 13:24 G 45045298.06 45045298.06 45045298.11 0.0088 0.0088 Saturn 118626-05-21 23:58 G 45048457.27 45048457.50 45048457.73 0.0273 0.0085 Saturn 118627-06-03 02:07 G 45048834.38 45048834.59 45048834.81 0.0273 0.0128 Jupiter 118629-03-23 12:41 G 45049493.85 45049494.03 45049494.22 0.0491 0.0302 Uranus 118640-03-29 16:17 G 45053518.18 45053518.18 45053518.20 0.0139 0.0139 Saturn 118640-11-12 19:39 G 45053746.13 45053746.32 45053746.51 0.0286 0.0181 Jupiter 118641-03-27 20:51 G 45053881.13 45053881.37 45053881.60 0.0493 0.0058 Uranus 118641-04-03 07:24 G 45053887.58 45053887.81 45053888.06 0.0139 0.0040 Saturn 118641-11-26 22:31 G 45054125.20 45054125.44 45054125.68 0.0286 0.0073

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Saturn 118716-06-11 00:41 G 45081349.48 45081349.53 45081349.62 0.0273 0.0262 Jupiter 118724-03-28 06:55 G 45084196.56 45084196.79 45084197.02 0.0493 0.0074 Uranus 118724-03-31 05:29 G 45084199.66 45084199.73 45084199.82 0.0139 0.0131 Uranus 118725-04-04 20:51 G 45084569.13 45084569.37 45084569.62 0.0139 0.0032 Uranus 118726-04-09 11:15 G 45084938.77 45084938.97 45084939.21 0.0138 0.0067 Saturn 118728-11-09 00:27 G 45085883.46 45085883.52 45085883.61 0.0286 0.0270 Jupiter 118729-09-18 09:48 G 45086196.75 45086196.91 45086197.08 0.0537 0.0372 Saturn 118729-11-23 03:19 G 45086262.39 45086262.64 45086262.88 0.0286 0.0017 Saturn 118730-12-07 07:24 G 45086641.69 45086641.81 45086641.96 0.0286 0.0239 Jupiter 118736-04-01 14:22 G 45088583.88 45088584.10 45088584.32 0.0494 0.0173 Jupiter 118741-09-23 12:12 G 45090584.78 45090585.01 45090585.24 0.0536 0.0048 Saturn 118743-05-14 01:24 G 45091182.48 45091182.56 45091182.65 0.0274 0.0255 Saturn 118744-05-25 05:58 G 45091559.51 45091559.75 45091559.99 0.0273 0.0042 Saturn 118745-06-06 08:07 G 45091936.66 45091936.84 45091937.04 0.0273 0.0171 Jupiter 118748-04-05 23:29 G 45092971.36 45092971.48 45092971.60 0.0496 0.0423 Jupiter 118753-09-28 18:41 G 45094973.09 45094973.28 45094973.48 0.0534 0.0283 Saturn 118758-11-17 01:39 G 45096848.35 45096848.57 45096848.79 0.0285 0.0136 Saturn 118759-12-01 04:03 G 45097227.45 45097227.67 45097227.91 0.0286 0.0119 Uranus 118767-09-26 07:24 G 45100083.78 45100083.81 45100083.88 0.0139 0.0136 Uranus 118768-09-29 23:58 G 45100453.26 45100453.50 45100453.75 0.0139 0.0036 Uranus 118769-10-04 16:46 G 45100822.98 45100823.20 45100823.43 0.0140 0.0065 Saturn 118773-05-19 21:34 G 45102146.20 45102146.40 45102146.61 0.0273 0.0141 Saturn 118774-06-01 01:10 G 45102523.32 45102523.55 45102523.78 0.0273 0.0072 Neptune 118774-09-11 14:51 G 45102626.04 45102626.12 45102626.21 0.0088 0.0083 Neptune 118775-09-14 01:10 G 45102993.39 45102993.55 45102993.76 0.0088 0.0061 Neptune 118776-09-15 12:27 G 45103360.80 45103361.02 45103361.27 0.0088 0.0038 Neptune 118777-09-17 23:58 G 45103728.25 45103728.50 45103728.75 0.0088 0.0014 Neptune 118778-09-20 10:46 G 45104095.70 45104095.95 45104096.21 0.0088 0.0009 Neptune 118779-09-22 21:34 G 45104463.17 45104463.40 45104463.65 0.0088 0.0032 Neptune 118780-09-24 08:36 G 45104830.67 45104830.86 45104831.07 0.0088 0.0054

Neptune 118781-09-26 19:10 G 45105198.20 45105198.30 45105198.45 0.0088 0.0077 Saturn 118787-11-11 00:41 G 45107434.43 45107434.53 45107434.66 0.0285 0.0250 Saturn 118788-11-24 03:19 G 45107813.39 45107813.64 45107813.89 0.0286 0.0003 Saturn 118789-12-08 07:39 G 45108192.72 45108192.82 45108192.93 0.0286 0.0258 Jupiter 118795-03-24 07:24 G 45110124.65 45110124.81 45110124.99 0.0491 0.0336 Saturn 118802-05-15 02:22 G 45112733.48 45112733.60 45112733.73 0.0274 0.0236 Saturn 118803-05-27 07:10 G 45113110.56 45113110.80 45113111.04 0.0274 0.0022 Saturn 118804-06-07 09:34 G 45113487.73 45113487.90 45113488.08 0.0273 0.0191 Jupiter 118807-03-28 15:48 G 45114511.93 45114512.16 45114512.39 0.0492 0.0092 Uranus 118808-03-31 17:15 G 45114881.12 45114881.22 45114881.34 0.0139 0.0125 Uranus 118809-04-05 08:51 G 45115250.62 45115250.87 45115251.12 0.0139 0.0025 Uranus 118810-04-09 23:15 G 45115620.27 45115620.47 45115620.70 0.0138 0.0073 Jupiter 118812-09-17 12:27 G 45116511.88 45116512.02 45116512.18 0.0538 0.0408 Saturn 118817-11-18 03:48 G 45118399.43 45118399.66 45118399.89 0.0285 0.0113 Saturn 118818-12-02 06:12 G 45118778.55 45118778.76 45118778.98 0.0286 0.0141 Jupiter 118819-04-01 23:15 G 45118899.25 45118899.47 45118899.70 0.0494 0.0153 Jupiter 118824-09-22 20:51 G 45120900.14 45120900.37 45120900.60 0.0536 0.0070 Jupiter 118831-04-06 09:19 G 45123286.76 45123286.89 45123287.03 0.0496 0.0404 Pluto 118831-06-11 06:12 G 45123352.71 45123352.76 45123352.89 0.0066 0.0062 Saturn 118832-05-20 22:17 G 45123697.23 45123697.43 45123697.66 0.0273 0.0122 Pluto 118832-06-11 19:39 G 45123719.10 45123719.32 45123719.57 0.0066 0.0026 Saturn 118833-06-02 01:53 G 45124074.36 45124074.58 45124074.81 0.0273 0.0093 Jupiter 118836-09-28 00:55 G 45125288.34 45125288.54 45125288.75 0.0534 0.0256 Saturn 118846-11-12 01:39 G 45128985.43 45128985.57 45128985.72 0.0285 0.0229 Saturn 118847-11-26 03:34 G 45129364.41 45129364.65 45129364.90 0.0286 0.0024 Saturn 118848-12-09 07:39 G 45129743.78 45129743.82 45129743.89 0.0286 0.0278 Uranus 118851-09-26 20:07 G 45130765.26 45130765.34 45130765.44 0.0139 0.0129 Uranus 118852-09-30 12:27 G 45131134.77 45131135.02 45131135.27 0.0139 0.0030 Uranus 118853-10-05 05:00 G 45131504.50 45131504.71 45131504.94 0.0140 0.0072 Neptune 118858-03-17 05:58 G 45133128.70 45133128.75 45133128.87 0.0089 0.0084

Neptune 118859-03-19 18:55 G 45133496.11 45133496.29 45133496.49 0.0089 0.0060 Neptune 118860-03-21 07:10 G 45133863.58 45133863.80 45133864.05 0.0089 0.0037 Neptune 118861-03-23 19:39 G 45134231.07 45134231.32 45134231.59 0.0089 0.0013 Saturn 118861-05-16 02:36 G 45134284.47 45134284.61 45134284.76 0.0274 0.0216 Neptune 118862-03-26 08:07 G 45134598.58 45134598.84 45134599.10 0.0089 0.0010 Saturn 118862-05-28 07:39 G 45134661.58 45134661.82 45134662.07 0.0274 0.0004 Neptune 118863-03-28 20:07 G 45134966.12 45134966.34 45134966.59 0.0089 0.0035 Saturn 118863-06-09 10:17 G 45135038.79 45135038.93 45135039.09 0.0273 0.0211 Neptune 118864-03-30 08:07 G 45135333.67 45135333.84 45135334.06 0.0089 0.0058 Neptune 118865-04-01 20:22 G 45135701.27 45135701.35 45135701.48 0.0089 0.0082 Saturn 118876-11-19 06:12 G 45139950.53 45139950.76 45139951.00 0.0285 0.0091 Saturn 118877-12-03 08:22 G 45140329.65 45140329.85 45140330.06 0.0285 0.0163 Mars 118877-12-31 10:46 G 45140357.78 45140357.95 45140358.11 0.1673 0.0834 Jupiter 118878-03-23 16:31 G 45140440.03 45140440.19 45140440.36 0.0490 0.0355 Jupiter 118890-03-28 01:24 G 45144827.33 45144827.56 45144827.79 0.0492 0.0111 Saturn 118891-05-22 23:43 G 45145248.26 45145248.49 45145248.71 0.0273 0.0101 Uranus 118892-04-01 05:29 G 45145562.62 45145562.73 45145562.89 0.0139 0.0119 Saturn 118892-06-03 03:05 G 45145625.41 45145625.63 45145625.85 0.0273 0.0113 Uranus 118893-04-05 21:34 G 45145932.15 45145932.40 45145932.65 0.0139 0.0019 Uranus 118894-04-10 11:58 G 45146301.80 45146302.00 45146302.22 0.0138 0.0080 Jupiter 118895-09-17 19:39 G 45146827.19 45146827.32 45146827.46 0.0538 0.0431 Jupiter 118902-04-02 10:31 G 45149214.72 45149214.94 45149215.17 0.0494 0.0138 Saturn 118905-11-14 03:19 G 45150536.48 45150536.64 45150536.82 0.0285 0.0208 Saturn 118906-11-28 05:00 G 45150915.47 45150915.71 45150915.96 0.0286 0.0045 Jupiter 118907-09-23 23:58 G 45151215.27 45151215.50 45151215.73 0.0536 0.0107 Jupiter 118914-04-06 19:24 G 45153602.17 45153602.31 45153602.46 0.0495 0.0386 Jupiter 118919-09-28 23:58 G 45155603.29 45155603.50 45155603.72 0.0535 0.0209 Pluto 118919-12-12 18:55 G 45155678.12 45155678.29 45155678.50 0.0078 0.0054 Saturn 118920-05-18 02:51 G 45155835.46 45155835.62 45155835.79 0.0274 0.0196 Saturn 118921-05-30 08:22 G 45156212.61 45156212.85 45156213.09 0.0274 0.0019

Saturn 118922-06-11 11:15 G 45156589.85 45156589.97 45156590.11 0.0274 0.0231 Jupiter 118931-10-04 05:29 G 45159991.72 45159991.73 45159991.76 0.0533 0.0531 Uranus 118935-09-28 08:07 G 45161446.75 45161446.84 45161446.98 0.0139 0.0123 Saturn 118935-11-22 10:17 G 45161501.69 45161501.93 45161502.18 0.0285 0.0066 Uranus 118936-10-02 00:27 G 45161816.27 45161816.52 45161816.78 0.0139 0.0023 Saturn 118936-12-05 12:12 G 45161880.82 45161881.01 45161881.20 0.0285 0.0186 Uranus 118937-10-06 17:00 G 45162186.01 45162186.21 45162186.43 0.0140 0.0078 Neptune 118939-09-14 07:39 G 45162893.69 45162893.82 45162894.00 0.0088 0.0071 Neptune 118940-09-15 18:41 G 45163261.08 45163261.28 45163261.51 0.0088 0.0049 Neptune 118941-09-18 05:43 G 45163628.51 45163628.74 45163629.00 0.0088 0.0026 Neptune 118942-09-20 17:00 G 45163995.95 45163996.21 45163996.47 0.0088 0.0002 Neptune 118943-09-23 04:03 G 45164363.42 45164363.67 45164363.92 0.0088 0.0021 Neptune 118944-09-24 14:51 G 45164730.91 45164731.12 45164731.36 0.0088 0.0044 Neptune 118945-09-27 01:39 G 45165098.42 45165098.57 45165098.76 0.0088 0.0067 Saturn 118950-05-25 00:55 G 45166799.32 45166799.54 45166799.78 0.0274 0.0080 Saturn 118951-06-06 05:00 G 45167176.50 45167176.71 45167176.92 0.0273 0.0134 Mars 118957-01-03 19:39 G 45169215.20 45169215.32 45169215.45 0.1668 0.1250 Jupiter 118961-03-24 03:05 G 45170755.48 45170755.63 45170755.79 0.0490 0.0370 Saturn 118964-11-15 06:55 G 45172087.62 45172087.79 45172087.99 0.0285 0.0185 Saturn 118965-11-29 08:22 G 45172466.61 45172466.85 45172467.09 0.0285 0.0068 Jupiter 118973-03-28 11:58 G 45175142.77 45175143.00 45175143.22 0.0491 0.0127 Uranus 118976-04-02 16:17 G 45176244.06 45176244.18 45176244.34 0.0139 0.0114 Uranus 118977-04-07 08:07 G 45176613.59 45176613.84 45176614.09 0.0139 0.0014 Uranus 118978-04-11 22:31 G 45176983.25 45176983.44 45176983.66 0.0139 0.0084 Jupiter 118978-09-17 16:31 G 45177142.10 45177142.19 45177142.30 0.0539 0.0486 Saturn 118979-05-20 03:48 G 45177386.48 45177386.66 45177386.85 0.0275 0.0175 Saturn 118980-05-31 09:34 G 45177763.66 45177763.90 45177764.14 0.0274 0.0040 Saturn 118981-06-12 12:55 G 45178140.96 45178141.04 45178141.15 0.0274 0.0252 Mars 118982-07-04 12:12 G 45178527.82 45178528.01 45178528.19 0.1870 0.0591 Jupiter 118985-04-01 20:07 G 45179530.11 45179530.34 45179530.56 0.0493 0.0118

Jupiter 118990-09-22 22:46 G 45181530.23 45181530.45 45181530.67 0.0538 0.0156

Saturn 118994-11-23 15:48 G 45183052.92 45183053.16 45183053.41 0.0285 0.0041

Saturn 118995-12-07 17:43 G 45183432.08 45183432.24 45183432.41 0.0285 0.0211

Jupiter 118997-04-06 02:22 G 45183917.45 45183917.60 45183917.76 0.0494 0.0359

## 120TH MILLENNIUM CE

#### This is a list of transits of Earth in the 120th millennium CE.

FROM MAX- C START MAX END SUNRAD DEPTH S

TRANSIT

TIME

Jupiter 119002-09-29 06:41 G 45185918.56 45185918.78 45185919.00 0.0536 0.0180

Saturn 119008-05-14 21:05 G 45187973.35 45187973.38 45187973.42 0.0274 0.0271

Saturn 119009-05-27 03:48 G 45188350.42 45188350.66 45188350.89 0.0274 0.0057

Saturn 119010-06-08 07:39 G 45188727.63 45188727.82 45188728.03 0.0273 0.0157

Jupiter 119014-10-04 11:43 G 45190306.92 45190306.99 45190307.07 0.0533 0.0503

Uranus 119019-09-29 20:07 G 45192128.22 45192128.34 45192128.49 0.0139 0.0117

Uranus 119020-10-03 12:27 G 45192497.77 45192498.02 45192498.27 0.0139 0.0018

Uranus 119021-10-08 04:31 G 45193867.50 45192867.69 45192867.91 0.0140 0.0083

Neptune 119023-03-21 01:10 G 45193396.42 45193396.55 45193396.73 0.0089 0.0071

Saturn 119024-03-22 14:07 G 45193763.88 45193639.05 45193639.26 0.0285 0.0159

Neptune 119024-03-22 14:07 G 45194131.36 45194018.08 45194018.32 0.0285 0.0094

Neptune 119025-03-25 02:07 G 45194131.36 45194499.12 45194499.38 0.0089 0.0001

Neptune 119027-03-30 03:05 G 45194498.86 45194866.63 45194866.88 0.0089 0.0023

Neptune 119028-03-31 14:36 G 45195233.92 45195234.11 45195234.35 0.0089 0.0048 Neptune 119029-04-03 03:19 G 45195601.49 45195601.64 45195601.81 0.0089 0.0070 Saturn 119038-05-22 05:43 G 45198937.55 45198937.74 45198937.95 0.0275 0.0153 Saturn 119039-06-03 11:29 G 45199314.75 45199314.98 45199315.22 0.0274 0.0064 Saturn 119040-06-14 15:34 G 45199692.15 45199692.15 45199692.17 0.0274 0.0274 Jupiter 119044-03-24 12:41 G 45201070.89 45201071.03 45201071.18 0.0489 0.0388 Saturn 119052-11-12 01:24 G 45204225.46 45204225.56 45204225.66 0.0284 0.0258 Saturn 119053-11-26 00:12 G 45204604.26 45204604.51 45204604.76 0.0285 0.0012 Saturn 119054-12-10 01:39 G 45204983.45 45204983.57 45204983.72 0.0285 0.0239 Jupiter 119056-03-28 17:58 G 45205458.03 45205458.25 45205458.47 0.0491 0.0152 Uranus 119060-04-04 04:17 G 45206925.52 45206925.68 45206925.84 0.0139 0.0108 Uranus 119061-04-08 19:39 G 45207295.07 45207295.32 45207295.58 0.0139 0.0009 Jupiter 119061-09-17 21:34 G 45207457.34 45207457.40 45207457.46 0.0540 0.0518 Uranus 119062-04-13 10:03 G 45207664.75 45207664.92 45207665.13 0.0139 0.0090 Saturn 119067-05-17 00:55 G 45209524.45 45209524.54 45209524.65 0.0275 0.0247 Jupiter 119068-04-02 02:22 G 45209845.37 45209845.60 45209845.83 0.0492 0.0091 Saturn 119068-05-28 07:39 G 45209901.59 45209901.82 45209902.07 0.0274 0.0033 Saturn 119069-06-09 11:58 G 45210278.83 45210279.00 45210279.19 0.0274 0.0181 Jupiter 119073-09-23 04:31 G 45211845.47 45211845.69 45211845.91 0.0538 0.0184 Pluto 119079-06-16 01:24 G 45213937.31 45213937.56 45213937.80 0.0066 0.0019 Jupiter 119080-04-06 11:00 G 45214232.80 45214232.96 45214233.14 0.0494 0.0339 Saturn 119082-11-19 21:19 G 45215190.18 45215190.39 45215190.62 0.0285 0.0131 Saturn 119083-12-03 22:03 G 45215569.20 45215569.42 45215569.65 0.0285 0.0121 Jupiter 119085-09-28 08:36 G 45216233.64 45216233.86 45216234.09 0.0536 0.0139 Saturn 119097-05-23 09:34 G 45220488.69 45220488.90 45220489.12 0.0275 0.0128 Jupiter 119097-10-03 07:10 G 45220621.67 45220621.80 45220621.93 0.0534 0.0444 Saturn 119098-06-04 15:34 G 45220865.93 45220866.15 45220866.39 0.0274 0.0088 Neptune 119103-09-15 14:36 G 45222794.03 45222794.11 45222794.22 0.0088 0.0082 Uranus 119103-10-01 08:36 G 45222809.71 45222809.86 45222810.02 0.0139 0.0110 Neptune 119104-09-17 01:10 G 45223161.38 45223161.55 45223161.76 0.0088 0.0059 Uranus 119104-10-05 00:27 G 45223179.27 45223179.52 45223179.78 0.0139 0.0011 Neptune 119105-09-19 12:12 G 45223528.79 45223529.01 45223529.26 0.0088 0.0037 Uranus 119105-10-09 16:46 G 45223549.02 45223549.20 45223549.41 0.0139 0.0089 Neptune 119106-09-21 23:15 G 45223896.22 45223896.47 45223896.73 0.0088 0.0013 Neptune 119107-09-24 10:17 G 45224263.68 45224263.93 45224264.20 0.0088 0.0010 Neptune 119108-09-25 21:34 G 45224631.16 45224631.40 45224631.64 0.0088 0.0033 Neptune 119109-09-28 08:22 G 45224998.66 45224998.85 45224999.06 0.0088 0.0056 Neptune 119110-09-30 19:10 G 45225366.21 45225366.30 45225366.44 0.0088 0.0079 Saturn 119111-11-15 11:58 G 45225776.85 45225777.00 45225777.14 0.0284 0.0229 Saturn 119112-11-28 10:46 G 45226155.70 45226155.95 45226156.20 0.0284 0.0018 Saturn 119113-12-12 12:12 G 45226534.94 45226535.01 45226535.10 0.0285 0.0268 Saturn 119126-05-19 06:27 G 45231075.64 45231075.77 45231075.93 0.0275 0.0223 Jupiter 119127-03-25 17:43 G 45231386.12 45231386.24 45231386.37 0.0489 0.0415 Saturn 119127-05-31 13:24 G 45231452.82 45231453.06 45231453.30 0.0274 0.0008 Saturn 119128-06-11 17:43 G 45231830.09 45231830.24 45231830.41 0.0274 0.0205 Jupiter 119139-03-30 01:24 G 45235773.34 45235773.56 45235773.78 0.0491 0.0176 Saturn 119141-11-22 08:36 G 45236741.63 45236741.86 45236742.10 0.0285 0.0101 Saturn 119142-12-06 09:19 G 45237120.68 45237120.89 45237121.11 0.0285 0.0151 Uranus 119144-04-05 13:53 G 45237606.92 45237607.08 45237607.25 0.0139 0.0105 Uranus 119145-04-10 05:43 G 45237976.48 45237976.74 45237976.99 0.0139 0.0005 Uranus 119146-04-14 19:53 G 45238346.16 45238346.33 45238346.54 0.0139 0.0094 Jupiter 119151-04-03 10:31 G 45240160.71 45240160.94 45240161.18 0.0492 0.0069 Saturn 119156-05-25 14:36 G 45242039.89 45242040.11 45242040.34 0.0275 0.0102 Jupiter 119156-09-22 22:17 G 45242160.23 45242160.43 45242160.64 0.0538 0.0248 Saturn 119157-06-06 20:51 G 45242417.15 45242417.37 45242417.59 0.0275 0.0113 Mars 119162-01-04 06:55 G 45244089.60 45244089.79 45244089.98 0.1679 0.0303 Jupiter 119163-04-07 18:12 G 45244548.09 45244548.26 45244548.45 0.0493 0.0312 Pluto 119166-12-15 20:36 G 45245896.15 45245896.36 45245896.62 0.0078 0.0036 Jupiter 119168-09-28 02:36 G 45246548.38 45246548.61 45246548.84 0.0537 0.0076 Saturn 119170-11-16 23:58 G 45247328.32 45247328.50 45247328.68 0.0284 0.0198

Saturn 119171-11-30 23:00 G 45247707.22 45247707.46 45247707.71 0.0284 0.0051 Jupiter 119180-10-03 09:19 G 45250936.75 45250936.89 45250937.05 0.0535 0.0406 Saturn 119185-05-20 14:22 G 45252626.94 45252627.10 45252627.28 0.0275 0.0196 Saturn 119186-06-01 20:51 G 45253004.13 45253004.37 45253004.61 0.0274 0.0020 Neptune 119187-03-21 08:51 G 45253296.78 45253296.87 45253296.99 0.0089 0.0081 Saturn 119187-06-14 01:10 G 45253381.43 45253381.55 45253381.68 0.0274 0.0232 Uranus 119187-10-01 20:22 G 45253491.20 45253491.35 45253491.53 0.0139 0.0104 Neptune 119188-03-22 21:19 G 45253664.21 45253664.39 45253664.60 0.0089 0.0058 Uranus 119188-10-05 12:12 G 45253860.76 45253861.01 45253861.27 0.0139 0.0005 Neptune 119189-03-25 10:03 G 45254031.69 45254031.92 45254032.16 0.0089 0.0034 Uranus 119189-10-10 04:31 G 45254230.52 45254230.69 45254230.89 0.0139 0.0096 Neptune 119190-03-27 22:17 G 45254399.19 45254399.43 45254399.70 0.0089 0.0011 Neptune 119191-03-30 10:31 G 45254766.69 45254766.94 45254767.21 0.0089 0.0013 Neptune 119192-03-31 22:46 G 45255134.22 45255134.45 45255134.69 0.0089 0.0036 Neptune 119193-04-03 10:46 G 45255501.78 45255501.95 45255502.16 0.0089 0.0060 Neptune 119194-04-05 23:00 G 45255869.39 45255869.46 45255869.56 0.0089 0.0083 Saturn 119200-11-23 21:19 G 45258293.15 45258293.39 45258293.64 0.0285 0.0069 Saturn 119201-12-07 22:03 G 45258672.23 45258672.42 45258672.61 0.0285 0.0182 Jupiter 119210-03-25 01:10 G 45261701.45 45261701.55 45261701.65 0.0489 0.0438 Saturn 119215-05-27 21:19 G 45263591.16 45263591.39 45263591.62 0.0275 0.0075 Saturn 119216-06-08 03:05 G 45263968.43 45263968.63 45263968.85 0.0275 0.0140 Jupiter 119222-03-29 08:22 G 45266088.64 45266088.85 45266089.06 0.0490 0.0201 Uranus 119228-04-06 00:55 G 45268288.39 45268288.54 45268288.74 0.0139 0.0100 Uranus 119229-04-10 17:00 G 45268657.96 45268658.21 45268658.46 0.0139 0.0001 Saturn 119229-11-18 13:24 G 45268879.87 45268880.06 45268880.27 0.0284 0.0166 Uranus 119230-04-15 07:39 G 45269027.65 45269027.82 45269028.01 0.0139 0.0099 Saturn 119230-12-02 13:10 G 45269258.81 45269259.05 45269259.28 0.0284 0.0083 Jupiter 119234-04-02 12:55 G 45270475.80 45270476.04 45270476.27 0.0491 0.0036 Jupiter 119239-09-22 22:31 G 45272475.25 45272475.44 45272475.64 0.0539 0.0291 Saturn 119244-05-21 23:00 G 45274178.28 45274178.46 45274178.66 0.0275 0.0169

Saturn 119245-06-03 05:29 G 45274555.49 45274555.73 45274555.97 0.0274 0.0047 Jupiter 119246-04-06 20:51 G 45274863.17 45274863.37 45274863.56 0.0493 0.0276 Saturn 119246-06-15 09:34 G 45274932.83 45274932.90 45274932.99 0.0274 0.0258 Jupiter 119251-09-28 05:43 G 45276863.51 45276863.74 45276863.97 0.0537 0.0042 Saturn 119258-11-12 13:10 G 45279466.03 45279466.05 45279466.09 0.0284 0.0281 Saturn 119259-11-26 11:15 G 45279844.72 45279844.97 45279845.22 0.0285 0.0036 Saturn 119260-12-09 11:43 G 45280223.84 45280223.99 45280224.16 0.0285 0.0214 Jupiter 119263-10-03 10:03 G 45281251.75 45281251.92 45281252.09 0.0535 0.0363 Mars 119266-07-06 11:29 G 45282258.79 45282258.98 45282259.17 0.1860 0.0250 Neptune 119268-09-16 08:51 G 45283061.73 45283061.87 45283062.05 0.0088 0.0070 Neptune 119269-09-18 19:39 G 45283429.12 45283429.32 45283429.55 0.0088 0.0047 Neptune 119270-09-21 06:41 G 45283796.54 45283796.78 45283797.03 0.0088 0.0024 Neptune 119271-09-23 17:43 G 45284163.98 45284164.24 45284164.50 0.0088 0.0001 Uranus 119271-10-02 08:36 G 45284172.68 45284172.86 45284173.05 0.0139 0.0097 Neptune 119272-09-25 04:03 G 45284531.44 45284531.67 45284531.94 0.0088 0.0023 Uranus 119272-10-06 00:27 G 45284542.26 45284542.52 45284542.77 0.0139 0.0002 Saturn 119273-05-16 21:19 G 45284765.32 45284765.39 45284765.46 0.0275 0.0263 Neptune 119273-09-27 15:05 G 45284898.93 45284899.13 45284899.37 0.0088 0.0045 Uranus 119273-10-10 16:17 G 45284912.03 45284912.18 45284912.38 0.0139 0.0103 Saturn 119274-05-29 05:15 G 45285142.49 45285142.72 45285142.96 0.0275 0.0048 Neptune 119274-09-30 01:53 G 45285266.44 45285266.58 45285266.77 0.0088 0.0068 Saturn 119275-06-10 11:00 G 45285519.78 45285519.96 45285520.16 0.0275 0.0167 Saturn 119288-11-20 02:51 G 45290431.41 45290431.62 45290431.85 0.0284 0.0134 Saturn 119289-12-04 02:51 G 45290810.40 45290810.62 45290810.85 0.0284 0.0115 Jupiter 119293-03-24 03:05 G 45292016.58 45292016.63 45292016.70 0.0488 0.0469 Saturn 119303-05-25 08:51 G 45295729.66 45295729.87 45295730.08 0.0275 0.0141 Saturn 119304-06-05 14:51 G 45296106.89 45296107.12 45296107.35 0.0274 0.0075 Jupiter 119305-03-29 10:17 G 45296403.73 45296403.93 45296404.14 0.0489 0.0234 Uranus 119312-04-07 11:15 G 45298969.80 45298969.97 45298970.17 0.0139 0.0095 Uranus 119313-04-12 03:05 G 45299339.38 45299339.63 45299339.89 0.0139 0.0005

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Saturn 119378-12-14 15:05 G 45323327.09 45323327.13 45323327.20 0.0285 0.0277 Jupiter 119388-03-28 16:31 G 45326718.99 45326719.19 45326719.39 0.0489 0.0260 Saturn 119391-05-21 14:22 G 45327867.96 45327868.10 45327868.27 0.0275 0.0209 Saturn 119392-06-01 22:03 G 45328245.17 45328245.42 45328245.66 0.0274 0.0007 Saturn 119393-06-14 02:51 G 45328622.48 45328622.62 45328622.77 0.0274 0.0219 Uranus 119396-04-07 22:17 G 45329651.25 45329651.43 45329651.64 0.0139 0.0089 Uranus 119397-04-12 14:22 G 45330020.85 45330021.10 45330021.35 0.0139 0.0010 Uranus 119398-04-17 04:46 G 45330390.56 45330390.70 45330390.88 0.0139 0.0109 Jupiter 119400-04-02 23:58 G 45331106.27 45331106.50 45331106.74 0.0491 0.0021 Jupiter 119405-09-22 17:15 G 45333105.06 45333105.22 45333105.38 0.0539 0.0392 Saturn 119406-11-26 02:51 G 45333534.39 45333534.62 45333534.87 0.0284 0.0074 Saturn 119407-12-10 03:48 G 45333913.47 45333913.66 45333913.85 0.0285 0.0177 Jupiter 119412-04-07 05:00 G 45335493.50 45335493.71 45335493.92 0.0492 0.0216 Pluto 119413-12-18 18:12 G 45336114.00 45336114.26 45336114.53 0.0078 0.0001 Jupiter 119417-09-27 22:31 G 45337493.21 45337493.44 45337493.67 0.0538 0.0065 Saturn 119421-05-29 04:17 G 45338832.45 45338832.68 45338832.91 0.0274 0.0086 Saturn 119422-06-10 09:19 G 45339209.68 45339209.89 45339210.11 0.0274 0.0129 Jupiter 119424-04-11 12:55 G 45339880.96 45339881.04 45339881.13 0.0493 0.0457 Jupiter 119429-10-03 05:43 G 45341881.53 45341881.74 45341881.94 0.0536 0.0266 Neptune 119432-09-17 16:46 G 45342962.12 45342962.20 45342962.34 0.0088 0.0080 Neptune 119433-09-20 03:48 G 45343329.48 45343329.66 45343329.87 0.0088 0.0057 Neptune 119434-09-22 15:05 G 45343696.89 45343697.13 45343697.37 0.0088 0.0034 Neptune 119435-09-25 01:53 G 45344064.32 45344064.58 45344064.83 0.0088 0.0011 Saturn 119435-11-20 02:07 G 45344120.42 45344120.59 45344120.78 0.0284 0.0190 Neptune 119436-09-26 12:27 G 45344431.77 45344432.02 45344432.28 0.0088 0.0012 Saturn 119436-12-03 01:24 G 45344499.32 45344499.56 45344499.81 0.0285 0.0058 Neptune 119437-09-28 23:15 G 45344799.25 45344799.47 45344799.72 0.0088 0.0035 Neptune 119438-10-01 10:31 G 45345166.74 45345166.94 45345167.13 0.0088 0.0058 Neptune 119439-10-03 21:19 G 45345534.30 45345534.39 45345534.50 0.0088 0.0081 Uranus 119439-10-05 07:39 G 45345535.63 45345535.82 45345536.03 0.0139 0.0085

Uranus 119440-10-08 23:29 G 45345905.23 45345905.48 45345905.74 0.0139 0.0014 Uranus 119441-10-13 16:17 G 45346275.04 45346275.18 45346275.33 0.0139 0.0114 Mars 119446-01-07 01:53 G 45347821.39 45347821.58 45347821.78 0.1685 0.0219 Saturn 119450-05-23 22:46 G 45349419.27 45349419.45 45349419.63 0.0275 0.0182 Saturn 119451-06-05 05:29 G 45349796.49 45349796.73 45349796.98 0.0274 0.0034 Saturn 119452-06-16 10:03 G 45350173.83 45350173.92 45350174.04 0.0274 0.0246 Saturn 119465-11-27 11:29 G 45355085.74 45355085.98 45355086.23 0.0285 0.0046 Saturn 119466-12-11 12:41 G 45355464.87 45355465.03 45355465.21 0.0285 0.0205 Jupiter 119471-03-29 20:07 G 45357034.15 45357034.34 45357034.53 0.0489 0.0285 Saturn 119479-05-19 04:46 G 45360006.70 45360006.70 45360006.73 0.0275 0.0274 Uranus 119480-04-09 07:53 G 45360332.64 45360332.83 45360333.04 0.0139 0.0085 Saturn 119480-05-30 12:12 G 45360383.78 45360384.01 45360384.25 0.0274 0.0060 Uranus 119481-04-13 23:43 G 45360702.24 45360702.49 45360702.75 0.0139 0.0014 Saturn 119481-06-11 17:00 G 45360761.02 45360761.21 45360761.42 0.0274 0.0155 Uranus 119482-04-18 14:36 G 45361071.97 45361072.11 45361072.27 0.0139 0.0112 Jupiter 119483-04-03 03:48 G 45361421.42 45361421.66 45361421.89 0.0490 0.0049 Jupiter 119488-09-21 19:10 G 45363420.17 45363420.30 45363420.45 0.0540 0.0428 Saturn 119494-11-21 10:31 G 45365671.75 45365671.94 45365672.16 0.0284 0.0164 Jupiter 119495-04-07 11:00 G 45365808.75 45365808.96 45365809.18 0.0492 0.0190 Saturn 119495-12-05 10:17 G 45366050.69 45366050.93 45366051.17 0.0285 0.0086 Jupiter 119500-09-28 02:36 G 45367808.39 45367808.61 45367808.84 0.0538 0.0098 Jupiter 119507-04-12 20:22 G 45370196.24 45370196.35 45370196.46 0.0493 0.0433 Saturn 119509-05-26 05:29 G 45370970.54 45370970.73 45370970.93 0.0274 0.0157 Saturn 119510-06-07 11:43 G 45371347.76 45371347.99 45371348.24 0.0274 0.0059 Saturn 119511-06-19 16:17 G 45371725.14 45371725.18 45371725.23 0.0274 0.0268 Jupiter 119512-10-03 05:00 G 45372196.50 45372196.71 45372196.93 0.0536 0.0221 Neptune 119516-03-24 13:10 G 45373464.93 45373465.05 45373465.17 0.0089 0.0078 Neptune 119517-03-27 01:10 G 45373832.36 45373832.55 45373832.77 0.0089 0.0055 Neptune 119518-03-29 14:07 G 45374199.85 45374200.09 45374200.33 0.0089 0.0031 Neptune 119519-04-01 02:22 G 45374567.35 45374567.60 45374567.87 0.0089 0.0008

Neptune 119520-04-02 14:50 G 45374934.88 45374935.12 45374935.39 0.0089 0.0016 Neptune 119521-04-05 03:34 G 45375302.41 45375302.65 45375302.88 0.0089 0.0040 Neptune 119522-04-07 15:05 G 45375669.98 45375670.13 45375670.34 0.0089 0.0064 Neptune 119523-04-10 03:34 G 45376037.61 45376037.65 45376037.73 0.0089 0.0087 Uranus 119523-10-06 18:26 G 45376217.07 45376217.27 45376217.49 0.0139 0.0080 Saturn 119523-11-16 18:55 G 45376258.21 45376258.29 45376258.37 0.0284 0.0267 Jupiter 119524-10-08 08:07 G 45376584.83 45376584.84 45376584.86 0.0535 0.0533 Uranus 119524-10-10 10:31 G 45376586.69 45376586.94 45376587.20 0.0139 0.0019 Saturn 119524-11-29 17:43 G 45376636.99 45376637.24 45376637.49 0.0285 0.0021 Uranus 119525-10-15 02:50 G 45376956.50 45376956.62 45376956.77 0.0139 0.0119 Saturn 119525-12-13 19:10 G 45377016.17 45377016.30 45377016.46 0.0285 0.0230 Saturn 119538-05-21 11:29 G 45381557.89 45381557.98 45381558.08 0.0275 0.0250 Saturn 119539-06-02 18:55 G 45381935.05 45381935.29 45381935.53 0.0274 0.0035 Saturn 119540-06-13 23:14 G 45382312.30 45382312.47 45382312.66 0.0274 0.0179 Mars 119550-07-09 13:10 G 45385989.86 45385990.05 45385990.24 0.1851 0.0036 Saturn 119553-11-23 17:14 G 45387223.01 45387223.22 45387223.44 0.0284 0.0137 Jupiter 119554-03-30 03:19 G 45387349.46 45387349.64 45387349.82 0.0488 0.0308 Saturn 119554-12-07 16:46 G 45387601.97 45387602.20 45387602.43 0.0285 0.0112 Uranus 119564-04-10 18:12 G 45391014.07 45391014.26 45391014.48 0.0139 0.0081 Uranus 119565-04-15 10:02 G 45391383.67 45391383.92 45391384.18 0.0139 0.0018 Jupiter 119566-04-03 11:43 G 45391736.76 45391736.99 45391737.22 0.0490 0.0071 Uranus 119566-04-20 01:10 G 45391753.42 45391753.55 45391753.70 0.0139 0.0116 Saturn 119568-05-27 10:46 G 45392521.75 45392521.95 45392522.17 0.0274 0.0134 Saturn 119569-06-08 17:00 G 45392898.98 45392899.21 45392899.44 0.0274 0.0082 Jupiter 119571-09-22 21:19 G 45393735.28 45393735.39 45393735.51 0.0540 0.0464 Pluto 119573-06-22 00:41 G 45394373.30 45394373.53 45394373.75 0.0066 0.0030 Pluto 119574-06-23 12:55 G 45394739.95 45394740.04 45394740.18 0.0066 0.0059 Jupiter 119578-04-07 19:53 G 45396124.11 45396124.33 45396124.55 0.0491 0.0171 Saturn 119582-11-17 22:02 G 45397809.31 45397809.42 45397809.56 0.0284 0.0246 Jupiter 119583-09-28 01:38 G 45398123.35 45398123.57 45398123.79 0.0539 0.0143

Saturn 119583-12-01 21:19 G 45398188.14 45398188.39 45398188.64 0.0285 0.0004 Saturn 119584-12-14 23:00 G 45398567.36 45398567.46 45398567.58 0.0285 0.0253 Jupiter 119590-04-12 02:22 G 45400511.47 45400511.60 45400511.73 0.0492 0.0409 Jupiter 119595-10-03 04:31 G 45402511.47 45402511.69 45402511.91 0.0538 0.0177 Saturn 119597-05-22 16:02 G 45403109.05 45403109.17 45403109.32 0.0275 0.0228 Neptune 119597-09-20 12:12 G 45403229.86 45403230.01 45403230.20 0.0088 0.0067 Saturn 119598-06-03 23:29 G 45403486.24 45403486.48 45403486.73 0.0274 0.0013 Neptune 119598-09-22 23:14 G 45403597.26 45403597.47 45403597.71 0.0088 0.0044 Saturn 119599-06-16 04:02 G 45403863.52 45403863.67 45403863.84 0.0274 0.0202 Neptune 119599-09-25 10:02 G 45403964.68 45403964.92 45403965.18 0.0088 0.0021 Neptune 119600-09-26 21:05 G 45404332.12 45404332.38 45404332.64 0.0088 0.0002 Neptune 119601-09-29 07:38 G 45404699.58 45404699.82 45404700.08 0.0088 0.0025 Neptune 119602-10-01 18:12 G 45405067.07 45405067.26 45405067.50 0.0088 0.0049 Neptune 119603-10-04 05:29 G 45405434.58 45405434.73 45405434.89 0.0088 0.0071 Uranus 119607-10-07 05:43 G 45406898.54 45406898.74 45406898.96 0.0139 0.0075 Jupiter 119607-10-08 11:43 G 45406899.92 45406899.99 45406900.08 0.0536 0.0503 Uranus 119608-10-10 21:34 G 45407268.16 45407268.40 45407268.66 0.0139 0.0024 Uranus 119609-10-15 13:53 G 45407637.98 45407638.08 45407638.22 0.0139 0.0124 Saturn 119612-11-24 21:48 G 45408774.18 45408774.41 45408774.64 0.0284 0.0113 Saturn 119613-12-08 21:19 G 45409153.17 45409153.39 45409153.61 0.0285 0.0136 Saturn 119627-05-29 14:22 G 45414072.88 45414073.10 45414073.33 0.0274 0.0111 Saturn 119628-06-09 20:22 G 45414450.13 45414450.35 45414450.58 0.0274 0.0104 Jupiter 119637-03-29 13:10 G 45417664.88 45417665.05 45417665.23 0.0488 0.0323 Saturn 119641-11-19 00:12 G 45419360.37 45419360.51 45419360.67 0.0284 0.0224 Saturn 119642-12-02 23:29 G 45419739.23 45419739.48 45419739.72 0.0285 0.0024 Saturn 119643-12-17 00:55 G 45420118.49 45420118.54 45420118.62 0.0285 0.0274 Uranus 119648-04-11 03:05 G 45421695.43 45421695.63 45421695.85 0.0139 0.0078 Jupiter 119649-04-02 19:53 G 45422052.10 45422052.33 45422052.56 0.0489 0.0087 Uranus 119649-04-15 19:10 G 45422065.06 45422065.30 45422065.56 0.0139 0.0021 Uranus 119650-04-20 10:02 G 45422434.81 45422434.92 45422435.06 0.0139 0.0119

119651-01-06 07:24 G 45422695.75 45422695.81 45422695.88 0.1698 0.1593 Mars Jupiter 119654-09-21 19:53 G 45424050.26 45424050.33 45424050.41 0.0541 0.0511 Saturn 119656-05-23 19:10 G 45424660.14 45424660.30 45424660.46 0.0275 0.0206 Saturn 119657-06-05 02:22 G 45425037.36 45425037.60 45425037.84 0.0275 0.0010 Saturn 119658-06-17 06:55 G 45425414.66 45425414.79 45425414.94 0.0274 0.0223 Pluto 119660-12-20 09:19 G 45426331.71 45426331.89 45426332.10 0.0078 0.0052 Jupiter 119661-04-07 03:48 G 45426439.44 45426439.66 45426439.88 0.0490 0.0151 Jupiter 119666-09-27 04:02 G 45428438.45 45428438.67 45428438.89 0.0540 0.0179 Saturn 119671-11-27 00:12 G 45430325.28 45430325.51 45430325.75 0.0284 0.0091 Saturn 119672-12-09 23:43 G 45430704.29 45430704.49 45430704.70 0.0285 0.0159 Jupiter 119673-04-11 11:00 G 45430826.81 45430826.96 45430827.10 0.0492 0.0388 Jupiter 119678-10-02 12:26 G 45432826.80 45432827.02 45432827.24 0.0538 0.0153 Neptune 119680-03-23 21:19 G 45433365.37 45433365.39 45433365.42 0.0089 0.0088 Neptune 119681-03-26 09:34 G 45433732.74 45433732.90 45433733.10 0.0089 0.0065 Neptune 119682-03-28 22:31 G 45434100.21 45434100.44 45434100.66 0.0089 0.0041 Neptune 119683-03-31 10:46 G 45434467.71 45434467.95 45434468.21 0.0089 0.0018 Neptune 119684-04-01 23:29 G 45434835.23 45434835.48 45434835.74 0.0089 0.0006 Neptune 119685-04-04 11:58 G 45435202.76 45435203.00 45435203.24 0.0089 0.0029 Neptune 119686-04-06 23:58 G 45435570.32 45435570.50 45435570.73 0.0089 0.0054 Saturn 119686-05-30 17:00 G 45435623.98 45435624.21 45435624.44 0.0274 0.0090 Neptune 119687-04-09 12:41 G 45435937.91 45435938.03 45435938.17 0.0089 0.0077 Saturn 119687-06-11 22:46 G 45436001.24 45436001.45 45436001.67 0.0274 0.0125 Jupiter 119690-10-07 17:00 G 45437215.11 45437215.21 45437215.33 0.0536 0.0473 Uranus 119691-10-07 16:46 G 45437579.99 45437580.20 45437580.42 0.0139 0.0070 Uranus 119692-10-11 08:36 G 45437949.61 45437949.86 45437950.11 0.0139 0.0029 Uranus 119693-10-16 00:41 G 45438319.45 45438319.53 45438319.65 0.0139 0.0128 Saturn 119700-11-21 01:10 G 45440911.39 45440911.55 45440911.73 0.0284 0.0203 Saturn 119701-12-04 23:58 G 45441290.26 45441290.50 45441290.75 0.0285 0.0046 Saturn 119715-05-26 20:07 G 45446211.17 45446211.34 45446211.53 0.0275 0.0185 Saturn 119716-06-07 03:48 G 45446588.42 45446588.66 45446588.90 0.0275 0.0032

Saturn 119717-06-19 08:36 G 45446965.76 45446965.86 45446965.97 0.0274 0.0244 Jupiter 119720-03-29 23:00 G 45447980.30 45447980.46 45447980.64 0.0488 0.0337 Mars 119730-01-09 18:55 G 45451553.12 45451553.29 45451553.47 0.1692 0.0675 Saturn 119730-11-29 02:50 G 45451876.38 45451876.62 45451876.86 0.0284 0.0067 Saturn 119731-12-13 02:07 G 45452255.40 45452255.59 45452255.78 0.0284 0.0181 Jupiter 119732-04-03 05:14 G 45452367.49 45452367.72 45452367.95 0.0489 0.0106 Uranus 119732-04-12 13:10 G 45452376.84 45452377.05 45452377.27 0.0139 0.0074 Uranus 119733-04-17 05:00 G 45452746.47 45452746.71 45452746.97 0.0139 0.0025 Uranus 119734-04-21 20:07 G 45453116.24 45453116.34 45453116.47 0.0139 0.0123 Jupiter 119737-09-22 04:02 G 45454365.64 45454365.67 45454365.71 0.0542 0.0534 Jupiter 119744-04-07 13:38 G 45456754.84 45456755.07 45456755.29 0.0490 0.0132 Saturn 119745-06-01 17:58 G 45457175.02 45457175.25 45457175.49 0.0275 0.0069 Saturn 119746-06-14 00:12 G 45457552.31 45457552.51 45457552.72 0.0274 0.0146 Jupiter 119749-09-27 10:46 G 45458753.74 45458753.95 45458754.17 0.0540 0.0205 Jupiter 119756-04-11 22:02 G 45461142.27 45461142.42 45461142.57 0.0492 0.0373 Saturn 119759-11-23 01:38 G 45462462.39 45462462.57 45462462.77 0.0284 0.0183 Saturn 119760-12-06 00:26 G 45462841.28 45462841.52 45462841.76 0.0284 0.0065 Neptune 119761-09-20 21:48 G 45463130.28 45463130.41 45463130.54 0.0088 0.0076 Jupiter 119761-10-02 15:34 G 45463141.92 45463142.15 45463142.37 0.0538 0.0117 Neptune 119762-09-23 08:22 G 45463497.66 45463497.85 45463498.07 0.0088 0.0054 Neptune 119763-09-25 19:10 G 45463865.07 45463865.30 45463865.56 0.0088 0.0031 Neptune 119764-09-27 06:26 G 45464232.51 45464232.77 45464233.03 0.0088 0.0007 Neptune 119765-09-29 17:14 G 45464599.97 45464600.22 45464600.47 0.0088 0.0016 Neptune 119766-10-02 03:48 G 45464967.44 45464967.66 45464967.90 0.0088 0.0038 Neptune 119767-10-04 14:22 G 45465334.94 45465335.10 45465335.30 0.0088 0.0061 Neptune 119768-10-06 01:53 G 45465702.50 45465702.58 45465702.65 0.0088 0.0084 Jupiter 119773-10-07 16:31 G 45467530.05 45467530.19 45467530.33 0.0537 0.0428 Saturn 119774-05-27 20:36 G 45467762.17 45467762.36 45467762.56 0.0276 0.0165 Saturn 119775-06-09 04:31 G 45468139.46 45468139.69 45468139.93 0.0275 0.0052 Uranus 119775-10-09 03:34 G 45468261.43 45468261.65 45468261.88 0.0139 0.0065

Saturn 119776-06-20 09:34 G 45468516.85 45468516.90 45468516.98 0.0275 0.0264 Uranus 119776-10-12 19:24 G 45468631.07 45468631.31 45468631.56 0.0139 0.0034 Uranus 119777-10-17 11:14 G 45469000.92 45469000.97 45469001.06 0.0139 0.0134 Saturn 119789-11-30 05:14 G 45473427.47 45473427.72 45473427.97 0.0284 0.0044 Saturn 119790-12-14 04:02 G 45473806.51 45473806.67 45473806.85 0.0284 0.0203 Jupiter 119803-03-31 08:36 G 45478295.71 45478295.86 45478296.03 0.0487 0.0355 Saturn 119803-05-23 09:19 G 45478348.84 45478348.89 45478348.97 0.0276 0.0264 Saturn 119804-06-03 18:55 G 45478726.05 45478726.29 45478726.53 0.0275 0.0048 Saturn 119805-06-16 01:10 G 45479103.36 45479103.55 45479103.74 0.0274 0.0167 Jupiter 119815-04-04 16:17 G 45482682.95 45482683.18 45482683.41 0.0489 0.0119 Uranus 119816-04-13 22:31 G 45483058.22 45483058.44 45483058.66 0.0139 0.0071 Uranus 119817-04-18 14:22 G 45483427.86 45483428.10 45483428.35 0.0139 0.0028 Uranus 119818-04-23 05:14 G 45483797.63 45483797.72 45483797.84 0.0139 0.0126 Saturn 119818-11-25 03:19 G 45484013.45 45484013.64 45484013.86 0.0284 0.0161 Saturn 119819-12-09 01:38 G 45484392.34 45484392.57 45484392.81 0.0284 0.0088 Pluto 119821-06-26 06:26 G 45484957.53 45484957.77 45484958.03 0.0066 0.0016 Jupiter 119827-04-09 00:26 G 45487070.29 45487070.52 45487070.75 0.0490 0.0119 Jupiter 119832-09-27 08:36 G 45489068.65 45489068.86 45489069.06 0.0541 0.0256 Saturn 119833-05-29 20:22 G 45489313.15 45489313.35 45489313.56 0.0276 0.0144 Saturn 119834-06-11 04:46 G 45489690.47 45489690.70 45489690.93 0.0275 0.0073 Mars 119834-07-11 14:50 G 45489720.93 45489721.12 45489721.31 0.1842 0.0258 Jupiter 119839-04-13 08:07 G 45491457.69 45491457.84 45491458.01 0.0491 0.0356 Jupiter 119844-10-02 15:34 G 45493456.92 45493457.15 45493457.38 0.0539 0.0073 Neptune 119845-03-27 17:58 G 45493633.14 45493633.25 45493633.42 0.0089 0.0075 Neptune 119846-03-30 06:55 G 45494000.59 45494000.79 45494001.01 0.0089 0.0051 Neptune 119847-04-01 19:24 G 45494368.08 45494368.31 45494368.57 0.0089 0.0028 Saturn 119847-11-19 12:55 G 45494599.96 45494600.04 45494600.14 0.0283 0.0262 Neptune 119848-04-03 08:07 G 45494735.58 45494735.84 45494736.10 0.0089 0.0004 Saturn 119848-12-02 08:36 G 45494978.61 45494978.86 45494979.11 0.0283 0.0021 Neptune 119849-04-05 20:36 G 45495103.11 45495103.36 45495103.61 0.0089 0.0020

Saturn 119849-12-16 07:24 G 45495357.66 45495357.81 45495357.96 0.0284 0.0226 Neptune 119850-04-08 08:50 G 45495470.65 45495470.87 45495471.10 0.0089 0.0043 Neptune 119851-04-10 20:50 G 45495838.23 45495838.37 45495838.57 0.0089 0.0067 Jupiter 119856-10-07 23:58 G 45497845.36 45497845.50 45497845.66 0.0537 0.0404 Uranus 119859-10-10 14:22 G 45498942.87 45498943.10 45498943.33 0.0139 0.0059 Uranus 119860-10-14 05:58 G 45499312.51 45499312.75 45499313.00 0.0139 0.0039 Uranus 119861-10-18 21:48 G 45499682.40 45499682.41 45499682.46 0.0139 0.0138 Saturn 119862-05-24 10:31 G 45499899.84 45499899.94 45499900.07 0.0276 0.0243 Saturn 119863-06-05 20:22 G 45500277.11 45500277.35 45500277.59 0.0275 0.0026 Saturn 119864-06-17 02:36 G 45500654.44 45500654.61 45500654.79 0.0274 0.0188 Saturn 119877-11-26 06:26 G 45505564.56 45505564.77 45505564.99 0.0284 0.0138 Saturn 119878-12-10 04:17 G 45505943.45 45505943.68 45505943.91 0.0284 0.0110 Jupiter 119886-03-30 19:53 G 45508611.17 45508611.33 45508611.48 0.0487 0.0366 Saturn 119892-05-30 20:50 G 45510864.16 45510864.37 45510864.59 0.0276 0.0123 Saturn 119893-06-12 05:14 G 45511241.50 45511241.72 45511241.96 0.0275 0.0094 Jupiter 119898-04-04 03:05 G 45512998.41 45512998.63 45512998.86 0.0488 0.0134 Uranus 119900-04-15 08:22 G 45513739.64 45513739.85 45513740.09 0.0139 0.0066 Uranus 119901-04-20 00:26 G 45514109.28 45514109.52 45514109.77 0.0139 0.0033 Uranus 119902-04-24 15:19 G 45514479.07 45514479.14 45514479.24 0.0139 0.0130 Saturn 119906-11-21 18:12 G 45516151.13 45516151.26 45516151.40 0.0282 0.0237 Saturn 119907-12-05 13:53 G 45516529.83 45516530.08 45516530.32 0.0283 0.0007 Saturn 119908-12-18 12:12 G 45516908.90 45516909.01 45516909.13 0.0284 0.0251 Pluto 119908-12-25 23:43 G 45516916.27 45516916.49 45516916.75 0.0078 0.0031 Jupiter 119910-04-09 08:22 G 45517385.62 45517385.85 45517386.08 0.0489 0.0097 Jupiter 119915-09-28 14:50 G 45519383.92 45519384.12 45519384.31 0.0541 0.0283 Saturn 119921-05-26 12:26 G 45521450.88 45521451.02 45521451.17 0.0276 0.0221 Jupiter 119922-04-13 16:17 G 45521773.01 45521773.18 45521773.36 0.0491 0.0333 Saturn 119922-06-07 22:17 G 45521828.19 45521828.43 45521828.67 0.0275 0.0004 Saturn 119923-06-20 04:46 G 45522205.55 45522205.70 45522205.86 0.0275 0.0210 Neptune 119925-09-22 06:26 G 45523030.73 45523030.77 45523030.86 0.0088 0.0086

Neptune 119926-09-24 17:29 G 45523398.06 45523398.23 45523398.42 0.0088 0.0063 Neptune 119927-09-27 04:46 G 45523765.47 45523765.70 45523765.93 0.0088 0.0040 Jupiter 119927-10-03 22:31 G 45523772.21 45523772.44 45523772.67 0.0539 0.0048 Neptune 119928-09-28 15:34 G 45524132.91 45524133.15 45524133.41 0.0088 0.0017 Neptune 119929-10-01 02:22 G 45524500.35 45524500.60 45524500.86 0.0088 0.0006 Neptune 119930-10-03 13:10 G 45524867.82 45524868.05 45524868.31 0.0088 0.0029 Neptune 119931-10-06 00:12 G 45525235.31 45525235.51 45525235.72 0.0088 0.0052 Neptune 119932-10-07 10:46 G 45525602.83 45525602.95 45525603.11 0.0088 0.0075 Mars 119935-01-09 23:00 G 45526427.32 45526427.46 45526427.60 0.1705 0.1201 Saturn 119936-11-28 11:43 G 45527115.77 45527115.99 45527116.22 0.0283 0.0112 Saturn 119937-12-12 09:05 G 45527494.66 45527494.88 45527495.10 0.0284 0.0134 Jupiter 119939-10-09 03:19 G 45528160.47 45528160.64 45528160.81 0.0537 0.0367 Uranus 119943-10-12 00:26 G 45529624.30 45529624.52 45529624.77 0.0139 0.0055 Uranus 119944-10-15 16:17 G 45529993.94 45529994.18 45529994.43 0.0139 0.0044 Saturn 119951-06-02 22:17 G 45532415.21 45532415.43 45532415.66 0.0276 0.0100 Saturn 119952-06-14 07:10 G 45532792.58 45532792.80 45532793.02 0.0276 0.0117 Saturn 119965-11-23 01:10 G 45537702.40 45537702.55 45537702.73 0.0282 0.0211 Saturn 119966-12-06 20:50 G 45538081.12 45538081.37 45538081.62 0.0283 0.0032 Saturn 119967-12-20 19:24 G 45538460.26 45538460.31 45538460.37 0.0284 0.0276 Jupiter 119969-03-31 02:50 G 45538926.49 45538926.62 45538926.77 0.0487 0.0388 Saturn 119980-05-27 15:34 G 45543002.00 45543002.15 45543002.33 0.0276 0.0198 Jupiter 119981-04-04 10:02 G 45543313.70 45543313.92 45543314.14 0.0488 0.0157 Saturn 119981-06-09 01:38 G 45543379.33 45543379.57 45543379.81 0.0275 0.0020 Saturn 119982-06-21 08:22 G 45543756.73 45543756.85 45543756.98 0.0275 0.0233 Uranus 119984-04-15 17:43 G 45544421.02 45544421.24 45544421.47 0.0139 0.0063 Uranus 119985-04-20 09:34 G 45544790.66 45544790.90 45544791.15 0.0139 0.0036 Uranus 119986-04-25 00:26 G 45545160.46 45545160.52 45545160.60 0.0139 0.0133 Jupiter 119993-04-08 17:14 G 45547700.99 45547701.22 45547701.45 0.0489 0.0077 Saturn 119995-11-30 19:24 G 45548667.07 45548667.31 45548667.55 0.0283 0.0085 Saturn 119996-12-13 16:31 G 45549045.99 45549046.19 45549046.40 0.0284 0.0161

# 121ST MILLENNIUM CE

### This is a list of transits of Earth in the 121st millennium CE.

FROM MAX- C START MAX END SUNRAD DEPTH S

TRANSIT

TIME

Jupiter 120005-04-13 02:07 G 45552088.41 45552088.59 45552088.77 0.0491 0.0315 Neptune 120009-03-28 03:48 G 45553533.59 45553533.66 45553533.75 0.0089 0.0084 Neptune 120010-03-30 16:02 G 45553901.01 45553901.17 45553901.38 0.0089 0.0061 Saturn 120010-06-04 01:10 G 45553966.32 45553966.55 45553966.79 0.0276 0.0076 Jupiter 120010-10-02 17:29 G 45554086.99 45554087.23 45554087.46 0.0540 0.0015 Neptune 120011-04-02 05:00 G 45554268.48 45554268.71 45554268.95 0.0089 0.0037 Saturn 120011-06-16 09:48 G 45554343.71 45554343.91 45554344.13 0.0276 0.0141 Neptune 120012-04-03 17:14 G 45554635.98 45554636.22 45554636.49 0.0089 0.0014 Neptune 120013-04-06 05:43 G 45555003.49 45555003.74 45555004.00 0.0089 0.0010 120014-01-12 10:31 G 45555284.79 45555284.94 45555285.08 0.1699 0.1095 Neptune 120014-04-08 18:26 G 45555371.03 45555371.27 45555371.51 0.0089 0.0033 Neptune 120015-04-11 06:12 G 45555738.59 45555738.76 45555738.98 0.0089 0.0058 Neptune 120016-04-12 18:55 G 45556106.19 45556106.29 45556106.41 0.0089 0.0081 Jupiter 120022-10-07 22:31 G 45558475.25 45558475.44 45558475.63 0.0538 0.0309 Saturn 120024-11-24 10:46 G 45559253.77 45559253.95 45559254.15 0.0282 0.0181 Saturn 120025-12-08 06:12 G 45559632.52 45559632.76 45559633.01 0.0283 0.0062 Uranus 120027-10-12 10:17 G 45560305.71 45560305.93 45560306.18 0.0139 0.0051 Uranus 120028-10-16 02:07 G 45560675.35 45560675.59 45560675.83 0.0139 0.0048

Saturn 120039-05-29 21:05 G 45564553.20 45564553.38 45564553.57 0.0276 0.0172 Saturn 120040-06-10 06:41 G 45564930.54 45564930.78 45564931.02 0.0275 0.0045 Saturn 120041-06-22 13:24 G 45565308.00 45565308.06 45565308.16 0.0275 0.0258 Jupiter 120052-03-30 10:31 G 45569241.82 45569241.94 45569242.07 0.0487 0.0409 Saturn 120054-12-02 05:14 G 45570218.48 45570218.72 45570218.96 0.0283 0.0055 Saturn 120055-12-16 02:22 G 45570597.42 45570597.60 45570597.79 0.0284 0.0190 Jupiter 120064-04-03 18:41 G 45573629.06 45573629.28 45573629.50 0.0488 0.0177 Uranus 120068-04-16 03:19 G 45575102.41 45575102.64 45575102.87 0.0139 0.0059 Saturn 120068-05-23 17:43 G 45575140.20 45575140.24 45575140.32 0.0277 0.0268 Pluto 120068-06-27 21:05 G 45575175.18 45575175.38 45575175.62 0.0066 0.0033 Uranus 120069-04-20 19:10 G 45575472.06 45575472.30 45575472.54 0.0139 0.0039 Saturn 120069-06-05 05:58 G 45575517.52 45575517.75 45575517.99 0.0276 0.0051 Pluto 120069-06-29 09:34 G 45575541.80 45575541.90 45575542.07 0.0066 0.0057 Uranus 120070-04-25 09:48 G 45575841.88 45575841.91 45575841.97 0.0139 0.0136 Saturn 120070-06-17 14:36 G 45575894.93 45575895.11 45575895.31 0.0276 0.0166 Jupiter 120076-04-08 01:38 G 45578016.34 45578016.57 45578016.80 0.0489 0.0056 Jupiter 120081-09-26 11:00 G 45580013.80 45580013.96 45580014.12 0.0542 0.0383 Saturn 120083-11-26 21:48 G 45580805.21 45580805.41 45580805.63 0.0282 0.0152 Saturn 120084-12-09 17:29 G 45581184.00 45581184.23 45581184.47 0.0283 0.0092 Jupiter 120088-04-12 05:58 G 45582403.56 45582403.75 45582403.94 0.0490 0.0285 Neptune 120090-09-24 03:48 G 45583298.51 45583298.66 45583298.81 0.0088 0.0072 Neptune 120091-09-26 14:07 G 45583665.90 45583666.09 45583666.32 0.0088 0.0050 Neptune 120092-09-28 01:10 G 45584033.32 45584033.55 45584033.81 0.0088 0.0027 Neptune 120093-09-30 12:12 G 45584400.76 45584401.01 45584401.27 0.0088 0.0004 Jupiter 120093-10-01 18:55 G 45584402.06 45584402.29 45584402.52 0.0541 0.0051 Neptune 120094-10-02 23:00 G 45584768.22 45584768.46 45584768.72 0.0088 0.0020 Neptune 120095-10-05 09:48 G 45585135.70 45585135.91 45585136.15 0.0088 0.0043 Neptune 120096-10-06 20:36 G 45585503.21 45585503.36 45585503.55 0.0088 0.0065 Neptune 120097-10-09 07:24 G 45585870.81 45585870.81 45585870.85 0.0088 0.0088 Saturn 120098-05-31 04:17 G 45586104.48 45586104.68 45586104.90 0.0276 0.0146

Saturn 120099-06-12 13:38 G 45586481.84 45586482.07 45586482.31 0.0275 0.0071 Jupiter 120105-10-08 02:36 G 45588790.42 45588790.61 45588790.81 0.0539 0.0277 Uranus 120111-10-13 19:53 G 45590987.10 45590987.33 45590987.58 0.0139 0.0047 Uranus 120112-10-17 11:29 G 45591356.75 45591356.98 45591357.22 0.0139 0.0051 Saturn 120112-11-20 23:29 G 45591391.39 45591391.48 45591391.57 0.0282 0.0263 Saturn 120113-12-04 17:14 G 45591769.97 45591770.22 45591770.47 0.0283 0.0024 Saturn 120114-12-18 14:22 G 45592148.95 45592149.10 45592149.26 0.0284 0.0221 Mars 120118-07-13 16:46 G 45593452.02 45593452.20 45593452.38 0.1832 0.0475 Saturn 120127-05-27 00:12 G 45596691.41 45596691.51 45596691.64 0.0277 0.0242 Saturn 120128-06-07 12:12 G 45597068.77 45597069.01 45597069.26 0.0276 0.0024 Saturn 120129-06-19 20:50 G 45597446.21 45597446.37 45597446.55 0.0276 0.0192 Jupiter 120135-03-31 17:58 G 45599557.15 45599557.25 45599557.36 0.0486 0.0430 Saturn 120142-11-29 10:31 G 45602356.72 45602356.94 45602357.17 0.0282 0.0120 Saturn 120143-12-13 06:26 G 45602735.55 45602735.77 45602736.00 0.0283 0.0124 Jupiter 120147-04-04 22:02 G 45603944.21 45603944.42 45603944.63 0.0487 0.0204 Uranus 120152-04-17 11:58 G 45605783.77 45605784.00 45605784.24 0.0139 0.0057 Uranus 120153-04-22 03:34 G 45606153.42 45606153.65 45606153.90 0.0139 0.0042 Uranus 120154-04-26 18:41 G 45606523.27 45606523.28 45606523.30 0.0139 0.0138 Pluto 120155-12-28 03:48 G 45607133.51 45607133.66 45607133.86 0.0078 0.0058 Saturn 120157-06-02 13:10 G 45607655.83 45607656.05 45607656.27 0.0276 0.0118 Saturn 120158-06-14 22:02 G 45608033.20 45608033.42 45608033.65 0.0275 0.0100 Jupiter 120159-04-09 05:00 G 45608331.47 45608331.71 45608331.94 0.0488 0.0027 Jupiter 120164-09-26 13:53 G 45610328.93 45610329.08 45610329.22 0.0542 0.0416 Jupiter 120171-04-13 11:29 G 45612718.79 45612718.98 45612719.19 0.0490 0.0259 Saturn 120171-11-23 11:58 G 45612942.87 45612943.00 45612943.15 0.0283 0.0232 Saturn 120172-12-06 06:12 G 45613321.52 45613321.76 45613322.01 0.0283 0.0009 Saturn 120173-12-20 03:34 G 45613700.55 45613700.65 45613700.78 0.0284 0.0252 Neptune 120174-03-31 01:38 G 45613801.42 45613801.57 45613801.73 0.0089 0.0070 Neptune 120175-04-02 13:53 G 45614168.87 45614169.08 45614169.31 0.0089 0.0047 Neptune 120176-04-04 02:36 G 45614536.36 45614536.61 45614536.86 0.0089 0.0023 Jupiter 120176-10-01 20:07 G 45614717.12 45614717.34 45614717.57 0.0540 0.0092 Neptune 120177-04-06 15:05 G 45614903.87 45614904.13 45614904.39 0.0089 0.0001 Neptune 120178-04-09 03:19 G 45615271.41 45615271.64 45615271.91 0.0089 0.0024 Neptune 120179-04-11 15:34 G 45615638.95 45615639.15 45615639.39 0.0089 0.0048 Neptune 120180-04-13 03:48 G 45616006.53 45616006.66 45616006.84 0.0089 0.0071 Saturn 120186-05-28 08:36 G 45618242.72 45618242.86 45618243.02 0.0277 0.0214 Saturn 120187-06-09 20:07 G 45618620.10 45618620.34 45618620.58 0.0276 0.0004 Saturn 120188-06-21 04:17 G 45618997.55 45618997.68 45618997.84 0.0276 0.0219 Jupiter 120188-10-06 20:22 G 45619105.14 45619105.35 45619105.56 0.0539 0.0217 Uranus 120195-10-14 05:29 G 45621668.49 45621668.73 45621668.97 0.0139 0.0043 Uranus 120196-10-17 21:05 G 45622038.14 45622038.38 45622038.61 0.0139 0.0054 Jupiter 120200-10-12 23:58 G 45623493.47 45623493.50 45623493.54 0.0537 0.0529 Saturn 120201-12-01 23:29 G 45623908.25 45623908.48 45623908.72 0.0283 0.0088 Saturn 120202-12-15 19:53 G 45624287.13 45624287.33 45624287.55 0.0283 0.0156 Saturn 120216-06-04 22:46 G 45629207.22 45629207.45 45629207.68 0.0276 0.0090 Saturn 120217-06-17 07:24 G 45629584.60 45629584.81 45629585.03 0.0275 0.0127 Jupiter 120218-03-31 21:05 G 45629872.31 45629872.38 45629872.46 0.0486 0.0457 Mars 120219-01-12 12:26 G 45630158.86 45630159.02 45630159.19 0.1712 0.0881 Jupiter 120230-04-05 03:05 G 45634259.42 45634259.63 45634259.84 0.0487 0.0231 Saturn 120230-11-26 01:24 G 45634494.39 45634494.56 45634494.74 0.0283 0.0201 Saturn 120231-12-09 20:07 G 45634873.09 45634873.34 45634873.58 0.0283 0.0041 Saturn 120232-12-22 17:43 G 45635252.24 45635252.24 45635252.26 0.0284 0.0283 Uranus 120236-04-18 21:05 G 45636465.15 45636465.38 45636465.62 0.0139 0.0054 Uranus 120237-04-23 12:41 G 45636834.79 45636835.03 45636835.28 0.0139 0.0044 Jupiter 120242-04-09 11:00 G 45638646.73 45638646.96 45638647.20 0.0488 0.0008 Saturn 120245-05-30 17:43 G 45639794.07 45639794.24 45639794.43 0.0276 0.0186 Saturn 120246-06-12 04:31 G 45640171.45 45640171.69 45640171.93 0.0276 0.0032 Saturn 120247-06-24 12:41 G 45640548.93 45640549.03 45640549.14 0.0276 0.0245 Jupiter 120247-09-27 08:36 G 45640643.75 45640643.86 45640643.97 0.0542 0.0471 Jupiter 120254-04-13 17:43 G 45643034.04 45643034.24 45643034.45 0.0490 0.0234

Neptune 120254-09-25 13:24 G 45643198.99 45643199.06 45643199.19 0.0089 0.0082 Neptune 120255-09-28 00:26 G 45643566.34 45643566.52 45643566.73 0.0088 0.0059 Neptune 120256-09-29 11:29 G 45643933.75 45643933.98 45643934.22 0.0088 0.0036 Neptune 120257-10-01 22:17 G 45644301.18 45644301.43 45644301.68 0.0088 0.0013 Neptune 120258-10-04 09:05 G 45644668.63 45644668.88 45644669.14 0.0088 0.0010 Jupiter 120259-10-02 12:41 G 45645031.81 45645032.03 45645032.25 0.0541 0.0154 Neptune 120259-10-06 19:53 G 45645036.11 45645036.33 45645036.59 0.0088 0.0034 Neptune 120260-10-08 06:26 G 45645403.60 45645403.77 45645404.00 0.0088 0.0057 Saturn 120260-12-03 11:43 G 45645459.75 45645459.99 45645460.24 0.0283 0.0058 Neptune 120261-10-10 17:58 G 45645771.14 45645771.25 45645771.37 0.0088 0.0079 Saturn 120261-12-17 08:50 G 45645838.69 45645838.87 45645839.06 0.0283 0.0187 Jupiter 120266-04-17 22:17 G 45647421.36 45647421.43 45647421.51 0.0490 0.0461 Jupiter 120271-10-07 18:26 G 45649420.05 45649420.27 45649420.49 0.0540 0.0171 Saturn 120275-06-07 09:19 G 45650758.65 45650758.89 45650759.13 0.0276 0.0061 Saturn 120276-06-18 17:29 G 45651136.04 45651136.23 45651136.44 0.0275 0.0155 Uranus 120278-10-10 23:58 G 45651980.46 45651980.50 45651980.55 0.0139 0.0136 Uranus 120279-10-15 14:36 G 45652349.88 45652350.11 45652350.36 0.0139 0.0040 Uranus 120280-10-19 06:12 G 45652719.54 45652719.76 45652720.00 0.0139 0.0058 Jupiter 120283-10-13 02:07 G 45653808.51 45653808.59 45653808.69 0.0538 0.0494 Saturn 120289-11-27 13:38 G 45656045.89 45656046.07 45656046.28 0.0283 0.0171 Saturn 120290-12-11 09:05 G 45656424.64 45656424.88 45656425.12 0.0283 0.0072 Mars 120298-01-15 01:10 G 45659016.46 45659016.55 45659016.64 0.1706 0.1495 Jupiter 120301-04-01 02:36 G 45660187.59 45660187.61 45660187.65 0.0486 0.0482 Saturn 120304-06-02 03:05 G 45661345.44 45661345.63 45661345.83 0.0276 0.0159 Saturn 120305-06-14 13:24 G 45661722.82 45661723.06 45661723.29 0.0276 0.0059 Saturn 120306-06-26 20:50 G 45662100.34 45662100.37 45662100.42 0.0275 0.0271 Jupiter 120313-04-05 09:05 G 45664574.68 45664574.88 45664575.08 0.0487 0.0254 Pluto 120316-07-02 19:38 G 45665759.07 45665759.32 45665759.58 0.0066 0.0009 Saturn 120318-11-23 04:46 G 45666632.64 45666632.70 45666632.79 0.0282 0.0268 Saturn 120319-12-06 23:14 G 45667011.22 45667011.47 45667011.72 0.0283 0.0028

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Saturn 120379-12-22 05:58 G 45688941.64 45688941.75 45688941.89 0.0284 0.0245 Saturn 120392-05-29 17:14 G 45693484.08 45693484.22 45693484.36 0.0277 0.0225 Saturn 120393-06-11 03:48 G 45693861.42 45693861.66 45693861.90 0.0276 0.0007 Saturn 120394-06-23 11:29 G 45694238.82 45694238.98 45694239.14 0.0275 0.0208 Jupiter 120396-04-04 13:38 G 45694889.88 45694890.07 45694890.26 0.0486 0.0278 Mars 120402-07-15 21:19 G 45697183.21 45697183.39 45697183.57 0.1823 0.0604 Pluto 120404-01-01 06:55 G 45697717.53 45697717.79 45697718.05 0.0078 0.0012 Uranus 120404-04-20 14:50 G 45697827.89 45697828.12 45697828.37 0.0139 0.0047 Uranus 120405-04-25 06:41 G 45698197.55 45698197.78 45698198.03 0.0139 0.0051 Saturn 120407-12-02 10:17 G 45699148.71 45699148.93 45699149.16 0.0283 0.0114 Jupiter 120408-04-08 19:38 G 45699277.09 45699277.32 45699277.55 0.0487 0.0052 Saturn 120408-12-15 06:12 G 45699527.54 45699527.76 45699527.98 0.0283 0.0130 Neptune 120419-09-28 11:00 G 45703466.81 45703466.96 45703467.14 0.0089 0.0068 Jupiter 120420-04-13 03:34 G 45703664.43 45703664.65 45703664.87 0.0489 0.0180 Neptune 120420-09-29 21:48 G 45703834.20 45703834.41 45703834.64 0.0088 0.0045 Neptune 120421-10-02 08:07 G 45704201.61 45704201.84 45704202.11 0.0088 0.0023 Saturn 120422-06-05 19:24 G 45704448.09 45704448.31 45704448.54 0.0276 0.0106 Neptune 120422-10-04 19:24 G 45704569.05 45704569.31 45704569.57 0.0088 0.0001 Saturn 120423-06-18 04:46 G 45704825.49 45704825.70 45704825.93 0.0275 0.0111 Neptune 120423-10-07 05:58 G 45704936.51 45704936.75 45704937.00 0.0088 0.0024 Neptune 120424-10-08 16:46 G 45705303.99 45705304.20 45705304.42 0.0088 0.0047 Jupiter 120425-10-01 13:24 G 45705661.85 45705662.06 45705662.27 0.0541 0.0234 Neptune 120425-10-11 03:34 G 45705671.51 45705671.65 45705671.82 0.0088 0.0070 Jupiter 120432-04-17 10:46 G 45708051.83 45708051.95 45708052.08 0.0490 0.0413 Saturn 120436-11-25 19:53 G 45709735.18 45709735.33 45709735.49 0.0283 0.0217 Jupiter 120437-10-06 17:29 G 45710050.00 45710050.23 45710050.46 0.0540 0.0083 Saturn 120437-12-09 15:05 G 45710113.88 45710114.13 45710114.38 0.0283 0.0025 Saturn 120438-12-23 13:10 G 45710492.99 45710493.05 45710493.14 0.0284 0.0270 Uranus 120446-10-12 18:41 G 45713343.20 45713343.28 45713343.39 0.0139 0.0128 Uranus 120447-10-17 09:48 G 45713712.67 45713712.91 45713713.16 0.0139 0.0031

Uranus 120448-10-21 01:38 G 45714082.35 45714082.57 45714082.79 0.0139 0.0066 Jupiter 120449-10-11 21:19 G 45714438.24 45714438.39 45714438.55 0.0539 0.0399 Saturn 120451-06-01 00:55 G 45715035.37 45715035.54 45715035.70 0.0277 0.0200 Saturn 120452-06-12 11:14 G 45715412.73 45715412.97 45715413.21 0.0276 0.0018 Saturn 120453-06-24 18:26 G 45715790.15 45715790.27 45715790.41 0.0275 0.0232 Saturn 120466-12-03 17:14 G 45720699.99 45720700.22 45720700.46 0.0283 0.0088 Saturn 120467-12-17 13:10 G 45721078.85 45721079.05 45721079.26 0.0283 0.0156 Jupiter 120479-04-04 21:05 G 45725205.20 45725205.38 45725205.56 0.0486 0.0300 Saturn 120481-06-07 01:38 G 45725999.35 45725999.57 45725999.81 0.0276 0.0082 Saturn 120482-06-19 10:31 G 45726376.74 45726376.94 45726377.16 0.0275 0.0136 Uranus 120488-04-21 00:26 G 45728509.28 45728509.52 45728509.77 0.0139 0.0043 Uranus 120489-04-25 15:48 G 45728878.94 45728879.16 45728879.41 0.0139 0.0055 Jupiter 120491-04-09 03:48 G 45729592.43 45729592.66 45729592.90 0.0487 0.0070 Saturn 120495-11-28 00:12 G 45731286.34 45731286.51 45731286.70 0.0283 0.0194 Saturn 120496-12-10 19:38 G 45731665.08 45731665.32 45731665.57 0.0283 0.0049 Mars 120503-01-15 01:24 G 45733890.38 45733890.56 45733890.75 0.1720 0.0570 Neptune 120503-04-04 08:50 G 45733969.71 45733969.87 45733970.05 0.0089 0.0066 Jupiter 120503-04-14 09:48 G 45733979.69 45733979.91 45733980.14 0.0488 0.0159 Neptune 120504-04-05 21:19 G 45734337.19 45734337.39 45734337.64 0.0089 0.0043 Neptune 120505-04-08 10:17 G 45734704.69 45734704.93 45734705.19 0.0089 0.0019 Neptune 120506-04-10 23:00 G 45735072.21 45735072.46 45735072.72 0.0089 0.0005 Neptune 120507-04-13 11:29 G 45735439.74 45735439.98 45735440.23 0.0089 0.0028 Neptune 120508-04-14 23:29 G 45735807.30 45735807.48 45735807.72 0.0089 0.0053 Jupiter 120508-10-01 10:31 G 45735976.74 45735976.94 45735977.14 0.0542 0.0283 Neptune 120509-04-17 12:12 G 45736174.89 45736175.01 45736175.16 0.0089 0.0075 Saturn 120510-06-03 06:12 G 45736586.57 45736586.76 45736586.94 0.0277 0.0176 Saturn 120511-06-15 16:31 G 45736963.96 45736964.19 45736964.43 0.0276 0.0042 Saturn 120512-06-26 23:43 G 45737341.42 45737341.49 45737341.59 0.0275 0.0256 Jupiter 120515-04-18 17:00 G 45738367.08 45738367.21 45738367.36 0.0489 0.0390 Jupiter 120520-10-06 18:55 G 45740365.06 45740365.29 45740365.52 0.0541 0.0044

Saturn 120525-12-05 22:31 G 45742251.20 45742251.44 45742251.68 0.0283 0.0063 Saturn 120526-12-19 18:12 G 45742630.08 45742630.26 45742630.47 0.0283 0.0181 Uranus 120530-10-14 03:48 G 45744024.57 45744024.66 45744024.79 0.0139 0.0124 Uranus 120531-10-18 19:10 G 45744394.06 45744394.30 45744394.56 0.0139 0.0028 Jupiter 120532-10-12 03:34 G 45744753.48 45744753.65 45744753.82 0.0540 0.0371 Uranus 120532-10-22 11:00 G 45744763.75 45744763.96 45744764.19 0.0139 0.0070 Saturn 120539-05-28 18:12 G 45747173.24 45747173.26 45747173.28 0.0277 0.0275 Saturn 120540-06-09 06:12 G 45747550.53 45747550.76 45747551.00 0.0276 0.0058 Saturn 120541-06-21 15:19 G 45747927.94 45747928.14 45747928.33 0.0275 0.0158 Saturn 120554-11-30 02:36 G 45752837.42 45752837.61 45752837.81 0.0283 0.0173 Saturn 120555-12-13 21:48 G 45753216.17 45753216.41 45753216.65 0.0283 0.0070 Jupiter 120562-04-05 05:29 G 45755520.55 45755520.73 45755520.91 0.0486 0.0315 Pluto 120564-07-05 14:22 G 45756342.86 45756343.10 45756343.37 0.0066 0.0008 Saturn 120569-06-04 09:34 G 45758137.71 45758137.90 45758138.11 0.0277 0.0154 Saturn 120570-06-16 20:07 G 45758515.11 45758515.34 45758515.58 0.0276 0.0064 Uranus 120571-04-18 17:14 G 45758821.19 45758821.22 45758821.27 0.0139 0.0138 Uranus 120572-04-22 09:48 G 45759190.67 45759190.91 45759191.16 0.0139 0.0039 Uranus 120573-04-27 01:53 G 45759560.35 45759560.58 45759560.81 0.0139 0.0058 Jupiter 120574-04-09 12:26 G 45759907.80 45759908.02 45759908.26 0.0486 0.0088 Neptune 120583-09-28 21:48 G 45763367.30 45763367.41 45763367.56 0.0089 0.0077 Saturn 120583-11-24 09:34 G 45763423.86 45763423.90 45763423.95 0.0282 0.0276 Neptune 120584-09-30 08:36 G 45763734.67 45763734.86 45763735.08 0.0088 0.0054 Saturn 120584-12-07 01:38 G 45763802.33 45763802.57 45763802.82 0.0282 0.0041 Neptune 120585-10-02 19:10 G 45764102.08 45764102.30 45764102.56 0.0088 0.0032 Saturn 120585-12-20 22:02 G 45764181.24 45764181.42 45764181.59 0.0283 0.0203 Jupiter 120586-04-13 18:26 G 45764295.05 45764295.27 45764295.50 0.0488 0.0139 Neptune 120586-10-05 06:12 G 45764469.51 45764469.76 45764470.02 0.0088 0.0008 Neptune 120587-10-07 16:46 G 45764836.95 45764837.20 45764837.46 0.0088 0.0015 Neptune 120588-10-09 03:19 G 45765204.42 45765204.64 45765204.89 0.0088 0.0038 Neptune 120589-10-11 13:53 G 45765571.92 45765572.08 45765572.29 0.0088 0.0061

Neptune 120590-10-14 00:41 G 45765939.48 45765939.53 45765939.64 0.0088 0.0084 Jupiter 120591-10-01 17:43 G 45766292.05 45766292.24 45766292.43 0.0543 0.0309 Jupiter 120598-04-18 02:07 G 45768682.45 45768682.59 45768682.75 0.0489 0.0371 Saturn 120598-05-29 20:50 G 45768724.29 45768724.37 45768724.48 0.0277 0.0254 Saturn 120599-06-11 09:19 G 45769101.65 45769101.89 45769102.13 0.0276 0.0036 Saturn 120600-06-23 17:58 G 45769479.08 45769479.25 45769479.44 0.0275 0.0180 Jupiter 120603-10-08 00:26 G 45770680.29 45770680.52 45770680.75 0.0541 0.0019 Saturn 120613-12-02 04:02 G 45774388.47 45774388.67 45774388.89 0.0282 0.0151 Uranus 120614-10-15 12:55 G 45774705.93 45774706.04 45774706.18 0.0139 0.0121 Saturn 120614-12-15 23:00 G 45774767.23 45774767.46 45774767.70 0.0283 0.0092 Jupiter 120615-10-13 05:14 G 45775068.54 45775068.72 45775068.91 0.0540 0.0334 Uranus 120615-10-20 04:31 G 45775075.44 45775075.69 45775075.94 0.0139 0.0024 Uranus 120616-10-23 20:07 G 45775445.13 45775445.34 45775445.56 0.0139 0.0074 Saturn 120628-06-06 11:14 G 45779688.76 45779688.97 45779689.19 0.0277 0.0132 Saturn 120629-06-18 22:02 G 45780066.20 45780066.42 45780066.66 0.0276 0.0086 Saturn 120642-11-26 11:58 G 45784974.91 45784975.00 45784975.12 0.0281 0.0254 Saturn 120643-12-10 04:17 G 45785353.44 45785353.68 45785353.93 0.0282 0.0017 Saturn 120644-12-22 23:58 G 45785732.36 45785732.50 45785732.66 0.0283 0.0225 Jupiter 120645-04-05 15:05 G 45785835.96 45785836.13 45785836.30 0.0485 0.0331 Pluto 120652-01-05 02:36 G 45788301.35 45788301.61 45788301.87 0.0078 0.0010 Uranus 120655-04-20 02:22 G 45789502.55 45789502.60 45789502.68 0.0139 0.0134 Uranus 120656-04-23 19:10 G 45789872.06 45789872.30 45789872.56 0.0139 0.0036 Jupiter 120657-04-09 22:17 G 45790223.20 45790223.43 45790223.66 0.0486 0.0104 Uranus 120657-04-28 11:00 G 45790241.74 45790241.96 45790242.19 0.0139 0.0061 Saturn 120657-05-31 22:31 G 45790275.32 45790275.44 45790275.58 0.0277 0.0232 Saturn 120658-06-13 11:14 G 45790652.72 45790652.97 45790653.21 0.0276 0.0015 Saturn 120659-06-25 20:07 G 45791030.18 45791030.34 45791030.51 0.0275 0.0200 Neptune 120667-04-04 17:43 G 45793870.14 45793870.24 45793870.41 0.0089 0.0076 Neptune 120668-04-06 06:55 G 45794237.59 45794237.79 45794238.01 0.0089 0.0052 Neptune 120669-04-08 19:38 G 45794605.09 45794605.32 45794605.58 0.0089 0.0029

Jupiter 120669-04-14 05:14 G 45794610.50 45794610.72 45794610.95 0.0488 0.0126 Neptune 120670-04-11 08:22 G 45794972.60 45794972.85 45794973.11 0.0089 0.0005 Neptune 120671-04-13 21:05 G 45795340.13 45795340.38 45795340.64 0.0089 0.0019 Neptune 120672-04-15 09:34 G 45795707.68 45795707.90 45795708.14 0.0089 0.0042 Saturn 120672-12-03 05:00 G 45795939.49 45795939.71 45795939.93 0.0282 0.0130 Neptune 120673-04-17 21:34 G 45796075.25 45796075.40 45796075.60 0.0089 0.0066 Saturn 120673-12-16 23:43 G 45796318.27 45796318.49 45796318.73 0.0283 0.0112 Neptune 120674-04-20 10:31 G 45796442.94 45796442.94 45796442.95 0.0089 0.0089 Jupiter 120674-10-01 20:50 G 45796607.20 45796607.37 45796607.56 0.0543 0.0343 Jupiter 120681-04-18 12:41 G 45798997.87 45798998.03 45798998.19 0.0489 0.0356 Mars 120686-07-18 04:31 G 45800914.51 45800914.69 45800914.86 0.1814 0.0623 Jupiter 120686-10-06 22:17 G 45800995.20 45800995.43 45800995.66 0.0542 0.0034 Saturn 120687-06-08 11:58 G 45801239.78 45801240.00 45801240.23 0.0277 0.0110 Saturn 120688-06-19 23:00 G 45801617.24 45801617.46 45801617.69 0.0276 0.0107 Jupiter 120698-10-12 05:58 G 45805383.55 45805383.75 45805383.94 0.0541 0.0290 Uranus 120698-10-15 21:48 G 45805387.30 45805387.41 45805387.56 0.0139 0.0118 Uranus 120699-10-20 13:24 G 45805756.81 45805757.06 45805757.31 0.0139 0.0021 Uranus 120700-10-25 05:00 G 45806126.51 45806126.71 45806126.94 0.0139 0.0077 Saturn 120701-11-28 14:36 G 45806525.98 45806526.11 45806526.26 0.0281 0.0231 Saturn 120702-12-12 06:41 G 45806904.54 45806904.78 45806905.03 0.0282 0.0008 Saturn 120703-12-26 02:22 G 45807283.49 45807283.60 45807283.73 0.0283 0.0247 Saturn 120716-06-02 23:29 G 45811826.33 45811826.48 45811826.64 0.0277 0.0211 Saturn 120717-06-15 12:12 G 45812203.76 45812204.01 45812204.25 0.0276 0.0008 Saturn 120718-06-27 21:05 G 45812581.25 45812581.38 45812581.54 0.0275 0.0222 Jupiter 120728-04-06 01:38 G 45816151.41 45816151.57 45816151.74 0.0485 0.0344 Saturn 120731-12-06 06:26 G 45817490.54 45817490.77 45817491.00 0.0282 0.0108 Saturn 120732-12-19 00:41 G 45817869.32 45817869.53 45817869.76 0.0283 0.0134 Uranus 120739-04-21 12:12 G 45820183.93 45820184.01 45820184.10 0.0139 0.0131 Jupiter 120740-04-10 09:19 G 45820538.66 45820538.89 45820539.12 0.0486 0.0116 Uranus 120740-04-25 04:46 G 45820553.46 45820553.70 45820553.95 0.0139 0.0033

Uranus 120741-04-29 20:22 G 45820923.14 45820923.35 45820923.59 0.0139 0.0065 Saturn 120746-06-10 12:12 G 45822790.78 45822791.01 45822791.24 0.0277 0.0089 Saturn 120747-06-22 23:29 G 45823168.27 45823168.48 45823168.69 0.0277 0.0129 Neptune 120747-09-30 08:22 G 45823267.81 45823267.85 45823267.93 0.0089 0.0086 Neptune 120748-10-01 19:10 G 45823635.13 45823635.30 45823635.49 0.0088 0.0063 Neptune 120749-10-04 05:43 G 45824002.53 45824002.74 45824002.99 0.0088 0.0041 Neptune 120750-10-06 16:31 G 45824369.95 45824370.19 45824370.45 0.0088 0.0018 Neptune 120751-10-09 03:19 G 45824737.39 45824737.64 45824737.90 0.0088 0.0006 Jupiter 120752-04-14 16:46 G 45824925.97 45824926.20 45824926.43 0.0487 0.0112 Neptune 120752-10-10 13:53 G 45825104.85 45825105.08 45825105.33 0.0088 0.0029 Neptune 120753-10-13 00:12 G 45825472.33 45825472.51 45825472.75 0.0088 0.0052 Neptune 120754-10-15 10:46 G 45825839.84 45825839.95 45825840.12 0.0088 0.0075 Jupiter 120757-10-01 19:24 G 45826922.16 45826922.31 45826922.48 0.0544 0.0392 Saturn 120760-11-29 17:58 G 45828077.09 45828077.25 45828077.42 0.0281 0.0206 Saturn 120761-12-13 09:34 G 45828455.66 45828455.90 45828456.15 0.0282 0.0031 Saturn 120762-12-27 04:46 G 45828834.64 45828834.70 45828834.79 0.0283 0.0270 Jupiter 120764-04-18 21:48 G 45829313.25 45829313.41 45829313.58 0.0488 0.0337 Jupiter 120769-10-07 05:29 G 45831310.50 45831310.73 45831310.96 0.0542 0.0059 Saturn 120775-06-05 00:41 G 45833377.36 45833377.53 45833377.71 0.0277 0.0190 Saturn 120776-06-16 13:24 G 45833754.82 45833755.06 45833755.31 0.0276 0.0030 Saturn 120777-06-28 22:46 G 45834132.34 45834132.45 45834132.57 0.0276 0.0243 Jupiter 120781-10-12 13:38 G 45835698.88 45835699.07 45835699.28 0.0541 0.0269 Uranus 120782-10-17 06:55 G 45836068.67 45836068.79 45836068.95 0.0139 0.0115 Uranus 120783-10-21 22:31 G 45836438.19 45836438.44 45836438.69 0.0139 0.0018 Uranus 120784-10-25 13:53 G 45836807.89 45836808.08 45836808.30 0.0139 0.0080 Mars 120787-01-17 13:53 G 45837621.89 45837622.08 45837622.28 0.1727 0.0272 Saturn 120790-12-07 09:05 G 45839041.64 45839041.88 45839042.12 0.0282 0.0085 Saturn 120791-12-21 03:05 G 45839420.43 45839420.63 45839420.84 0.0283 0.0156 Saturn 120805-06-11 11:58 G 45844341.77 45844342.00 45844342.24 0.0277 0.0067 Saturn 120806-06-23 23:29 G 45844719.29 45844719.48 45844719.69 0.0277 0.0151

Jupiter 120811-04-06 13:24 G 45846466.90 45846467.06 45846467.22 0.0485 0.0355 Pluto 120812-07-09 05:29 G 45846926.49 45846926.73 45846927.00 0.0066 0.0012 Saturn 120819-12-01 22:46 G 45849628.26 45849628.45 45849628.64 0.0281 0.0181 Saturn 120820-12-14 14:22 G 45850006.86 45850007.10 45850007.35 0.0282 0.0055 Jupiter 120823-04-10 18:12 G 45850854.04 45850854.26 45850854.49 0.0486 0.0134 Uranus 120823-04-21 21:19 G 45850865.31 45850865.39 45850865.51 0.0139 0.0127 Uranus 120824-04-25 14:22 G 45851234.85 45851235.10 45851235.35 0.0139 0.0029 Uranus 120825-04-30 05:58 G 45851604.54 45851604.75 45851604.98 0.0139 0.0068 Neptune 120831-04-05 03:34 G 45853770.59 45853770.65 45853770.74 0.0089 0.0085 Neptune 120832-04-06 16:02 G 45854138.01 45854138.17 45854138.38 0.0089 0.0062 Neptune 120833-04-09 05:00 G 45854505.49 45854505.71 45854505.95 0.0089 0.0038 Neptune 120834-04-11 17:58 G 45854873.00 45854873.25 45854873.51 0.0089 0.0015 Saturn 120834-06-06 02:07 G 45854928.40 45854928.59 45854928.79 0.0277 0.0167 Neptune 120835-04-14 06:41 G 45855240.53 45855240.78 45855241.04 0.0089 0.0009 Jupiter 120835-04-15 01:10 G 45855241.32 45855241.55 45855241.79 0.0487 0.0093 Saturn 120835-06-18 15:05 G 45855305.89 45855306.13 45855306.37 0.0277 0.0052 Neptune 120836-04-15 18:55 G 45855608.07 45855608.29 45855608.55 0.0089 0.0033 Saturn 120836-06-30 00:26 G 45855683.47 45855683.52 45855683.60 0.0276 0.0265 Neptune 120837-04-18 07:38 G 45855975.64 45855975.82 45855976.04 0.0089 0.0056 Neptune 120838-04-20 19:53 G 45856343.25 45856343.33 45856343.47 0.0089 0.0080 Jupiter 120840-10-01 03:19 G 45857237.50 45857237.64 45857237.79 0.0544 0.0412 Jupiter 120847-04-19 08:07 G 45859628.67 45859628.84 45859629.02 0.0488 0.0321 Saturn 120849-12-08 13:24 G 45860592.82 45860593.06 45860593.30 0.0282 0.0060 Saturn 120850-12-22 06:55 G 45860971.61 45860971.79 45860971.99 0.0283 0.0181 Jupiter 120852-10-06 09:34 G 45861625.68 45861625.90 45861626.13 0.0542 0.0093 Saturn 120863-05-31 21:48 G 45865515.33 45865515.41 45865515.48 0.0278 0.0264 Saturn 120864-06-12 13:10 G 45865892.81 45865893.05 45865893.29 0.0278 0.0045 Jupiter 120864-10-11 09:48 G 45866013.70 45866013.91 45866014.13 0.0541 0.0214 Saturn 120865-06-25 00:55 G 45866270.36 45866270.54 45866270.73 0.0277 0.0173 Uranus 120866-10-17 16:02 G 45866750.03 45866750.17 45866750.33 0.0139 0.0111

Uranus 120867-10-22 07:10 G 45867119.55 45867119.80 45867120.06 0.0139 0.0015 Uranus 120868-10-25 23:00 G 45867489.26 45867489.46 45867489.67 0.0139 0.0082 Jupiter 120876-10-16 15:48 G 45870402.13 45870402.16 45870402.21 0.0540 0.0530 Saturn 120878-12-03 04:46 G 45871179.50 45871179.70 45871179.92 0.0281 0.0155 Saturn 120879-12-16 20:36 G 45871558.12 45871558.36 45871558.60 0.0282 0.0082 Saturn 120893-06-07 05:00 G 45876479.51 45876479.71 45876479.92 0.0277 0.0144 Jupiter 120894-04-05 21:05 G 45876782.23 45876782.38 45876782.53 0.0485 0.0375 Saturn 120894-06-19 17:58 G 45876857.02 45876857.25 45876857.49 0.0277 0.0075 Pluto 120900-01-07 17:29 G 45878884.98 45878885.23 45878885.50 0.0078 0.0019 Jupiter 120906-04-11 03:19 G 45881169.42 45881169.64 45881169.87 0.0486 0.0151 Uranus 120907-04-23 07:38 G 45881546.71 45881546.82 45881546.94 0.0139 0.0123 Saturn 120907-11-28 06:41 G 45881765.71 45881765.78 45881765.87 0.0281 0.0265 Uranus 120908-04-27 00:12 G 45881916.26 45881916.51 45881916.76 0.0139 0.0025 Saturn 120908-12-10 20:36 G 45882144.11 45882144.36 45882144.61 0.0282 0.0032 Uranus 120909-05-01 15:48 G 45882285.95 45882286.16 45882286.39 0.0139 0.0072 Saturn 120909-12-24 13:53 G 45882522.92 45882523.08 45882523.26 0.0282 0.0207 Neptune 120912-10-02 06:12 G 45883535.62 45883535.76 45883535.91 0.0089 0.0072 Neptune 120913-10-04 16:31 G 45883903.00 45883903.19 45883903.42 0.0088 0.0050 Neptune 120914-10-07 03:19 G 45884270.41 45884270.64 45884270.89 0.0088 0.0027 Neptune 120915-10-09 14:07 G 45884637.84 45884638.09 45884638.35 0.0088 0.0004 Neptune 120916-10-11 00:41 G 45885005.29 45885005.53 45885005.79 0.0088 0.0020 Neptune 120917-10-13 11:00 G 45885372.76 45885372.96 45885373.21 0.0088 0.0043 Jupiter 120918-04-15 11:14 G 45885556.74 45885556.97 45885557.20 0.0487 0.0077 Neptune 120918-10-15 22:02 G 45885740.25 45885740.42 45885740.60 0.0088 0.0065 Neptune 120919-10-18 08:22 G 45886107.84 45886107.85 45886107.91 0.0088 0.0088 Saturn 120922-06-02 23:43 G 45887066.38 45887066.49 45887066.62 0.0278 0.0241 Saturn 120923-06-15 15:19 G 45887443.90 45887444.14 45887444.38 0.0278 0.0021 Jupiter 120923-10-01 22:46 G 45887552.34 45887552.45 45887552.57 0.0544 0.0468 Saturn 120924-06-27 03:19 G 45887821.47 45887821.64 45887821.81 0.0277 0.0196 Jupiter 120930-04-19 18:12 G 45889944.08 45889944.26 45889944.45 0.0488 0.0304

Jupiter 120935-10-07 04:17 G 45891940.46 45891940.68 45891940.91 0.0543 0.0150 Saturn 120937-12-05 13:10 G 45892730.83 45892731.05 45892731.28 0.0281 0.0127 Saturn 120938-12-19 04:46 G 45893109.48 45893109.70 45893109.94 0.0282 0.0111 Jupiter 120947-10-12 13:10 G 45896328.84 45896329.05 45896329.27 0.0542 0.0180 Uranus 120950-10-19 01:24 G 45897431.41 45897431.56 45897431.73 0.0139 0.0107 Uranus 120951-10-23 16:46 G 45897800.95 45897801.20 45897801.45 0.0139 0.0011 Saturn 120952-06-09 09:48 G 45898030.70 45898030.91 45898031.13 0.0278 0.0119 Uranus 120952-10-27 07:53 G 45898170.65 45898170.83 45898171.05 0.0139 0.0087 Saturn 120953-06-21 22:31 G 45898408.22 45898408.44 45898408.67 0.0277 0.0101 Jupiter 120959-10-17 21:34 G 45900717.32 45900717.40 45900717.49 0.0540 0.0502 Saturn 120966-11-29 15:19 G 45903317.02 45903317.14 45903317.28 0.0281 0.0237 Saturn 120967-12-13 05:14 G 45903695.47 45903695.72 45903695.97 0.0282 0.0005 Saturn 120968-12-25 22:46 G 45904074.32 45904074.45 45904074.59 0.0282 0.0235 Mars 120970-07-20 13:38 G 45904645.89 45904646.07 45904646.25 0.1806 0.0552 Jupiter 120977-04-06 05:43 G 45907097.61 45907097.74 45907097.88 0.0485 0.0393 Saturn 120981-06-04 03:48 G 45908617.52 45908617.66 45908617.82 0.0278 0.0216 Saturn 120982-06-16 19:24 G 45908995.07 45908995.31 45908995.55 0.0278 0.0005 Saturn 120983-06-29 06:55 G 45909372.66 45909372.79 45909372.95 0.0277 0.0221 Jupiter 120989-04-10 12:26 G 45911484.80 45911485.02 45911485.24 0.0486 0.0169 Uranus 120991-04-23 17:29 G 45912228.11 45912228.23 45912228.38 0.0139 0.0118 Uranus 120992-04-27 10:17 G 45912597.68 45912597.93 45912598.19 0.0139 0.0021 Uranus 120993-05-02 01:38 G 45912967.37 45912967.57 45912967.80 0.0139 0.0076 Neptune 120996-04-07 01:24 G 45914038.42 45914038.56 45914038.72 0.0089 0.0071 Saturn 120996-12-06 23:43 G 45914282.26 45914282.49 45914282.72 0.0281 0.0097 Neptune 120997-04-09 14:07 G 45914405.88 45914406.09 45914406.32 0.0089 0.0048 Saturn 120997-12-20 15:19 G 45914660.93 45914661.14 45914661.36 0.0282 0.0140 Neptune 120998-04-12 03:05 G 45914773.38 45914773.63 45914773.88 0.0089 0.0024 Neptune 120999-04-14 15:48 G 45915140.90 45915141.16 45915141.42 0.0089 0.0001 Neptune 121000-04-17 04:02 G 45915508.43 45915508.67 45915508.93 0.0089 0.0023

### 122ND MILLENNIUM CE

### This is a list of transits of Earth in the 122nd millennium CE.

FROM MAX- C START MAX END SUNRAD DEPTH S
TRANSIT

TIME

Jupiter 121001-04-15 16:31 G 45915871.96 45915872.19 45915872.43 0.0486 0.0053 Neptune 121001-04-19 16:46 G 45915875.99 45915876.20 45915876.43 0.0089 0.0046 Neptune 121002-04-22 05:00 G 45916243.58 45916243.71 45916243.90 0.0089 0.0071 Jupiter 121006-10-01 23:43 G 45917867.41 45917867.49 45917867.57 0.0544 0.0507 Saturn 121011-06-12 16:17 G 45919581.96 45919582.18 45919582.41 0.0278 0.0093 Saturn 121012-06-24 04:46 G 45919959.49 45919959.70 45919959.92 0.0277 0.0127 Jupiter 121013-04-19 23:00 G 45920259.28 45920259.46 45920259.66 0.0487 0.0278 Jupiter 121018-10-07 08:50 G 45922255.65 45922255.87 45922256.09 0.0543 0.0180 Saturn 121025-12-02 02:07 G 45924868.43 45924868.59 45924868.76 0.0281 0.0208 Saturn 121026-12-15 16:17 G 45925246.94 45925247.18 45925247.43 0.0282 0.0027 Saturn 121027-12-29 10:02 G 45925625.84 45925625.92 45925626.01 0.0282 0.0264 Jupiter 121030-10-12 15:19 G 45926643.92 45926644.14 45926644.37 0.0542 0.0142 Uranus 121034-10-20 10:31 G 45928112.78 45928112.94 45928113.12 0.0139 0.0103 Uranus 121035-10-25 01:38 G 45928482.32 45928482.57 45928482.82 0.0139 0.0007 Uranus 121036-10-28 17:14 G 45928852.03 45928852.22 45928852.42 0.0139 0.0090 Saturn 121040-06-06 10:02 G 45930168.75 45930168.92 45930169.11 0.0278 0.0190 Saturn 121041-06-19 01:24 G 45930546.32 45930546.56 45930546.80 0.0278 0.0031 Saturn 121042-07-01 12:55 G 45930923.94 45930924.04 45930924.16 0.0277 0.0246 Jupiter 121042-10-17 15:34 G 45931032.03 45931032.15 45931032.29 0.0540 0.0445 Saturn 121055-12-10 11:00 G 45935833.72 45935833.96 45935834.21 0.0281 0.0067

Saturn 121056-12-23 03:05 G 45936212.44 45936212.63 45936212.84 0.0282 0.0171 Jupiter 121060-04-06 10:17 G 45937412.81 45937412.93 45937413.05 0.0484 0.0415 Pluto 121060-07-12 18:26 G 45937510.03 45937510.27 45937510.53 0.0066 0.0010 Saturn 121070-06-14 00:41 G 45941133.30 45941133.53 45941133.77 0.0278 0.0066 Mars 121071-01-20 01:24 G 45941353.36 45941353.56 45941353.76 0.1735 0.0008 Saturn 121071-06-26 12:55 G 45941510.84 45941511.04 45941511.24 0.0277 0.0153 Jupiter 121072-04-10 16:31 G 45941799.98 45941800.19 45941800.41 0.0485 0.0194 Uranus 121075-04-25 04:02 G 45942909.53 45942909.67 45942909.83 0.0139 0.0114 Uranus 121076-04-28 20:22 G 45943279.10 45943279.35 45943279.61 0.0139 0.0017 Neptune 121076-10-02 15:48 G 45943436.09 45943436.16 45943436.29 0.0089 0.0082 Uranus 121077-05-03 11:58 G 45943648.81 45943649.00 45943649.22 0.0139 0.0080 Neptune 121077-10-05 02:36 G 45943803.44 45943803.61 45943803.82 0.0088 0.0059 Neptune 121078-10-07 13:38 G 45944170.84 45944171.07 45944171.31 0.0088 0.0036 Neptune 121079-10-10 00:41 G 45944538.28 45944538.53 45944538.79 0.0088 0.0013 Neptune 121080-10-11 11:00 G 45944905.72 45944905.96 45944906.23 0.0088 0.0011 Neptune 121081-10-13 22:02 G 45945273.18 45945273.42 45945273.66 0.0088 0.0033 Neptune 121082-10-16 08:22 G 45945640.66 45945640.85 45945641.06 0.0088 0.0056 Neptune 121083-10-18 18:55 G 45946008.19 45946008.29 45946008.43 0.0088 0.0079 Jupiter 121084-04-14 22:31 G 45946187.20 45946187.44 45946187.67 0.0486 0.0029 Saturn 121084-12-03 14:22 G 45946419.92 45946420.10 45946420.30 0.0281 0.0177 Saturn 121085-12-17 04:46 G 45946798.46 45946798.70 45946798.95 0.0282 0.0058 Jupiter 121089-10-01 01:38 G 45948182.57 45948182.57 45948182.59 0.0544 0.0543 Jupiter 121096-04-19 05:58 G 45950574.56 45950574.75 45950574.96 0.0487 0.0254 Saturn 121099-06-08 17:58 G 45951720.06 45951720.25 45951720.46 0.0278 0.0163 Saturn 121100-06-21 08:50 G 45952097.63 45952097.87 45952098.10 0.0277 0.0058 Saturn 121101-07-03 20:07 G 45952475.30 45952475.34 45952475.39 0.0277 0.0272 Jupiter 121101-10-07 03:19 G 45952570.44 45952570.64 45952570.85 0.0543 0.0235 Jupiter 121108-04-24 12:26 G 45954961.99 45954962.02 45954962.07 0.0488 0.0480 Jupiter 121113-10-12 07:38 G 45956958.59 45956958.82 45956959.05 0.0542 0.0078 Saturn 121113-11-29 09:48 G 45957006.86 45957006.91 45957007.00 0.0281 0.0269

Saturn 121114-12-12 23:29 G 45957385.23 45957385.48 45957385.73 0.0281 0.0036 Saturn 121115-12-26 15:48 G 45957764.00 45957764.16 45957764.35 0.0282 0.0202 Uranus 121118-10-21 19:38 G 45958794.16 45958794.32 45958794.51 0.0139 0.0100 Uranus 121119-10-26 11:00 G 45959163.71 45959163.96 45959164.22 0.0139 0.0004 Uranus 121120-10-30 02:07 G 45959533.42 45959533.59 45959533.80 0.0139 0.0094 Jupiter 121125-10-17 14:22 G 45961346.95 45961347.10 45961347.26 0.0541 0.0400 Saturn 121128-06-03 19:10 G 45962307.22 45962307.30 45962307.39 0.0278 0.0257 Saturn 121129-06-16 10:31 G 45962684.71 45962684.94 45962685.19 0.0277 0.0038 Saturn 121130-06-28 22:17 G 45963062.26 45963062.43 45963062.62 0.0277 0.0181 Jupiter 121143-04-07 15:19 G 45967728.05 45967728.14 45967728.24 0.0484 0.0441 Saturn 121143-12-07 03:19 G 45967971.43 45967971.64 45967971.85 0.0281 0.0146 Saturn 121144-12-19 17:58 G 45968350.02 45968350.25 45968350.49 0.0282 0.0089 Pluto 121148-01-12 03:19 G 45969468.38 45969468.64 45969468.90 0.0078 0.0007 Jupiter 121155-04-11 22:31 G 45972115.23 45972115.44 45972115.65 0.0485 0.0218 Saturn 121158-06-11 03:19 G 45973271.43 45973271.64 45973271.86 0.0278 0.0135 Uranus 121159-04-26 14:07 G 45973590.94 45973591.09 45973591.25 0.0139 0.0109 Saturn 121159-06-23 17:29 G 45973649.00 45973649.23 45973649.46 0.0277 0.0085 Neptune 121160-04-08 10:31 G 45973938.85 45973938.94 45973939.06 0.0089 0.0081 Uranus 121160-04-30 06:41 G 45973960.53 45973960.78 45973961.04 0.0139 0.0013 Neptune 121161-04-10 23:00 G 45974306.29 45974306.46 45974306.68 0.0089 0.0058 Uranus 121161-05-04 22:02 G 45974330.23 45974330.42 45974330.63 0.0139 0.0084 Neptune 121162-04-13 12:12 G 45974673.78 45974674.01 45974674.25 0.0089 0.0034 Neptune 121163-04-16 00:41 G 45975041.28 45975041.53 45975041.80 0.0089 0.0011 Neptune 121164-04-17 13:24 G 45975408.81 45975409.06 45975409.32 0.0089 0.0013 Neptune 121165-04-20 01:38 G 45975776.35 45975776.57 45975776.83 0.0089 0.0037 Neptune 121166-04-22 14:22 G 45976143.93 45976144.10 45976144.31 0.0089 0.0060 Jupiter 121167-04-16 04:46 G 45976502.46 45976502.70 45976502.93 0.0486 0.0007 Neptune 121167-04-25 03:05 G 45976511.55 45976511.63 45976511.73 0.0089 0.0084 Saturn 121172-11-30 21:19 G 45978558.27 45978558.39 45978558.52 0.0281 0.0240 Saturn 121173-12-14 11:29 G 45978936.73 45978936.98 45978937.23 0.0281 0.0007

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Saturn 121585-12-14 11:14 G 46129416.73 46129416.97 46129417.21 0.0281 0.0072 Saturn 121586-12-28 02:07 G 46129795.39 46129795.59 46129795.79 0.0282 0.0164 Jupiter 121594-04-20 23:14 G 46132466.24 46132466.47 46132466.70 0.0485 0.0129 Saturn 121599-06-07 06:26 G 46134339.74 46134339.77 46134339.82 0.0279 0.0275 Jupiter 121599-10-06 01:24 G 46134460.46 46134460.56 46134460.66 0.0545 0.0488 Saturn 121600-06-19 00:55 G 46134717.30 46134717.54 46134717.78 0.0279 0.0054 Saturn 121601-07-01 15:19 G 46135094.95 46135095.14 46135095.34 0.0278 0.0165 Jupiter 121606-04-25 06:26 G 46136853.61 46136853.77 46136853.93 0.0486 0.0351 Jupiter 121611-10-11 08:50 G 46138848.65 46138848.87 46138849.09 0.0544 0.0169 Saturn 121614-12-08 23:00 G 46140003.27 46140003.46 46140003.66 0.0280 0.0170 Saturn 121615-12-22 11:14 G 46140381.73 46140381.97 46140382.21 0.0281 0.0062 Uranus 121622-10-27 04:02 G 46142882.47 46142882.67 46142882.89 0.0139 0.0077 Jupiter 121623-10-16 18:55 G 46143237.07 46143237.29 46143237.51 0.0544 0.0159 Uranus 121623-10-31 19:09 G 46143252.05 46143252.30 46143252.56 0.0139 0.0018 Uranus 121624-11-04 10:45 G 46143621.82 46143621.95 46143622.11 0.0139 0.0114 Saturn 121629-06-13 11:00 G 46145303.76 46145303.96 46145304.16 0.0279 0.0157 Saturn 121630-06-26 03:05 G 46145681.40 46145681.63 46145681.87 0.0278 0.0064 Jupiter 121635-10-22 03:19 G 46147625.54 46147625.64 46147625.75 0.0542 0.0480 Mars 121639-01-24 18:55 G 46148816.10 46148816.29 46148816.48 0.1752 0.0341 Saturn 121643-12-03 01:53 G 46150589.56 46150589.58 46150589.62 0.0280 0.0277 Pluto 121644-01-17 16:45 G 46150634.98 46150635.20 46150635.46 0.0078 0.0033 Saturn 121644-12-15 12:26 G 46150967.77 46150968.02 46150968.26 0.0281 0.0050 Saturn 121645-12-29 02:50 G 46151346.44 46151346.62 46151346.82 0.0281 0.0186 Jupiter 121653-04-11 20:36 G 46154007.19 46154007.36 46154007.54 0.0484 0.0326 Neptune 121653-04-11 22:17 G 46154007.42 46154007.43 46154007.49 0.0089 0.0088 \* Neptune 121654-04-14 11:14 G 46154374.82 46154374.97 46154375.17 0.0089 0.0065 Neptune 121655-04-17 00:41 G 46154742.30 46154742.53 46154742.76 0.0089 0.0041 Neptune 121656-04-18 13:09 G 46155109.81 46155110.05 46155110.32 0.0089 0.0018 Neptune 121657-04-21 02:07 G 46155477.34 46155477.59 46155477.86 0.0089 0.0006 Neptune 121658-04-23 14:50 G 46155844.87 46155845.12 46155845.36 0.0089 0.0029

Saturn 121658-06-08 06:26 G 46155890.67 46155890.77 46155890.87 0.0280 0.0254 Neptune 121659-04-26 03:05 G 46156212.44 46156212.63 46156212.86 0.0089 0.0053 Saturn 121659-06-21 00:55 G 46156268.30 46156268.54 46156268.79 0.0279 0.0033 Neptune 121660-04-27 15:33 G 46156580.04 46156580.15 46156580.30 0.0089 0.0076 Saturn 121660-07-02 15:33 G 46156645.98 46156646.15 46156646.33 0.0278 0.0186 Uranus 121663-05-02 07:24 G 46157679.62 46157679.81 46157680.03 0.0139 0.0080 Uranus 121664-05-06 00:12 G 46158049.26 46158049.51 46158049.77 0.0139 0.0017 Jupiter 121665-04-16 04:02 G 46158394.44 46158394.67 46158394.90 0.0484 0.0105 Uranus 121665-05-10 15:48 G 46158419.03 46158419.16 46158419.32 0.0139 0.0112 Saturn 121673-12-10 01:53 G 46161554.38 46161554.58 46161554.80 0.0279 0.0146 Saturn 121674-12-23 13:53 G 46161932.85 46161933.08 46161933.32 0.0280 0.0086 Jupiter 121677-04-20 08:50 G 46162781.65 46162781.87 46162782.10 0.0485 0.0114 Jupiter 121682-10-05 08:07 G 46164775.77 46164775.84 46164775.91 0.0545 0.0514 Saturn 121688-06-14 11:57 G 46166854.79 46166855.00 46166855.22 0.0279 0.0135 Jupiter 121689-04-24 15:48 G 46167169.00 46167169.16 46167169.33 0.0486 0.0335 Saturn 121689-06-27 04:02 G 46167232.45 46167232.67 46167232.91 0.0278 0.0087 Jupiter 121694-10-10 17:14 G 46169164.00 46169164.22 46169164.44 0.0544 0.0189 Saturn 121702-12-05 04:45 G 46172140.60 46172140.70 46172140.80 0.0280 0.0254 Saturn 121703-12-18 14:36 G 46172518.87 46172519.11 46172519.36 0.0280 0.0027 Saturn 121704-12-31 04:45 G 46172897.54 46172897.70 46172897.88 0.0281 0.0207 Jupiter 121706-10-16 23:43 G 46173552.27 46173552.49 46173552.72 0.0543 0.0128 Uranus 121706-10-28 13:24 G 46173563.86 46173564.06 46173564.29 0.0139 0.0074 Uranus 121707-11-02 04:45 G 46173933.45 46173933.70 46173933.95 0.0139 0.0021 Uranus 121708-11-05 20:21 G 46174303.23 46174303.35 46174303.50 0.0139 0.0118 Saturn 121717-06-10 05:43 G 46177441.61 46177441.74 46177441.88 0.0280 0.0232 Saturn 121718-06-23 00:55 G 46177819.30 46177819.54 46177819.78 0.0279 0.0010 Jupiter 121718-10-22 00:12 G 46177940.37 46177940.51 46177940.65 0.0543 0.0428 Saturn 121719-07-05 15:48 G 46178197.01 46178197.16 46178197.33 0.0278 0.0208 Saturn 121732-12-12 05:57 G 46183105.53 46183105.75 46183105.98 0.0279 0.0121 Saturn 121733-12-25 17:43 G 46183484.02 46183484.24 46183484.47 0.0280 0.0110

Neptune 121734-10-10 04:31 G 46183772.58 46183772.69 46183772.86 0.0089 0.0074 Neptune 121735-10-12 15:33 G 46184139.95 46184140.15 46184140.36 0.0089 0.0051 Jupiter 121736-04-12 06:12 G 46184322.60 46184322.76 46184322.93 0.0484 0.0339 Neptune 121736-10-14 01:38 G 46184507.35 46184507.57 46184507.83 0.0088 0.0029 Neptune 121737-10-16 12:41 G 46184874.77 46184875.03 46184875.28 0.0088 0.0006 Neptune 121738-10-18 22:45 G 46185242.21 46185242.45 46185242.71 0.0088 0.0018 Neptune 121739-10-21 09:05 G 46185609.67 46185609.88 46185610.13 0.0088 0.0041 Neptune 121740-10-22 20:07 G 46185977.17 46185977.34 46185977.52 0.0088 0.0063 Neptune 121741-10-25 06:26 G 46186344.73 46186344.77 46186344.86 0.0088 0.0086 Uranus 121747-05-03 19:24 G 46188361.11 46188361.31 46188361.54 0.0139 0.0075 Saturn 121747-06-17 13:24 G 46188405.84 46188406.06 46188406.28 0.0279 0.0112 Jupiter 121748-04-16 13:09 G 46188709.82 46188710.05 46188710.28 0.0484 0.0120 Uranus 121748-05-07 12:26 G 46188730.77 46188731.02 46188731.27 0.0139 0.0022 Saturn 121748-06-29 05:29 G 46188783.52 46188783.73 46188783.96 0.0278 0.0109 Uranus 121749-05-12 04:17 G 46189100.55 46189100.68 46189100.82 0.0139 0.0117 Jupiter 121760-04-20 19:09 G 46193097.06 46193097.30 46193097.53 0.0485 0.0099 Saturn 121761-12-06 08:21 G 46193691.72 46193691.85 46193691.99 0.0279 0.0230 Saturn 121762-12-19 18:26 G 46194070.02 46194070.27 46194070.52 0.0280 0.0003 Saturn 121764-01-02 08:21 G 46194448.72 46194448.85 46194449.00 0.0281 0.0231 Jupiter 121765-10-05 13:24 G 46195091.04 46195091.06 46195091.08 0.0545 0.0541 Jupiter 121772-04-25 02:50 G 46197484.45 46197484.62 46197484.80 0.0486 0.0321 Saturn 121776-06-11 06:12 G 46198992.61 46198992.76 46198992.93 0.0280 0.0210 Saturn 121777-06-24 01:24 G 46199370.32 46199370.56 46199370.80 0.0279 0.0012 Jupiter 121777-10-10 13:53 G 46199478.87 46199479.08 46199479.28 0.0544 0.0241 Saturn 121778-07-06 16:31 G 46199748.06 46199748.19 46199748.33 0.0278 0.0230 Jupiter 121789-10-15 20:07 G 46203867.11 46203867.34 46203867.57 0.0544 0.0075 Uranus 121790-10-29 00:26 G 46204245.31 46204245.52 46204245.75 0.0139 0.0069 Uranus 121791-11-02 15:33 G 46204614.91 46204615.15 46204615.41 0.0139 0.0026 Saturn 121791-12-14 11:29 G 46204656.75 46204656.98 46204657.22 0.0279 0.0095 Uranus 121792-11-06 07:24 G 46204984.69 46204984.81 46204984.94 0.0139 0.0122

Saturn 121792-12-26 23:14 G 46205035.26 46205035.47 46205035.69 0.0280 0.0136 Jupiter 121801-10-22 05:14 G 46208255.57 46208255.72 46208255.88 0.0543 0.0399 Pluto 121804-07-22 23:57 G 46209260.28 46209260.50 46209260.75 0.0066 0.0023 Saturn 121806-06-19 15:48 G 46209956.94 46209957.16 46209957.40 0.0279 0.0089 Saturn 121807-07-02 08:07 G 46210334.63 46210334.84 46210335.06 0.0278 0.0132 Neptune 121818-04-15 17:43 G 46214275.12 46214275.24 46214275.39 0.0089 0.0075 Jupiter 121819-04-13 15:19 G 46214637.98 46214638.14 46214638.30 0.0484 0.0356 Neptune 121819-04-18 06:26 G 46214642.58 46214642.77 46214643.00 0.0089 0.0052 Neptune 121820-04-19 19:53 G 46215010.08 46215010.33 46215010.58 0.0089 0.0028 Saturn 121820-12-08 14:21 G 46215242.94 46215243.10 46215243.28 0.0279 0.0203 Neptune 121821-04-22 08:36 G 46215377.60 46215377.86 46215378.12 0.0089 0.0005 Saturn 121821-12-22 00:12 G 46215621.27 46215621.51 46215621.76 0.0280 0.0025 Neptune 121822-04-24 21:05 G 46215745.14 46215745.38 46215745.65 0.0089 0.0019 Mars 121822-07-29 00:12 G 46215840.32 46215840.51 46215840.70 0.1780 0.0110 Saturn 121823-01-04 14:07 G 46215999.99 46216000.09 46216000.19 0.0281 0.0256 Neptune 121823-04-27 09:48 G 46216112.69 46216112.91 46216113.15 0.0089 0.0042 Neptune 121824-04-28 22:31 G 46216480.27 46216480.44 46216480.62 0.0089 0.0065 Neptune 121825-05-01 10:45 G 46216847.95 46216847.95 46216847.99 0.0089 0.0089 Jupiter 121831-04-17 23:00 G 46219025.24 46219025.46 46219025.69 0.0484 0.0136 Uranus 121831-05-05 07:38 G 46219042.60 46219042.82 46219043.05 0.0139 0.0069 Uranus 121832-05-09 00:26 G 46219412.27 46219412.52 46219412.77 0.0139 0.0027 Uranus 121833-05-13 16:17 G 46219782.07 46219782.18 46219782.30 0.0139 0.0122 Saturn 121835-06-14 07:53 G 46220543.66 46220543.83 46220544.02 0.0280 0.0187 Saturn 121836-06-26 03:19 G 46220921.40 46220921.64 46220921.88 0.0279 0.0036 Saturn 121837-07-08 18:26 G 46221299.18 46221299.27 46221299.37 0.0278 0.0253 Jupiter 121843-04-22 05:43 G 46223412.51 46223412.74 46223412.97 0.0485 0.0085 Saturn 121850-12-16 18:41 G 46226208.04 46226208.28 46226208.52 0.0279 0.0067 Saturn 121851-12-30 06:26 G 46226586.58 46226586.77 46226586.98 0.0280 0.0164 Jupiter 121855-04-26 10:17 G 46227799.75 46227799.93 46227800.11 0.0485 0.0302 Jupiter 121860-10-10 16:31 G 46229793.99 46229794.19 46229794.39 0.0545 0.0275

Saturn 121865-06-20 20:21 G 46231508.11 46231508.35 46231508.58 0.0279 0.0063 Saturn 121866-07-03 12:12 G 46231885.82 46231886.01 46231886.22 0.0278 0.0158 Jupiter 121872-10-16 02:07 G 46234182.36 46234182.59 46234182.82 0.0544 0.0049 Uranus 121874-10-30 09:48 G 46234926.70 46234926.91 46234927.15 0.0139 0.0066 Uranus 121875-11-04 00:55 G 46235296.30 46235296.54 46235296.79 0.0139 0.0029 Uranus 121876-11-07 16:45 G 46235666.09 46235666.20 46235666.31 0.0139 0.0125 Saturn 121879-12-10 22:02 G 46236794.24 46236794.42 46236794.63 0.0279 0.0177 Saturn 121880-12-23 08:21 G 46237172.61 46237172.85 46237173.10 0.0280 0.0053 Jupiter 121884-10-21 08:50 G 46238570.71 46238570.87 46238571.05 0.0543 0.0366 Pluto 121892-01-20 22:45 G 46241218.30 46241218.45 46241218.66 0.0078 0.0057 Saturn 121894-06-15 11:29 G 46242094.79 46242094.98 46242095.19 0.0280 0.0162 Saturn 121895-06-28 06:26 G 46242472.54 46242472.77 46242473.01 0.0279 0.0061 Saturn 121896-07-09 21:48 G 46242850.39 46242850.41 46242850.43 0.0278 0.0277 Neptune 121898-10-10 13:09 G 46243672.99 46243673.05 46243673.16 0.0089 0.0084 Neptune 121899-10-12 23:57 G 46244040.32 46244040.50 46244040.69 0.0089 0.0061 Neptune 121900-10-15 10:17 G 46244407.72 46244407.93 46244408.18 0.0089 0.0039 Neptune 121901-10-17 21:05 G 46244775.13 46244775.38 46244775.64 0.0088 0.0015 Jupiter 121902-04-14 00:41 G 46244953.38 46244953.53 46244953.68 0.0484 0.0370 Neptune 121902-10-20 07:24 G 46245142.56 46245142.81 46245143.07 0.0088 0.0008 Neptune 121903-10-22 17:43 G 46245510.02 46245510.24 46245510.50 0.0088 0.0031 Neptune 121904-10-24 04:31 G 46245877.49 46245877.69 46245877.90 0.0088 0.0053 Neptune 121905-10-26 14:36 G 46246245.00 46246245.11 46246245.27 0.0088 0.0076 Saturn 121908-12-05 19:09 G 46247381.24 46247381.30 46247381.40 0.0279 0.0264 Saturn 121909-12-19 03:48 G 46247759.42 46247759.66 46247759.91 0.0279 0.0039 Saturn 121911-01-01 15:48 G 46248137.99 46248138.16 46248138.35 0.0280 0.0192 Jupiter 121914-04-18 05:29 G 46249340.50 46249340.73 46249340.95 0.0484 0.0154 Uranus 121915-05-06 20:07 G 46249724.12 46249724.34 46249724.57 0.0139 0.0063 Uranus 121916-05-10 12:55 G 46250093.79 46250094.04 46250094.29 0.0139 0.0033 Uranus 121917-05-15 04:45 G 46250463.61 46250463.70 46250463.80 0.0139 0.0128 Mars 121923-01-28 00:26 G 46252547.33 46252547.52 46252547.71 0.1760 0.0395

Saturn 121923-06-11 06:12 G 46252681.69 46252681.76 46252681.86 0.0280 0.0260 Saturn 121924-06-23 02:07 G 46253059.36 46253059.59 46253059.84 0.0279 0.0038 Saturn 121925-07-05 18:12 G 46253437.08 46253437.26 46253437.44 0.0278 0.0183 Jupiter 121926-04-22 11:29 G 46253727.75 46253727.98 46253728.22 0.0484 0.0065 Jupiter 121938-04-26 17:14 G 46258115.03 46258115.22 46258115.42 0.0485 0.0280 Saturn 121938-12-13 07:53 G 46258345.63 46258345.83 46258346.05 0.0279 0.0147 Saturn 121939-12-26 18:12 G 46258724.02 46258724.26 46258724.50 0.0280 0.0082 Jupiter 121943-10-11 19:53 G 46260109.15 46260109.33 46260109.52 0.0545 0.0308 Saturn 121953-06-17 17:43 G 46263646.03 46263646.24 46263646.45 0.0280 0.0136 Saturn 121954-06-30 12:12 G 46264023.78 46264024.01 46264024.24 0.0279 0.0087 Jupiter 121955-10-16 21:19 G 46264497.16 46264497.39 46264497.62 0.0544 0.0005 Uranus 121958-10-31 21:19 G 46265608.16 46265608.39 46265608.62 0.0139 0.0060 Uranus 121959-11-05 12:12 G 46265977.77 46265978.01 46265978.26 0.0139 0.0034 Uranus 121960-11-09 03:33 G 46266347.57 46266347.65 46266347.75 0.0139 0.0130 Jupiter 121967-10-22 01:53 G 46268885.39 46268885.58 46268885.77 0.0543 0.0305 Saturn 121967-12-08 05:29 G 46268932.61 46268932.73 46268932.87 0.0279 0.0235 Saturn 121968-12-20 14:21 G 46269310.86 46269311.10 46269311.35 0.0280 0.0011 Saturn 121970-01-03 02:36 G 46269689.47 46269689.61 46269689.78 0.0280 0.0222 Neptune 121982-04-15 23:43 G 46274175.44 46274175.49 46274175.57 0.0089 0.0086 Saturn 121982-06-12 14:36 G 46274232.98 46274233.11 46274233.25 0.0280 0.0233 Neptune 121983-04-18 12:26 G 46274542.86 46274543.02 46274543.23 0.0089 0.0063 Saturn 121983-06-25 10:02 G 46274610.68 46274610.92 46274611.17 0.0279 0.0010 Neptune 121984-04-20 01:09 G 46274910.34 46274910.55 46274910.81 0.0089 0.0040 Saturn 121984-07-07 01:38 G 46274988.42 46274988.57 46274988.73 0.0278 0.0209 Jupiter 121985-04-13 05:29 G 46275268.61 46275268.73 46275268.88 0.0483 0.0393 Neptune 121985-04-22 14:36 G 46275277.86 46275278.11 46275278.37 0.0089 0.0016 Neptune 121986-04-25 03:19 G 46275645.39 46275645.64 46275645.91 0.0089 0.0008 Neptune 121987-04-27 16:02 G 46276012.94 46276013.17 46276013.42 0.0089 0.0031 Neptune 121988-04-29 05:00 G 46276380.51 46276380.71 46276380.92 0.0089 0.0054 Neptune 121989-05-01 17:00 G 46276748.11 46276748.21 46276748.36 0.0089 0.0078 Jupiter 121997-04-17 11:14 G 46279655.75 46279655.97 46279656.19 0.0484 0.0178

Saturn 121997-12-14 19:38 G 46279897.10 46279897.32 46279897.55 0.0279 0.0117

Saturn 121998-12-28 06:12 G 46280275.54 46280275.76 46280275.99 0.0280 0.0113

Uranus 121999-05-07 08:21 G 46280405.62 46280405.85 46280406.09 0.0139 0.0057

Uranus 122000-05-11 01:09 G 46280775.31 46280775.55 46280775.80 0.0139 0.0039

## 123RD MILLENNIUM CE

## This is a list of transits of Earth in the 123rd millennium CE.

FROM MAX- C START MAX END SUNRAD DEPTH S

TRANSIT

TIME

Uranus 122001-05-15 16:45 G 46281145.15 46281145.20 46281145.28 0.0139 0.0134

Jupiter 122009-04-21 18:12 G 46284043.03 46284043.26 46284043.50 0.0484 0.0042

Saturn 122012-06-19 00:55 G 46285197.32 46285197.54 46285197.77 0.0279 0.0109

Saturn 122013-07-01 19:09 G 46285575.08 46285575.30 46285575.53 0.0279 0.0114

Jupiter 122021-04-26 00:26 G 46288430.33 46288430.52 46288430.72 0.0485 0.0261

Jupiter 122026-10-10 12:41 G 46290423.87 46290424.03 46290424.21 0.0544 0.0367

Saturn 122026-12-09 16:17 G 46290484.02 46290484.18 46290484.34 0.0279 0.0207

Saturn 122027-12-23 01:53 G 46290862.33 46290862.58 46290862.83 0.0280 0.0020

Saturn 122029-01-04 14:36 G 46291241.02 46291241.11 46291241.23 0.0280 0.0251

Jupiter 122033-04-30 04:31 G 46292817.65 46292817.69 46292817.74 0.0486 0.0476

Jupiter 122038-10-15 18:41 G 46294812.06 46294812.28 46294812.52 0.0545 0.0052

Saturn 122041-06-14 00:55 G 46295784.38 46295784.54 46295784.71 0.0280 0.0205

Saturn 122042-06-26 19:53 G 46296162.09 46296162.33 46296162.58 0.0279 0.0019

Uranus 122042-11-01 07:24 G 46296289.58 46296289.81 46296290.05 0.0139 0.0056

Saturn 122043-07-09 11:00 G 46296539.84 46296539.96 46296540.09 0.0278 0.0236 Uranus 122043-11-05 22:02 G 46296659.18 46296659.42 46296659.67 0.0139 0.0038 Uranus 122044-11-09 13:09 G 46297029.00 46297029.05 46297029.14 0.0139 0.0134 Jupiter 122050-10-21 03:33 G 46299200.45 46299200.65 46299200.85 0.0544 0.0270 Pluto 122052-07-25 07:38 G 46299843.62 46299843.82 46299844.01 0.0066 0.0042 Pluto 122053-07-26 20:07 G 46300210.16 46300210.34 46300210.51 0.0066 0.0048 Saturn 122056-12-16 07:38 G 46301448.59 46301448.82 46301449.06 0.0279 0.0087 Saturn 122057-12-29 18:26 G 46301827.07 46301827.27 46301827.49 0.0280 0.0144 Neptune 122063-10-13 08:07 G 46303940.70 46303940.84 46303941.00 0.0089 0.0071 Neptune 122064-10-14 18:26 G 46304308.08 46304308.27 46304308.50 0.0089 0.0049 Neptune 122065-10-17 05:00 G 46304675.48 46304675.71 46304675.97 0.0089 0.0026 Neptune 122066-10-19 15:48 G 46305042.90 46305043.16 46305043.42 0.0088 0.0003 Neptune 122067-10-22 02:21 G 46305410.35 46305410.60 46305410.85 0.0088 0.0020 Jupiter 122068-04-12 11:14 G 46305583.85 46305583.97 46305584.09 0.0484 0.0415 Neptune 122068-10-23 12:26 G 46305777.81 46305778.02 46305778.26 0.0088 0.0043 Neptune 122069-10-25 22:31 G 46306145.30 46306145.44 46306145.64 0.0088 0.0066 Neptune 122070-10-28 09:19 G 46306512.88 46306512.89 46306512.95 0.0088 0.0088 Saturn 122071-06-21 10:17 G 46306748.70 46306748.93 46306749.16 0.0279 0.0081 Saturn 122072-07-03 03:48 G 46307126.45 46307126.66 46307126.87 0.0279 0.0141 Jupiter 122080-04-16 17:14 G 46309971.00 46309971.22 46309971.43 0.0484 0.0197 Uranus 122083-05-07 21:19 G 46311087.15 46311087.39 46311087.63 0.0139 0.0050 Uranus 122084-05-11 13:38 G 46311456.84 46311457.07 46311457.33 0.0139 0.0046 Saturn 122085-12-11 03:19 G 46312035.46 46312035.64 46312035.84 0.0279 0.0180 Saturn 122086-12-24 13:38 G 46312413.83 46312414.07 46312414.31 0.0280 0.0050 Jupiter 122092-04-20 21:48 G 46314358.18 46314358.41 46314358.65 0.0484 0.0020 Saturn 122100-06-16 11:43 G 46317335.81 46317335.99 46317336.19 0.0280 0.0177 Saturn 122101-06-29 06:26 G 46317713.53 46317713.77 46317714.01 0.0279 0.0046 Saturn 122102-07-11 21:05 G 46318091.31 46318091.38 46318091.46 0.0278 0.0263 Jupiter 122104-04-26 04:02 G 46318745.47 46318745.67 46318745.88 0.0485 0.0235 Mars 122106-07-31 12:55 G 46319571.85 46319572.04 46319572.22 0.1772 0.0074

Jupiter 122109-10-10 12:41 G 46320738.89 46320739.03 46320739.19 0.0545 0.0405 Saturn 122115-12-19 20:07 G 46323000.09 46323000.34 46323000.58 0.0280 0.0057 Jupiter 122116-04-30 09:19 G 46323132.81 46323132.89 46323132.98 0.0486 0.0449 Saturn 122117-01-01 07:24 G 46323378.61 46323378.81 46323379.00 0.0280 0.0174 Jupiter 122121-10-15 20:50 G 46325127.15 46325127.37 46325127.60 0.0545 0.0088 Uranus 122126-11-02 19:09 G 46326971.08 46326971.30 46326971.55 0.0139 0.0050 Uranus 122127-11-07 10:02 G 46327340.69 46327340.92 46327341.17 0.0139 0.0044 Uranus 122128-11-11 01:24 G 46327710.56 46327710.56 46327710.56 0.0139 0.0139 Saturn 122129-06-10 23:43 G 46327922.46 46327922.49 46327922.54 0.0280 0.0275 Saturn 122130-06-23 20:21 G 46328300.12 46328300.35 46328300.59 0.0279 0.0053 Saturn 122131-07-06 13:09 G 46328677.87 46328678.05 46328678.25 0.0278 0.0169 Jupiter 122133-10-21 00:12 G 46329515.30 46329515.51 46329515.72 0.0543 0.0221 Pluto 122141-01-25 03:48 G 46332168.52 46332168.66 46332168.85 0.0078 0.0061 Saturn 122144-12-13 13:38 G 46333586.87 46333587.07 46333587.28 0.0279 0.0152 Jupiter 122145-10-26 04:17 G 46333903.63 46333903.68 46333903.73 0.0542 0.0526 Saturn 122145-12-27 00:12 G 46333965.28 46333965.51 46333965.76 0.0280 0.0079 Neptune 122147-04-18 17:29 G 46334443.11 46334443.23 46334443.40 0.0089 0.0074 Neptune 122148-04-20 06:26 G 46334810.58 46334810.77 46334811.00 0.0089 0.0051 Neptune 122149-04-22 19:38 G 46335178.08 46335178.32 46335178.57 0.0089 0.0027 Neptune 122150-04-25 08:21 G 46335545.60 46335545.85 46335546.12 0.0089 0.0004 Jupiter 122151-04-13 14:36 G 46335899.02 46335899.11 46335899.22 0.0483 0.0438 Neptune 122151-04-27 21:05 G 46335913.14 46335913.38 46335913.65 0.0089 0.0020 Neptune 122152-04-29 09:48 G 46336280.69 46336280.91 46336281.15 0.0089 0.0043 Neptune 122153-05-01 22:17 G 46336648.29 46336648.43 46336648.63 0.0089 0.0067 Saturn 122159-06-18 23:14 G 46338887.26 46338887.47 46338887.67 0.0280 0.0148 Saturn 122160-06-30 17:14 G 46339264.98 46339265.22 46339265.45 0.0279 0.0075 Jupiter 122163-04-17 21:33 G 46340286.19 46340286.40 46340286.61 0.0483 0.0221 Uranus 122167-05-09 09:48 G 46341768.67 46341768.91 46341769.16 0.0139 0.0043 Uranus 122168-05-13 02:21 G 46342138.38 46342138.60 46342138.85 0.0139 0.0053 Saturn 122173-12-07 23:14 G 46344173.38 46344173.47 46344173.58 0.0279 0.0253

Saturn 122174-12-21 07:38 G 46344551.57 46344551.82 46344552.06 0.0280 0.0028 Jupiter 122175-04-22 02:50 G 46344673.38 46344673.62 46344673.86 0.0484 0.0007 Saturn 122176-01-03 19:24 G 46344930.14 46344930.31 46344930.48 0.0280 0.0203 Jupiter 122187-04-26 09:33 G 46349060.69 46349060.90 46349061.11 0.0485 0.0211 Saturn 122188-06-12 10:31 G 46349473.83 46349473.94 46349474.06 0.0280 0.0247 Saturn 122189-06-25 06:41 G 46349851.54 46349851.78 46349852.02 0.0279 0.0025 Saturn 122190-07-07 22:45 G 46350229.28 46350229.45 46350229.63 0.0278 0.0195 Jupiter 122192-10-09 11:43 G 46351053.87 46351053.99 46351054.13 0.0545 0.0446 Jupiter 122199-04-30 15:19 G 46353448.04 46353448.14 46353448.25 0.0486 0.0429 Saturn 122203-12-16 23:00 G 46355138.24 46355138.46 46355138.68 0.0280 0.0126 Jupiter 122204-10-15 15:48 G 46355441.94 46355442.16 46355442.38 0.0544 0.0139 Saturn 122204-12-29 09:48 G 46355516.69 46355516.91 46355517.15 0.0280 0.0105 Mars 122207-01-30 05:00 G 46356278.52 46356278.71 46356278.90 0.1769 0.0397 Uranus 122209-10-30 16:02 G 46357283.16 46357283.17 46357283.23 0.0138 0.0137 Uranus 122210-11-04 06:12 G 46357652.53 46357652.76 46357653.01 0.0139 0.0045 Uranus 122211-11-08 20:50 G 46358022.14 46358022.37 46358022.61 0.0139 0.0049 Jupiter 122216-10-20 19:09 G 46359830.09 46359830.30 46359830.52 0.0544 0.0169 Saturn 122218-06-21 09:48 G 46360438.70 46360438.91 46360439.13 0.0280 0.0120 Saturn 122219-07-04 03:19 G 46360816.42 46360816.64 46360816.87 0.0279 0.0103 Neptune 122227-10-14 15:05 G 46363841.05 46363841.13 46363841.25 0.0089 0.0082 Neptune 122228-10-16 02:07 G 46364208.40 46364208.59 46364208.78 0.0089 0.0059 Jupiter 122228-10-26 03:48 G 46364218.56 46364218.66 46364218.76 0.0544 0.0486 Neptune 122229-10-18 12:26 G 46364575.80 46364576.02 46364576.27 0.0089 0.0037 Neptune 122230-10-20 23:14 G 46364943.22 46364943.47 46364943.73 0.0088 0.0014 Neptune 122231-10-23 09:48 G 46365310.66 46365310.91 46365311.17 0.0088 0.0009 Neptune 122232-10-24 20:21 G 46365678.11 46365678.35 46365678.59 0.0088 0.0032 Saturn 122232-12-10 09:05 G 46365724.74 46365724.88 46365725.03 0.0279 0.0226 Neptune 122233-10-27 06:41 G 46366045.59 46366045.78 46366045.99 0.0088 0.0055 Saturn 122233-12-23 17:29 G 46366102.98 46366103.23 46366103.48 0.0280 0.0003 Jupiter 122234-04-13 20:07 G 46366214.28 46366214.34 46366214.42 0.0483 0.0460

Neptune 122234-10-29 16:45 G 46366413.11 46366413.20 46366413.36 0.0088 0.0078 Saturn 122235-01-06 05:43 G 46366481.60 46366481.74 46366481.88 0.0280 0.0230 Jupiter 122246-04-18 03:05 G 46370601.43 46370601.63 46370601.84 0.0484 0.0244 Saturn 122247-06-15 20:07 G 46371025.21 46371025.34 46371025.50 0.0280 0.0221 Saturn 122248-06-27 16:17 G 46371402.94 46371403.18 46371403.42 0.0279 0.0003 Saturn 122249-07-10 07:53 G 46371780.69 46371780.83 46371780.98 0.0278 0.0221 Uranus 122250-05-06 04:31 G 46372080.64 46372080.69 46372080.79 0.0140 0.0134 Uranus 122251-05-10 22:31 G 46372450.19 46372450.44 46372450.69 0.0140 0.0037 Uranus 122252-05-14 15:19 G 46372819.91 46372820.14 46372820.38 0.0139 0.0059 Jupiter 122258-04-22 08:50 G 46374988.63 46374988.87 46374989.11 0.0484 0.0027 Saturn 122262-12-18 06:12 G 46376689.54 46376689.76 46376690.00 0.0280 0.0101 Saturn 122263-12-31 17:43 G 46377068.03 46377068.24 46377068.46 0.0280 0.0131 Jupiter 122270-04-26 14:36 G 46379375.89 46379376.11 46379376.33 0.0484 0.0189 Jupiter 122275-10-10 06:12 G 46381368.67 46381368.76 46381368.85 0.0545 0.0500 Saturn 122277-06-22 18:55 G 46381990.07 46381990.29 46381990.52 0.0280 0.0093 Saturn 122278-07-05 12:12 G 46382367.80 46382368.01 46382368.23 0.0279 0.0130 Jupiter 122282-04-30 21:05 G 46383763.26 46383763.38 46383763.51 0.0485 0.0405 Jupiter 122287-10-15 14:07 G 46385756.87 46385757.09 46385757.30 0.0545 0.0184 Saturn 122291-12-12 17:00 G 46387276.05 46387276.21 46387276.39 0.0279 0.0200 Saturn 122292-12-25 01:38 G 46387654.33 46387654.57 46387654.82 0.0280 0.0027 Uranus 122293-10-31 04:45 G 46387964.63 46387964.70 46387964.79 0.0138 0.0131 Saturn 122294-01-07 14:07 G 46388033.00 46388033.09 46388033.20 0.0280 0.0256 Uranus 122294-11-04 18:41 G 46388334.04 46388334.28 46388334.53 0.0139 0.0039 Uranus 122295-11-09 09:05 G 46388703.65 46388703.88 46388704.12 0.0139 0.0055 Jupiter 122299-10-20 23:14 G 46390145.25 46390145.47 46390145.69 0.0545 0.0136 Pluto 122300-07-29 13:09 G 46390427.02 46390427.05 46390427.13 0.0066 0.0064 Pluto 122301-07-31 01:24 G 46390793.35 46390793.56 46390793.82 0.0066 0.0026 Saturn 122306-06-18 04:31 G 46392576.53 46392576.69 46392576.88 0.0280 0.0194 Saturn 122307-07-01 00:12 G 46392954.27 46392954.51 46392954.75 0.0279 0.0029 Saturn 122308-07-12 15:33 G 46393332.05 46393332.15 46393332.27 0.0278 0.0246

Neptune 122311-04-19 23:00 G 46394343.41 46394343.46 46394343.56 0.0089 0.0085 Jupiter 122311-10-27 05:29 G 46394533.60 46394533.73 46394533.86 0.0543 0.0449 Neptune 122312-04-21 11:57 G 46394710.83 46394711.00 46394711.20 0.0089 0.0062 Neptune 122313-04-24 00:41 G 46395078.31 46395078.53 46395078.78 0.0089 0.0039 Neptune 122314-04-26 13:53 G 46395445.82 46395446.08 46395446.34 0.0089 0.0015 Neptune 122315-04-29 02:21 G 46395813.35 46395813.60 46395813.86 0.0089 0.0008 Neptune 122316-04-30 14:50 G 46396180.89 46396181.12 46396181.38 0.0089 0.0032 Jupiter 122317-04-14 02:36 G 46396529.59 46396529.61 46396529.65 0.0483 0.0479 Neptune 122317-05-03 03:48 G 46396548.47 46396548.66 46396548.87 0.0089 0.0055 Neptune 122318-05-05 16:17 G 46396916.07 46396916.18 46396916.32 0.0089 0.0078 Saturn 122321-12-20 11:43 G 46398240.76 46398240.99 46398241.24 0.0280 0.0077 Saturn 122323-01-02 23:29 G 46398619.27 46398619.48 46398619.69 0.0280 0.0155 Jupiter 122329-04-18 09:19 G 46400916.70 46400916.89 46400917.09 0.0483 0.0263 Uranus 122334-05-07 17:29 G 46402762.13 46402762.23 46402762.34 0.0140 0.0127 Uranus 122335-05-12 11:29 G 46403131.73 46403131.98 46403132.23 0.0140 0.0031 Uranus 122336-05-16 04:02 G 46403501.45 46403501.67 46403501.90 0.0139 0.0065 Saturn 122336-06-25 02:21 G 46403541.37 46403541.60 46403541.84 0.0280 0.0067 Saturn 122337-07-07 19:24 G 46403919.12 46403919.31 46403919.52 0.0279 0.0155 Jupiter 122341-04-22 16:31 G 46405303.95 46405304.19 46405304.43 0.0484 0.0046 Saturn 122350-12-14 23:14 G 46408827.28 46408827.47 46408827.66 0.0279 0.0175 Saturn 122351-12-28 07:38 G 46409205.58 46409205.82 46409206.07 0.0279 0.0052 Jupiter 122353-04-26 21:48 G 46409691.19 46409691.41 46409691.63 0.0484 0.0169 Jupiter 122358-10-10 11:00 G 46411683.92 46411683.96 46411684.02 0.0546 0.0530 Jupiter 122365-05-01 04:31 G 46414078.55 46414078.69 46414078.84 0.0485 0.0385 Saturn 122365-06-19 11:29 G 46414127.79 46414127.98 46414128.18 0.0280 0.0169 Saturn 122366-07-02 06:41 G 46414505.55 46414505.78 46414506.02 0.0279 0.0054 Saturn 122367-07-14 22:17 G 46414883.37 46414883.43 46414883.48 0.0278 0.0269 Jupiter 122370-10-15 18:26 G 46416072.06 46416072.27 46416072.48 0.0545 0.0214 Uranus 122377-11-01 16:02 G 46418646.07 46418646.17 46418646.28 0.0138 0.0126 Uranus 122378-11-06 05:29 G 46419015.49 46419015.73 46419015.98 0.0138 0.0034

Uranus 122379-11-10 19:53 G 46419385.11 46419385.33 46419385.57 0.0139 0.0060 Saturn 122379-12-09 08:21 G 46419413.83 46419413.85 46419413.88 0.0279 0.0277 Saturn 122380-12-21 15:33 G 46419791.91 46419792.15 46419792.40 0.0280 0.0053 Saturn 122382-01-04 03:05 G 46420170.45 46420170.63 46420170.83 0.0280 0.0178 Jupiter 122382-10-20 23:29 G 46420460.25 46420460.48 46420460.71 0.0544 0.0095 Pluto 122389-01-28 06:41 G 46422751.55 46422751.78 46422752.04 0.0078 0.0026 Mars 122390-08-03 02:50 G 46423303.43 46423303.62 46423303.80 0.1764 0.0288 Neptune 122392-10-16 08:21 G 46424108.71 46424108.85 46424109.02 0.0089 0.0070 Neptune 122393-10-18 18:41 G 46424476.09 46424476.28 46424476.52 0.0089 0.0048 Saturn 122394-06-14 09:19 G 46424714.83 46424714.89 46424714.98 0.0281 0.0265 Neptune 122394-10-21 05:43 G 46424843.50 46424843.74 46424843.99 0.0089 0.0025 Jupiter 122394-10-26 01:09 G 46424848.40 46424848.55 46424848.71 0.0544 0.0397 Saturn 122395-06-27 07:24 G 46425092.57 46425092.81 46425093.05 0.0280 0.0041 Neptune 122395-10-23 16:31 G 46425210.94 46425211.19 46425211.45 0.0089 0.0002 Saturn 122396-07-09 00:41 G 46425470.35 46425470.53 46425470.72 0.0279 0.0179 Neptune 122396-10-25 03:05 G 46425578.38 46425578.63 46425578.87 0.0088 0.0021 Neptune 122397-10-27 13:24 G 46425945.85 46425946.06 46425946.29 0.0088 0.0044 Neptune 122398-10-29 23:43 G 46426313.34 46426313.49 46426313.68 0.0088 0.0067 Saturn 122409-12-16 03:48 G 46430378.46 46430378.66 46430378.88 0.0278 0.0151 Saturn 122410-12-29 12:26 G 46430756.79 46430757.02 46430757.26 0.0279 0.0076 Jupiter 122412-04-17 17:57 G 46431232.06 46431232.25 46431232.45 0.0483 0.0279 Uranus 122418-05-08 05:57 G 46433443.63 46433443.75 46433443.88 0.0140 0.0121 Uranus 122419-05-12 23:57 G 46433813.25 46433813.50 46433813.75 0.0140 0.0025 Uranus 122420-05-16 16:45 G 46434182.99 46434183.20 46434183.42 0.0139 0.0071 Jupiter 122424-04-22 00:55 G 46435619.30 46435619.54 46435619.77 0.0483 0.0064 Saturn 122424-06-20 16:02 G 46435678.96 46435679.17 46435679.38 0.0280 0.0144 Saturn 122425-07-03 11:14 G 46436056.74 46436056.97 46436057.21 0.0279 0.0079 Jupiter 122436-04-26 06:41 G 46440006.56 46440006.78 46440007.01 0.0484 0.0153 Saturn 122438-12-10 10:45 G 46440964.86 46440964.95 46440965.06 0.0279 0.0255 Saturn 122439-12-23 17:57 G 46441343.00 46441343.25 46441343.50 0.0280 0.0031

Saturn 122441-01-05 05:29 G 46441721.55 46441721.73 46441721.90 0.0280 0.0199 Jupiter 122448-04-30 13:24 G 46444393.92 46444394.06 46444394.22 0.0485 0.0370 Saturn 122453-06-15 12:26 G 46446265.91 46446266.02 46446266.16 0.0281 0.0241 Jupiter 122453-10-14 14:21 G 46446386.90 46446387.10 46446387.30 0.0545 0.0267 Saturn 122454-06-28 10:31 G 46446643.70 46446643.94 46446644.18 0.0280 0.0018 Saturn 122455-07-11 04:02 G 46447021.51 46447021.67 46447021.84 0.0279 0.0202 Uranus 122461-11-02 04:17 G 46449327.56 46449327.68 46449327.81 0.0138 0.0120 Uranus 122462-11-06 17:57 G 46449697.01 46449697.25 46449697.50 0.0138 0.0028 Uranus 122463-11-11 08:07 G 46450066.63 46450066.84 46450067.07 0.0139 0.0066 Jupiter 122465-10-19 21:48 G 46450775.18 46450775.41 46450775.64 0.0545 0.0049 Saturn 122468-12-17 07:24 G 46451929.59 46451929.81 46451930.03 0.0278 0.0127 Saturn 122469-12-30 15:48 G 46452307.93 46452308.16 46452308.40 0.0279 0.0100 Neptune 122476-04-20 17:00 G 46454611.08 46454611.21 46454611.37 0.0089 0.0073 Neptune 122477-04-23 05:43 G 46454978.54 46454978.74 46454978.97 0.0089 0.0050 Jupiter 122477-10-25 07:38 G 46455163.66 46455163.82 46455163.99 0.0544 0.0372 Neptune 122478-04-25 18:26 G 46455346.04 46455346.27 46455346.53 0.0089 0.0027 Neptune 122479-04-28 07:24 G 46455713.55 46455713.81 46455714.07 0.0089 0.0003 Neptune 122480-04-29 20:07 G 46456081.09 46456081.34 46456081.60 0.0089 0.0020 Neptune 122481-05-02 08:21 G 46456448.65 46456448.85 46456449.10 0.0089 0.0044 Neptune 122482-05-04 21:05 G 46456816.23 46456816.38 46456816.57 0.0089 0.0067 Saturn 122483-06-22 18:41 G 46457230.06 46457230.28 46457230.50 0.0280 0.0121 Saturn 122484-07-04 14:07 G 46457607.86 46457608.09 46457608.31 0.0279 0.0101 Mars 122491-01-31 08:36 G 46460009.66 46460009.86 46460010.05 0.1778 0.0352 Jupiter 122495-04-18 03:19 G 46461547.45 46461547.64 46461547.82 0.0483 0.0294 Saturn 122497-12-11 12:41 G 46462515.91 46462516.03 46462516.18 0.0279 0.0233 Saturn 122498-12-24 19:38 G 46462894.07 46462894.32 46462894.57 0.0279 0.0009 Saturn 122500-01-07 06:55 G 46463272.64 46463272.79 46463272.94 0.0280 0.0220 Uranus 122502-05-09 18:26 G 46464125.15 46464125.27 46464125.44 0.0140 0.0115 Uranus 122503-05-14 12:41 G 46464494.78 46464495.03 46464495.29 0.0140 0.0018 Uranus 122504-05-18 05:29 G 46464864.54 46464864.73 46464864.96 0.0139 0.0078

Jupiter 122507-04-23 10:45 G 46465934.72 46465934.95 46465935.18 0.0483 0.0077 Saturn 122512-06-17 13:24 G 46467816.92 46467817.06 46467817.23 0.0281 0.0219 Saturn 122513-06-30 11:43 G 46468194.75 46468194.99 46468195.23 0.0280 0.0006 Saturn 122514-07-13 05:29 G 46468572.59 46468572.73 46468572.88 0.0279 0.0225 Jupiter 122519-04-27 18:12 G 46470322.03 46470322.26 46470322.49 0.0484 0.0141 Saturn 122527-12-20 09:48 G 46473480.68 46473480.91 46473481.14 0.0278 0.0103 Saturn 122529-01-01 18:12 G 46473859.04 46473859.26 46473859.48 0.0279 0.0123 Jupiter 122531-05-01 23:14 G 46474709.32 46474709.47 46474709.64 0.0484 0.0354 Jupiter 122536-10-14 20:50 G 46476702.17 46476702.37 46476702.56 0.0546 0.0292 Saturn 122542-06-24 20:36 G 46478781.13 46478781.36 46478781.59 0.0280 0.0098 Saturn 122543-07-07 16:02 G 46479158.96 46479159.17 46479159.39 0.0279 0.0124 Uranus 122545-11-03 15:33 G 46480009.03 46480009.15 46480009.31 0.0138 0.0114 Uranus 122546-11-08 05:29 G 46480378.49 46480378.73 46480378.99 0.0138 0.0022 Uranus 122547-11-12 19:38 G 46480748.11 46480748.32 46480748.55 0.0139 0.0071 Jupiter 122548-10-20 05:57 G 46481090.52 46481090.75 46481090.98 0.0545 0.0028 Pluto 122549-08-02 05:43 G 46481376.49 46481376.74 46481377.00 0.0066 0.0004 Neptune 122556-10-16 15:05 G 46484009.04 46484009.13 46484009.24 0.0089 0.0081 Saturn 122556-12-13 14:36 G 46484066.95 46484067.11 46484067.28 0.0278 0.0210 Neptune 122557-10-19 01:09 G 46484376.38 46484376.55 46484376.77 0.0089 0.0059 Saturn 122557-12-26 21:05 G 46484445.13 46484445.38 46484445.63 0.0279 0.0014 Neptune 122558-10-21 12:12 G 46484743.78 46484744.01 46484744.25 0.0089 0.0036 Saturn 122559-01-09 07:38 G 46484823.71 46484823.82 46484823.96 0.0280 0.0242 Neptune 122559-10-23 22:45 G 46485111.20 46485111.45 46485111.71 0.0089 0.0013 Neptune 122560-10-25 09:33 G 46485478.64 46485478.90 46485479.15 0.0089 0.0010 Jupiter 122560-10-25 12:12 G 46485478.83 46485479.01 46485479.19 0.0544 0.0339 \* Neptune 122561-10-27 20:07 G 46485846.11 46485846.34 46485846.59 0.0088 0.0033 Neptune 122562-10-30 06:12 G 46486213.59 46486213.76 46486213.99 0.0088 0.0056 Neptune 122563-11-01 17:29 G 46486581.11 46486581.23 46486581.35 0.0088 0.0078 Saturn 122571-06-19 13:09 G 46489367.89 46489368.05 46489368.23 0.0281 0.0197 Saturn 122572-07-01 11:43 G 46489745.75 46489745.99 46489746.23 0.0280 0.0028

Saturn 122573-07-14 05:57 G 46490123.64 46490123.75 46490123.86 0.0279 0.0246 Jupiter 122578-04-18 15:33 G 46491862.96 46491863.15 46491863.33 0.0483 0.0304 Uranus 122586-05-10 07:09 G 46494806.64 46494806.80 46494806.96 0.0140 0.0108 Saturn 122586-12-21 12:55 G 46495031.81 46495032.04 46495032.28 0.0278 0.0079 Uranus 122587-05-15 01:09 G 46495176.29 46495176.55 46495176.80 0.0140 0.0012 Saturn 122588-01-03 21:05 G 46495410.17 46495410.38 46495410.60 0.0279 0.0147 Uranus 122588-05-18 17:57 G 46495546.06 46495546.25 46495546.46 0.0139 0.0083 Jupiter 122590-04-22 21:05 G 46496250.14 46496250.38 46496250.61 0.0483 0.0089 Saturn 122601-06-26 21:05 G 46500332.15 46500332.38 46500332.62 0.0280 0.0077 Jupiter 122602-04-28 03:48 G 46500637.43 46500637.66 46500637.89 0.0484 0.0126 Saturn 122602-07-09 17:00 G 46500710.01 46500710.21 46500710.42 0.0279 0.0146 Jupiter 122614-05-02 09:48 G 46505024.74 46505024.91 46505025.07 0.0484 0.0341 Saturn 122615-12-16 16:45 G 46505618.03 46505618.20 46505618.39 0.0278 0.0186 Saturn 122616-12-28 23:14 G 46505996.23 46505996.47 46505996.72 0.0279 0.0037 Saturn 122618-01-11 09:33 G 46506374.83 46506374.90 46506374.99 0.0280 0.0264 Jupiter 122619-10-16 02:36 G 46507017.43 46507017.61 46507017.80 0.0545 0.0320 Uranus 122629-11-05 04:31 G 46510690.56 46510690.69 46510690.87 0.0138 0.0107 Saturn 122630-06-21 12:55 G 46510918.86 46510919.04 46510919.24 0.0281 0.0175 Uranus 122630-11-09 18:26 G 46511060.02 46511060.27 46511060.53 0.0138 0.0015 Saturn 122631-07-04 11:29 G 46511296.75 46511296.98 46511297.22 0.0280 0.0050 Jupiter 122631-10-21 02:50 G 46511405.39 46511405.62 46511405.85 0.0545 0.0025 Uranus 122631-11-14 08:36 G 46511429.66 46511429.86 46511430.08 0.0139 0.0078 Saturn 122632-07-16 05:57 G 46511674.69 46511674.75 46511674.82 0.0280 0.0268 Pluto 122637-01-31 02:50 G 46513334.40 46513334.62 46513334.89 0.0078 0.0029 Neptune 122640-04-21 22:17 G 46514511.36 46514511.43 46514511.52 0.0089 0.0084 Neptune 122641-04-24 10:45 G 46514878.78 46514878.95 46514879.16 0.0089 0.0061 Neptune 122642-04-26 23:43 G 46515246.27 46515246.49 46515246.74 0.0089 0.0038 Neptune 122643-04-29 12:26 G 46515613.77 46515614.02 46515614.29 0.0089 0.0015 Jupiter 122643-10-26 09:19 G 46515793.70 46515793.89 46515794.09 0.0545 0.0290 Neptune 122644-05-01 01:09 G 46515981.30 46515981.55 46515981.82 0.0089 0.0009 Saturn 122644-12-10 12:41 G 46516204.99 46516205.03 46516205.08 0.0277 0.0272 Neptune 122645-05-03 13:53 G 46516348.84 46516349.08 46516349.33 0.0089 0.0032 Saturn 122645-12-23 16:31 G 46516582.95 46516583.19 46516583.43 0.0278 0.0054 Neptune 122646-05-06 02:36 G 46516716.41 46516716.61 46516716.81 0.0089 0.0055 Saturn 122647-01-06 00:26 G 46516961.33 46516961.52 46516961.72 0.0279 0.0171 Neptune 122647-05-08 14:36 G 46517084.02 46517084.11 46517084.26 0.0089 0.0079 Saturn 122659-06-15 22:45 G 46521505.42 46521505.45 46521505.49 0.0281 0.0277 Saturn 122660-06-27 22:17 G 46521883.20 46521883.43 46521883.68 0.0280 0.0054 Jupiter 122661-04-19 00:55 G 46522178.36 46522178.54 46522178.72 0.0483 0.0316 Saturn 122661-07-10 18:12 G 46522261.07 46522261.26 46522261.45 0.0280 0.0169 Uranus 122670-05-11 19:53 G 46525488.16 46525488.33 46525488.51 0.0140 0.0101 Uranus 122671-05-16 14:07 G 46525857.84 46525858.09 46525858.35 0.0140 0.0005 Uranus 122672-05-20 07:09 G 46526227.62 46526227.80 46526228.01 0.0139 0.0090 Jupiter 122673-04-23 06:55 G 46526565.55 46526565.79 46526566.02 0.0483 0.0103 Mars 122674-08-05 19:09 G 46527035.13 46527035.30 46527035.48 0.1756 0.0580 Saturn 122674-12-17 20:21 G 46527169.16 46527169.35 46527169.56 0.0278 0.0162 Saturn 122675-12-31 02:36 G 46527547.38 46527547.61 46527547.86 0.0279 0.0062 Jupiter 122685-04-27 14:36 G 46530952.88 46530953.11 46530953.34 0.0484 0.0113 Saturn 122689-06-22 12:55 G 46532469.84 46532470.04 46532470.24 0.0281 0.0152 Saturn 122690-07-05 11:29 G 46532847.75 46532847.98 46532848.22 0.0280 0.0072 Jupiter 122697-05-01 21:33 G 46535340.23 46535340.40 46535340.58 0.0484 0.0329 Jupiter 122702-10-15 23:00 G 46537332.29 46537332.46 46537332.63 0.0545 0.0369 Saturn 122703-12-13 17:14 G 46537756.12 46537756.22 46537756.33 0.0277 0.0248 Saturn 122704-12-25 21:19 G 46538134.14 46538134.39 46538134.64 0.0278 0.0029 Saturn 122706-01-08 05:00 G 46538512.54 46538512.71 46538512.90 0.0279 0.0196 Uranus 122713-11-06 17:57 G 46541372.07 46541372.25 46541372.42 0.0138 0.0099 Jupiter 122714-10-21 07:24 G 46541720.58 46541720.81 46541721.04 0.0545 0.0052 Uranus 122714-11-11 07:09 G 46541741.55 46541741.80 46541742.06 0.0138 0.0008 Uranus 122715-11-15 21:33 G 46542111.20 46542111.40 46542111.60 0.0139 0.0084

Saturn 122718-06-18 00:55 G 46543056.44 46543056.54 46543056.64 0.0281 0.0255

Saturn 122719-07-01 00:41 G 46543434.29 46543434.53 46543434.77 0.0280 0.0030 Saturn 122720-07-12 20:21 G 46543812.18 46543812.35 46543812.53 0.0280 0.0192 Neptune 122721-10-20 07:09 G 46544276.67 46544276.80 46544276.99 0.0089 0.0070 Neptune 122722-10-22 18:12 G 46544644.05 46544644.26 46544644.48 0.0089 0.0047 Neptune 122723-10-25 04:17 G 46545011.45 46545011.68 46545011.94 0.0089 0.0025 Neptune 122724-10-26 15:19 G 46545378.88 46545379.14 46545379.40 0.0089 0.0002 Neptune 122725-10-29 01:38 G 46545746.33 46545746.57 46545746.83 0.0089 0.0022 Jupiter 122726-10-26 17:00 G 46546109.01 46546109.21 46546109.41 0.0545 0.0268 Neptune 122726-10-31 12:26 G 46546113.81 46546114.02 46546114.25 0.0088 0.0044 Neptune 122727-11-02 23:00 G 46546481.31 46546481.46 46546481.64 0.0088 0.0067 Saturn 122733-12-20 01:38 G 46548720.36 46548720.57 46548720.79 0.0278 0.0136 Saturn 122735-01-02 07:38 G 46549098.59 46549098.82 46549099.06 0.0279 0.0087 Jupiter 122744-04-19 10:31 G 46552493.77 46552493.94 46552494.12 0.0483 0.0331 Saturn 122748-06-24 14:07 G 46554020.88 46554021.09 46554021.31 0.0281 0.0130 Saturn 122749-07-07 12:41 G 46554398.81 46554399.03 46554399.26 0.0280 0.0096 Uranus 122754-05-13 07:53 G 46556169.65 46556169.83 46556170.02 0.0140 0.0095 Uranus 122755-05-18 02:07 G 46556539.34 46556539.59 46556539.85 0.0140 0.0003 Jupiter 122756-04-23 17:43 G 46556881.01 46556881.24 46556881.47 0.0483 0.0115 Uranus 122756-05-21 19:09 G 46556909.14 46556909.30 46556909.51 0.0139 0.0097 Saturn 122762-12-14 23:14 G 46559307.33 46559307.47 46559307.62 0.0277 0.0222 Saturn 122763-12-28 03:48 G 46559685.41 46559685.66 46559685.91 0.0278 0.0004 Saturn 122765-01-09 11:43 G 46560063.85 46560063.99 46560064.15 0.0279 0.0222 Jupiter 122768-04-27 22:45 G 46561268.22 46561268.45 46561268.69 0.0483 0.0099 Mars 122775-02-03 11:29 G 46563740.78 46563740.98 46563741.18 0.1787 0.0273 Saturn 122777-06-19 04:31 G 46564607.56 46564607.69 46564607.83 0.0281 0.0230 Saturn 122778-07-02 04:17 G 46564985.43 46564985.68 46564985.92 0.0281 0.0007 Saturn 122779-07-14 23:43 G 46565363.34 46565363.49 46565363.65 0.0280 0.0216 Jupiter 122780-05-02 05:14 G 46565655.54 46565655.72 46565655.90 0.0484 0.0312 Jupiter 122785-10-15 05:14 G 46567647.57 46567647.72 46567647.89 0.0546 0.0394 Saturn 122792-12-21 08:36 G 46570271.64 46570271.86 46570272.09 0.0278 0.0109

Saturn 122794-01-03 14:36 G 46570649.90 46570650.11 46570650.35 0.0279 0.0115 Pluto 122797-08-05 08:21 G 46571959.65 46571959.85 46571960.09 0.0066 0.0035 Jupiter 122797-10-20 12:26 G 46572035.80 46572036.02 46572036.25 0.0545 0.0083 Uranus 122797-11-07 07:09 G 46572053.62 46572053.80 46572053.99 0.0138 0.0092 Pluto 122798-08-06 20:36 G 46572326.26 46572326.36 46572326.53 0.0066 0.0056 Uranus 122798-11-11 20:50 G 46572423.12 46572423.37 46572423.62 0.0138 0.0001 Uranus 122799-11-16 10:45 G 46572792.77 46572792.95 46572793.15 0.0139 0.0091 Neptune 122805-04-24 16:31 G 46574779.05 46574779.19 46574779.35 0.0089 0.0072 Neptune 122806-04-27 05:14 G 46575146.51 46575146.72 46575146.95 0.0089 0.0049 Neptune 122807-04-29 17:57 G 46575514.01 46575514.25 46575514.51 0.0089 0.0026 Saturn 122807-06-26 17:00 G 46575571.99 46575572.21 46575572.45 0.0281 0.0105 Neptune 122808-05-01 06:55 G 46575881.53 46575881.79 46575882.06 0.0089 0.0003 Saturn 122808-07-08 15:33 G 46575949.94 46575950.15 46575950.37 0.0280 0.0120 Neptune 122809-05-03 19:24 G 46576249.06 46576249.31 46576249.57 0.0089 0.0021 Jupiter 122809-10-25 13:24 G 46576423.85 46576424.06 46576424.28 0.0544 0.0218 Neptune 122810-05-06 08:07 G 46576616.62 46576616.84 46576617.07 0.0089 0.0044 Neptune 122811-05-08 20:36 G 46576984.20 46576984.36 46576984.54 0.0089 0.0067 Jupiter 122821-10-30 18:26 G 46580812.22 46580812.27 46580812.34 0.0544 0.0523 Saturn 122821-12-16 06:41 G 46580858.61 46580858.78 46580858.96 0.0277 0.0197 Saturn 122822-12-29 11:29 G 46581236.73 46581236.98 46581237.23 0.0278 0.0025 Saturn 122824-01-11 19:53 G 46581615.23 46581615.33 46581615.45 0.0279 0.0249 Jupiter 122827-04-19 17:43 G 46582809.08 46582809.24 46582809.41 0.0483 0.0346 Saturn 122836-06-20 10:31 G 46586158.78 46586158.94 46586159.11 0.0281 0.0205 Saturn 122837-07-03 09:48 G 46586536.67 46586536.91 46586537.16 0.0281 0.0020 Uranus 122838-05-13 20:21 G 46586851.18 46586851.35 46586851.57 0.0140 0.0090 Saturn 122838-07-16 05:14 G 46586914.60 46586914.72 46586914.84 0.0280 0.0240 Jupiter 122839-04-24 00:41 G 46587196.30 46587196.53 46587196.76 0.0483 0.0132 Uranus 122839-05-18 15:19 G 46587220.88 46587221.14 46587221.39 0.0140 0.0007 Uranus 122840-05-22 08:21 G 46587590.70 46587590.85 46587591.04 0.0139 0.0103 Jupiter 122851-04-28 06:12 G 46591583.52 46591583.76 46591583.99 0.0483 0.0079

Saturn 122851-12-23 17:29 G 46591822.99 46591823.23 46591823.47 0.0278 0.0081 Saturn 122853-01-04 23:43 G 46592201.29 46592201.49 46592201.71 0.0279 0.0143 Jupiter 122863-05-02 13:24 G 46595970.88 46595971.06 46595971.25 0.0484 0.0294 Saturn 122866-06-27 22:31 G 46597123.21 46597123.44 46597123.68 0.0281 0.0080 Saturn 122867-07-10 20:36 G 46597501.15 46597501.36 46597501.57 0.0280 0.0145 Jupiter 122868-10-14 02:36 G 46597962.48 46597962.61 46597962.74 0.0545 0.0438 Mars 122879-08-05 03:19 G 46601909.53 46601909.64 46601909.74 0.1743 0.1428 Jupiter 122880-10-19 06:41 G 46602350.55 46602350.78 46602351.00 0.0545 0.0135 Saturn 122880-12-17 15:33 G 46602409.97 46602410.15 46602410.36 0.0278 0.0170 Uranus 122881-11-07 20:07 G 46602735.15 46602735.34 46602735.55 0.0138 0.0086 Saturn 122881-12-30 21:05 G 46602788.13 46602788.38 46602788.62 0.0278 0.0053 Uranus 122882-11-12 09:33 G 46603104.65 46603104.90 46603105.15 0.0138 0.0005 Saturn 122883-01-13 05:43 G 46603166.73 46603166.74 46603166.78 0.0279 0.0277 Uranus 122883-11-16 23:14 G 46603474.31 46603474.47 46603474.67 0.0138 0.0098 Neptune 122885-10-19 13:38 G 46604176.99 46604177.07 46604177.20 0.0089 0.0081 Pluto 122886-02-04 04:02 G 46604284.64 46604284.67 46604284.76 0.0078 0.0076 Neptune 122886-10-22 00:41 G 46604544.34 46604544.53 46604544.72 0.0089 0.0058 Neptune 122887-10-24 10:45 G 46604911.73 46604911.95 46604912.20 0.0089 0.0036 Neptune 122888-10-25 21:33 G 46605279.15 46605279.40 46605279.66 0.0089 0.0013 Neptune 122889-10-28 08:07 G 46605646.58 46605646.84 46605647.09 0.0089 0.0010 Neptune 122890-10-30 18:12 G 46606014.04 46606014.26 46606014.51 0.0089 0.0033 Neptune 122891-11-02 04:45 G 46606381.52 46606381.70 46606381.92 0.0088 0.0056 Jupiter 122892-10-24 12:55 G 46606738.82 46606739.04 46606739.26 0.0545 0.0177 Neptune 122892-11-03 15:48 G 46606749.05 46606749.16 46606749.29 0.0088 0.0078 Saturn 122895-06-22 18:12 G 46607710.08 46607710.26 46607710.46 0.0281 0.0179 Saturn 122896-07-04 17:14 G 46608087.99 46608088.22 46608088.46 0.0281 0.0048 Saturn 122897-07-17 12:12 G 46608465.95 46608466.01 46608466.09 0.0280 0.0267 Jupiter 122904-10-30 22:02 G 46611127.32 46611127.42 46611127.52 0.0545 0.0492 Saturn 122909-12-13 00:41 G 46612996.49 46612996.53 46612996.60 0.0277 0.0269 Jupiter 122910-04-19 23:43 G 46613124.34 46613124.49 46613124.65 0.0483 0.0367

Saturn 122910-12-26 04:02 G 46613374.42 46613374.67 46613374.91 0.0278 0.0052 Saturn 122912-01-08 10:31 G 46613752.76 46613752.94 46613753.15 0.0279 0.0172 Jupiter 122922-04-24 07:09 G 46617511.57 46617511.80 46617512.02 0.0483 0.0153 Uranus 122922-05-15 08:07 G 46617532.65 46617532.84 46617533.06 0.0140 0.0084 Uranus 122923-05-20 02:50 G 46617902.37 46617902.62 46617902.88 0.0140 0.0013 Uranus 122924-05-23 20:07 G 46618272.20 46618272.34 46618272.52 0.0139 0.0108 Saturn 122924-06-17 04:17 G 46618296.66 46618296.68 46618296.73 0.0281 0.0278 Saturn 122925-06-30 05:57 G 46618674.51 46618674.75 46618674.99 0.0281 0.0052 Saturn 122926-07-13 03:19 G 46619052.46 46619052.64 46619052.84 0.0280 0.0171 Jupiter 122934-04-28 13:09 G 46621898.82 46621899.05 46621899.29 0.0484 0.0062 Saturn 122939-12-21 01:38 G 46623961.35 46623961.57 46623961.78 0.0278 0.0142 Saturn 122941-01-02 07:24 G 46624339.58 46624339.81 46624340.05 0.0278 0.0082 Jupiter 122946-05-02 18:12 G 46626286.07 46626286.26 46626286.45 0.0484 0.0273 Jupiter 122951-10-14 23:43 G 46628277.39 46628277.49 46628277.59 0.0545 0.0483 Saturn 122954-06-25 04:17 G 46629261.48 46629261.68 46629261.89 0.0281 0.0150 Saturn 122955-07-08 02:36 G 46629639.38 46629639.61 46629639.85 0.0280 0.0075 Jupiter 122958-05-07 00:12 G 46630673.51 46630673.51 46630673.53 0.0484 0.0483 Mars 122958-08-08 13:09 G 46630766.89 46630767.05 46630767.20 0.1749 0.0918 Jupiter 122963-10-20 07:53 G 46632665.61 46632665.83 46632666.05 0.0546 0.0172 Uranus 122965-11-09 08:36 G 46633416.68 46633416.86 46633417.09 0.0138 0.0080 Uranus 122966-11-13 22:17 G 46633786.18 46633786.43 46633786.69 0.0138 0.0011 Uranus 122967-11-18 12:12 G 46634155.85 46634156.01 46634156.19 0.0138 0.0103 Saturn 122968-12-14 11:43 G 46634547.88 46634547.99 46634548.12 0.0277 0.0241 Neptune 122969-04-24 21:33 G 46634679.33 46634679.40 46634679.50 0.0089 0.0083 Saturn 122969-12-27 15:19 G 46634925.89 46634926.14 46634926.39 0.0278 0.0023 Neptune 122970-04-27 10:31 G 46635046.76 46635046.94 46635047.14 0.0089 0.0060 Saturn 122971-01-09 22:31 G 46635304.28 46635304.44 46635304.62 0.0279 0.0202 Neptune 122971-04-29 23:29 G 46635414.25 46635414.48 46635414.73 0.0089 0.0037 Neptune 122972-05-01 12:12 G 46635781.76 46635782.01 46635782.27 0.0089 0.0014 Neptune 122973-05-04 00:55 G 46636149.29 46636149.54 46636149.81 0.0089 0.0010 Neptune 122974-05-06 13:38 G 46636516.84 46636517.07 46636517.32 0.0089 0.0033

Neptune 122975-05-09 02:07 G 46636884.40 46636884.59 46636884.80 0.0089 0.0056

Jupiter 122975-10-25 15:33 G 46637053.93 46637054.15 46637054.38 0.0545 0.0142

Neptune 122976-05-10 14:50 G 46637252.02 46637252.12 46637252.25 0.0089 0.0079

Saturn 122983-06-19 14:07 G 46639847.99 46639848.09 46639848.21 0.0281 0.0250

Saturn 122984-07-01 15:05 G 46640225.88 46640226.13 46640226.37 0.0281 0.0025

Saturn 122985-07-14 11:57 G 46640603.83 46640604.00 46640604.17 0.0280 0.0197

Jupiter 122987-10-30 18:12 G 46641442.14 46641442.26 46641442.40 0.0544 0.0443

Jupiter 122993-04-19 05:00 G 46643439.58 46643439.71 46643439.86 0.0484 0.0387

Saturn 122998-12-22 11:57 G 46645512.78 46645513.00 46645513.23 0.0278 0.0114

Saturn 123000-01-04 18:26 G 46645891.04 46645891.27 46645891.50 0.0278 0.0110

## 124TH MILLENNIUM CE

## This is a list of transits of Earth in the 124th millennium CE.

FROM MAX- C START MAX END SUNRAD DEPTH S

TRANSIT

TIME

Jupiter 123005-04-24 11:00 G 46647826.74 46647826.96 46647827.18 0.0483 0.0175

Uranus 123006-05-16 21:05 G 46648214.18 46648214.38 46648214.61 0.0140 0.0078

Uranus 123007-05-21 15:33 G 46648583.91 46648584.15 46648584.41 0.0140 0.0019

Uranus 123008-05-25 09:05 G 46648953.75 46648953.88 46648954.05 0.0140 0.0114

Saturn 123013-06-27 15:19 G 46650812.93 46650813.14 46650813.37 0.0281 0.0122

Saturn 123014-07-10 13:24 G 46651190.84 46651191.06 46651191.29 0.0280 0.0104

Jupiter 123017-04-28 17:43 G 46652214.00 46652214.24 46652214.47 0.0483 0.0039

Saturn 123027-12-17 22:45 G 46656099.31 46656099.45 46656099.62 0.0277 0.0213

Saturn 123028-12-30 02:50 G 46656477.38 46656477.62 46656477.87 0.0278 0.0009 Jupiter 123029-05-02 23:00 G 46656601.26 46656601.46 46656601.67 0.0484 0.0249 Saturn 123030-01-12 10:31 G 46656855.81 46656855.94 46656856.09 0.0279 0.0231 Jupiter 123034-10-15 02:21 G 46658592.53 46658592.60 46658592.67 0.0545 0.0518 Jupiter 123041-05-07 05:43 G 46660988.67 46660988.74 46660988.81 0.0484 0.0461 Saturn 123042-06-22 01:24 G 46661399.42 46661399.56 46661399.71 0.0281 0.0221 Saturn 123043-07-05 01:38 G 46661777.33 46661777.57 46661777.81 0.0280 0.0004 Saturn 123044-07-16 21:48 G 46662155.28 46662155.41 46662155.56 0.0280 0.0225 Pluto 123046-08-09 21:05 G 46662909.15 46662909.38 46662909.65 0.0066 0.0017 Jupiter 123046-10-20 05:57 G 46662980.54 46662980.75 46662980.96 0.0545 0.0214 Uranus 123049-11-10 21:33 G 46664098.20 46664098.40 46664098.62 0.0138 0.0073 Neptune 123050-10-23 06:41 G 46664444.64 46664444.78 46664444.95 0.0089 0.0069 Uranus 123050-11-15 11:00 G 46664467.71 46664467.96 46664468.21 0.0138 0.0017 Neptune 123051-10-25 17:00 G 46664812.02 46664812.21 46664812.45 0.0089 0.0047 Uranus 123051-11-20 00:41 G 46664837.38 46664837.53 46664837.69 0.0138 0.0109 Neptune 123052-10-27 04:02 G 46665179.43 46665179.67 46665179.92 0.0089 0.0024 Neptune 123053-10-29 14:21 G 46665546.84 46665547.10 46665547.35 0.0089 0.0001 Neptune 123054-11-01 00:41 G 46665914.29 46665914.53 46665914.79 0.0089 0.0022 Neptune 123055-11-03 11:29 G 46666281.76 46666281.98 46666282.20 0.0089 0.0044 Neptune 123056-11-04 21:33 G 46666649.25 46666649.40 46666649.59 0.0088 0.0067 Saturn 123057-12-24 22:02 G 46667064.19 46667064.42 46667064.66 0.0278 0.0087 Jupiter 123058-10-25 09:33 G 46667368.67 46667368.90 46667369.13 0.0545 0.0089 Saturn 123059-01-07 05:00 G 46667442.50 46667442.71 46667442.93 0.0279 0.0138 Mars 123059-02-05 12:55 G 46667471.84 46667472.04 46667472.24 0.1796 0.0122 Jupiter 123070-10-30 13:24 G 46671756.90 46671757.06 46671757.22 0.0545 0.0392 Saturn 123072-06-29 02:50 G 46672364.39 46672364.62 46672364.85 0.0281 0.0092 Saturn 123073-07-12 00:12 G 46672742.31 46672742.51 46672742.74 0.0280 0.0133 Jupiter 123076-04-19 10:02 G 46673754.79 46673754.92 46673755.05 0.0483 0.0407 Saturn 123086-12-19 10:02 G 46677650.75 46677650.92 46677651.12 0.0277 0.0186 Saturn 123088-01-01 14:50 G 46678028.87 46678029.12 46678029.36 0.0278 0.0036

Jupiter 123088-04-23 15:48 G 46678141.95 46678142.16 46678142.38 0.0483 0.0198 Saturn 123089-01-13 22:45 G 46678407.37 46678407.45 46678407.54 0.0279 0.0259 Uranus 123090-05-17 08:07 G 46678895.63 46678895.84 46678896.06 0.0140 0.0072 Uranus 123091-05-22 02:50 G 46679265.37 46679265.62 46679265.88 0.0140 0.0024 Uranus 123092-05-25 20:07 G 46679635.22 46679635.34 46679635.49 0.0140 0.0119 Jupiter 123100-04-28 22:45 G 46682529.21 46682529.45 46682529.68 0.0483 0.0018 Saturn 123101-06-24 12:26 G 46682950.85 46682951.02 46682951.20 0.0281 0.0193 Saturn 123102-07-07 12:12 G 46683328.77 46683329.01 46683329.25 0.0280 0.0032 Saturn 123103-07-20 07:38 G 46683706.73 46683706.82 46683706.94 0.0280 0.0252 Jupiter 123112-05-03 04:17 G 46686916.47 46686916.68 46686916.89 0.0484 0.0227 Saturn 123116-12-27 07:09 G 46688615.56 46688615.80 46688616.05 0.0278 0.0061 Saturn 123118-01-09 14:36 G 46688993.92 46688994.11 46688994.32 0.0279 0.0165 Jupiter 123124-05-07 09:33 G 46691303.81 46691303.90 46691304.00 0.0484 0.0437 Jupiter 123129-10-19 23:57 G 46693295.30 46693295.50 46693295.70 0.0545 0.0269 Saturn 123131-07-02 14:21 G 46693915.86 46693916.10 46693916.33 0.0281 0.0063 Saturn 123132-07-14 11:29 G 46694293.78 46694293.98 46694294.18 0.0280 0.0160 Uranus 123133-11-12 10:02 G 46694779.71 46694779.92 46694780.15 0.0138 0.0067 Pluto 123134-02-07 20:21 G 46694867.09 46694867.35 46694867.62 0.0078 0.0005 Neptune 123134-04-28 16:17 G 46694947.05 46694947.18 46694947.36 0.0089 0.0071 Uranus 123134-11-16 23:14 G 46695149.22 46695149.47 46695149.72 0.0138 0.0023 Neptune 123135-05-01 05:14 G 46695314.52 46695314.72 46695314.96 0.0089 0.0048 Uranus 123135-11-21 12:41 G 46695518.90 46695519.03 46695519.19 0.0138 0.0115 Neptune 123136-05-02 18:12 G 46695682.02 46695682.26 46695682.52 0.0089 0.0025 Neptune 123137-05-05 07:24 G 46696049.55 46696049.81 46696050.07 0.0089 0.0001 Neptune 123138-05-07 20:07 G 46696417.09 46696417.34 46696417.59 0.0089 0.0022 Neptune 123139-05-10 08:50 G 46696784.65 46696784.87 46696785.10 0.0089 0.0045 Neptune 123140-05-11 21:19 G 46697152.23 46697152.39 46697152.56 0.0089 0.0068 Jupiter 123141-10-25 07:24 G 46697683.58 46697683.81 46697684.04 0.0545 0.0043 Saturn 123145-12-21 20:07 G 46699202.14 46699202.34 46699202.54 0.0277 0.0158 Saturn 123147-01-04 00:55 G 46699580.30 46699580.54 46699580.78 0.0278 0.0064

Jupiter 123153-10-30 16:02 G 46702072.00 46702072.17 46702072.35 0.0545 0.0357 Jupiter 123159-04-20 15:05 G 46704070.03 46704070.13 46704070.24 0.0483 0.0431 Saturn 123160-06-25 23:00 G 46704502.27 46704502.46 46704502.66 0.0281 0.0165 Saturn 123161-07-08 22:17 G 46704880.20 46704880.43 46704880.67 0.0280 0.0060 Saturn 123162-07-21 17:29 G 46705258.21 46705258.23 46705258.26 0.0280 0.0278 Mars 123163-08-08 22:45 G 46705641.30 46705641.45 46705641.60 0.1735 0.1019 Jupiter 123171-04-24 20:50 G 46708457.16 46708457.37 46708457.58 0.0483 0.0220 Uranus 123174-05-18 20:36 G 46709577.14 46709577.36 46709577.59 0.0140 0.0066 Saturn 123174-12-16 11:29 G 46709788.90 46709788.98 46709789.09 0.0278 0.0255 Uranus 123175-05-23 15:05 G 46709946.89 46709947.13 46709947.38 0.0140 0.0030 Saturn 123175-12-29 15:19 G 46710166.90 46710167.14 46710167.39 0.0278 0.0035 Uranus 123176-05-27 08:36 G 46710316.76 46710316.86 46710316.99 0.0140 0.0124 Saturn 123177-01-10 23:00 G 46710545.28 46710545.46 46710545.64 0.0279 0.0190 Jupiter 123183-04-29 03:19 G 46712844.40 46712844.64 46712844.88 0.0483 0.0007 Saturn 123189-06-20 22:31 G 46715089.36 46715089.44 46715089.54 0.0282 0.0260 Saturn 123190-07-03 23:57 G 46715467.26 46715467.50 46715467.75 0.0281 0.0035 Saturn 123191-07-16 21:05 G 46715845.20 46715845.38 46715845.56 0.0280 0.0188 Jupiter 123195-05-03 10:17 G 46717231.72 46717231.93 46717232.15 0.0483 0.0206 Saturn 123204-12-23 04:31 G 46720753.48 46720753.69 46720753.91 0.0277 0.0132 Saturn 123206-01-05 09:33 G 46721131.67 46721131.90 46721132.14 0.0278 0.0090 Jupiter 123207-05-07 15:19 G 46721619.03 46721619.14 46721619.27 0.0484 0.0416 Jupiter 123212-10-19 03:33 G 46723610.46 46723610.65 46723610.84 0.0546 0.0302 Neptune 123214-10-23 13:24 G 46724344.97 46724345.06 46724345.18 0.0089 0.0080 Neptune 123215-10-25 23:43 G 46724712.32 46724712.49 46724712.71 0.0089 0.0058 Neptune 123216-10-27 10:17 G 46725079.71 46725079.93 46725080.18 0.0089 0.0035 Neptune 123217-10-29 21:05 G 46725447.13 46725447.38 46725447.63 0.0089 0.0012 Uranus 123217-11-12 23:00 G 46725461.23 46725461.46 46725461.68 0.0138 0.0060 Neptune 123218-11-01 07:24 G 46725814.56 46725814.81 46725815.07 0.0089 0.0011 Uranus 123218-11-17 11:43 G 46725830.75 46725830.99 46725831.24 0.0138 0.0030 Saturn 123219-06-28 08:21 G 46726053.64 46726053.85 46726054.07 0.0281 0.0138

Neptune 123219-11-03 17:29 G 46726182.01 46726182.23 46726182.49 0.0089 0.0034 Uranus 123219-11-22 01:09 G 46726200.44 46726200.55 46726200.68 0.0138 0.0121 Saturn 123220-07-10 07:38 G 46726431.59 46726431.82 46726432.05 0.0280 0.0087 Neptune 123220-11-05 04:02 G 46726549.49 46726549.67 46726549.89 0.0089 0.0056 Neptune 123221-11-07 14:07 G 46726917.01 46726917.09 46726917.24 0.0089 0.0079 Jupiter 123224-10-24 09:48 G 46727998.68 46727998.91 46727999.14 0.0545 0.0014 Saturn 123233-12-17 17:29 G 46731340.10 46731340.23 46731340.37 0.0278 0.0231 Saturn 123234-12-30 21:33 G 46731718.15 46731718.40 46731718.65 0.0278 0.0011 Saturn 123236-01-13 05:14 G 46732096.57 46732096.72 46732096.88 0.0279 0.0214 Jupiter 123236-10-29 14:21 G 46732386.91 46732387.10 46732387.29 0.0545 0.0313 Jupiter 123242-04-19 20:21 G 46734385.28 46734385.35 46734385.44 0.0483 0.0451 Mars 123242-08-11 07:38 G 46734498.69 46734498.82 46734498.95 0.1741 0.1272 Saturn 123248-06-22 06:41 G 46736640.66 46736640.78 46736640.93 0.0282 0.0234 Saturn 123249-07-05 08:07 G 46737018.60 46737018.84 46737019.08 0.0281 0.0008 Saturn 123250-07-18 04:45 G 46737396.56 46737396.70 46737396.87 0.0280 0.0214 Jupiter 123254-04-24 04:31 G 46738772.49 46738772.69 46738772.90 0.0483 0.0237 Uranus 123258-05-19 06:55 G 46740258.57 46740258.79 46740259.03 0.0140 0.0062 Uranus 123259-05-24 01:24 G 46740628.32 46740628.56 46740628.82 0.0140 0.0034 Uranus 123260-05-27 18:55 G 46740998.21 46740998.29 46740998.41 0.0140 0.0129 Saturn 123263-12-25 11:43 G 46742304.76 46742304.99 46742305.22 0.0277 0.0106 Saturn 123265-01-06 16:45 G 46742682.97 46742683.20 46742683.42 0.0278 0.0116 Jupiter 123266-04-28 10:31 G 46743159.70 46743159.94 46743160.18 0.0483 0.0025 Jupiter 123278-05-02 17:29 G 46747547.01 46747547.23 46747547.44 0.0483 0.0187 Saturn 123278-06-29 15:33 G 46747604.94 46747605.15 46747605.38 0.0281 0.0112 Saturn 123279-07-12 14:36 G 46747982.89 46747983.11 46747983.34 0.0280 0.0113 Jupiter 123290-05-06 22:45 G 46751934.32 46751934.45 46751934.59 0.0484 0.0397 Saturn 123292-12-18 22:02 G 46752891.27 46752891.42 46752891.59 0.0278 0.0208 Saturn 123294-01-01 01:53 G 46753269.34 46753269.58 46753269.83 0.0278 0.0014 Pluto 123294-08-11 21:48 G 46753492.18 46753492.41 46753492.66 0.0066 0.0022 Saturn 123295-01-14 09:48 G 46753647.78 46753647.91 46753648.04 0.0279 0.0237

Jupiter 123295-10-19 04:17 G 46753925.51 46753925.68 46753925.86 0.0545 0.0338 Neptune 123298-04-27 22:17 G 46754847.35 46754847.43 46754847.56 0.0089 0.0082 Neptune 123299-04-30 11:00 G 46755214.79 46755214.96 46755215.19 0.0089 0.0059 Neptune 123300-05-03 00:12 G 46755582.29 46755582.51 46755582.77 0.0089 0.0036 Neptune 123301-05-05 13:24 G 46755949.81 46755950.06 46755950.32 0.0089 0.0012 Uranus 123301-11-14 11:14 G 46756142.75 46756142.97 46756143.21 0.0138 0.0054 Neptune 123302-05-08 02:07 G 46756317.34 46756317.59 46756317.86 0.0089 0.0012 Uranus 123302-11-19 00:12 G 46756512.27 46756512.51 46756512.76 0.0138 0.0036 Neptune 123303-05-10 14:50 G 46756684.89 46756685.12 46756685.37 0.0089 0.0035 Uranus 123303-11-23 13:24 G 46756881.98 46756882.06 46756882.18 0.0138 0.0127 Neptune 123304-05-12 03:19 G 46757052.47 46757052.64 46757052.86 0.0089 0.0058 Neptune 123305-05-14 16:02 G 46757420.10 46757420.17 46757420.31 0.0089 0.0081 Saturn 123307-06-25 12:41 G 46758191.88 46758192.03 46758192.20 0.0282 0.0208 Jupiter 123307-10-25 04:45 G 46758313.47 46758313.70 46758313.93 0.0545 0.0046 Saturn 123308-07-07 14:07 G 46758569.85 46758570.09 46758570.34 0.0281 0.0018 Saturn 123309-07-20 11:00 G 46758947.84 46758947.96 46758948.09 0.0280 0.0238 Jupiter 123319-10-30 11:43 G 46762701.80 46762701.99 46762702.20 0.0545 0.0265 Saturn 123322-12-27 16:45 G 46763855.97 46763856.20 46763856.44 0.0277 0.0081 Saturn 123324-01-09 21:33 G 46764234.19 46764234.40 46764234.62 0.0278 0.0140 Jupiter 123325-04-20 05:00 G 46764700.65 46764700.71 46764700.78 0.0483 0.0465 Jupiter 123337-04-24 12:26 G 46769087.82 46769088.02 46769088.23 0.0483 0.0254 Saturn 123337-07-01 21:19 G 46769156.16 46769156.39 46769156.62 0.0281 0.0086 Saturn 123338-07-14 20:07 G 46769534.13 46769534.34 46769534.55 0.0280 0.0138 Uranus 123342-05-20 18:26 G 46770940.05 46770940.27 46770940.52 0.0140 0.0056 Mars 123343-02-07 11:00 G 46771202.76 46771202.96 46771203.16 0.1805 0.0194 Uranus 123343-05-25 12:55 G 46771309.81 46771310.04 46771310.30 0.0140 0.0040 Uranus 123344-05-29 06:26 G 46771679.72 46771679.77 46771679.87 0.0140 0.0134 Jupiter 123349-04-28 18:12 G 46773475.03 46773475.26 46773475.50 0.0483 0.0044 Saturn 123351-12-22 01:24 G 46774442.38 46774442.56 46774442.75 0.0277 0.0185 Saturn 123353-01-03 05:00 G 46774820.47 46774820.71 46774820.96 0.0278 0.0036

Saturn 123354-01-16 12:41 G 46775198.95 46775199.03 46775199.13 0.0279 0.0259 Jupiter 123361-05-03 01:38 G 46777862.35 46777862.57 46777862.80 0.0483 0.0170 Saturn 123366-06-26 16:02 G 46779743.00 46779743.17 46779743.37 0.0282 0.0184 Saturn 123367-07-09 17:43 G 46780121.00 46780121.24 46780121.48 0.0281 0.0042 Saturn 123368-07-21 14:50 G 46780499.04 46780499.12 46780499.21 0.0281 0.0262 Jupiter 123373-05-07 09:05 G 46782249.74 46782249.88 46782250.03 0.0483 0.0383 Jupiter 123378-10-19 01:24 G 46784240.41 46784240.56 46784240.73 0.0545 0.0388 Neptune 123379-10-26 07:09 G 46784612.65 46784612.80 46784612.98 0.0089 0.0068 Neptune 123380-10-27 17:29 G 46784980.03 46784980.23 46784980.47 0.0089 0.0046 Saturn 123380-12-15 19:38 G 46785029.29 46785029.32 46785029.38 0.0276 0.0271 Neptune 123381-10-30 04:17 G 46785347.45 46785347.68 46785347.94 0.0089 0.0023 Saturn 123381-12-28 20:36 G 46785407.12 46785407.36 46785407.61 0.0277 0.0057 Pluto 123382-02-09 13:09 G 46785449.90 46785450.05 46785450.23 0.0078 0.0060 Neptune 123382-11-01 15:05 G 46785714.87 46785715.13 46785715.38 0.0089 0.0001 Saturn 123383-01-11 01:09 G 46785785.37 46785785.55 46785785.77 0.0278 0.0165 Neptune 123383-11-04 01:24 G 46786082.32 46786082.56 46786082.81 0.0089 0.0023 Neptune 123384-11-05 11:43 G 46786449.78 46786449.99 46786450.22 0.0089 0.0045 Uranus 123384-11-10 11:43 G 46786454.97 46786454.99 46786455.03 0.0138 0.0136 Neptune 123385-11-07 22:02 G 46786817.27 46786817.42 46786817.60 0.0089 0.0068 Uranus 123385-11-14 23:57 G 46786824.27 46786824.50 46786824.75 0.0138 0.0048 Uranus 123386-11-19 12:41 G 46787193.80 46787194.03 46787194.28 0.0138 0.0042 Uranus 123387-11-24 02:07 G 46787563.53 46787563.59 46787563.67 0.0138 0.0133 Jupiter 123390-10-24 10:31 G 46788628.71 46788628.94 46788629.16 0.0546 0.0074 Saturn 123396-07-03 00:55 G 46790707.30 46790707.54 46790707.78 0.0281 0.0062 Saturn 123397-07-15 23:43 G 46791085.30 46791085.49 46791085.69 0.0281 0.0161 Jupiter 123402-10-30 19:09 G 46793017.09 46793017.30 46793017.50 0.0545 0.0242 Jupiter 123408-04-20 13:09 G 46795016.04 46795016.05 46795016.07 0.0483 0.0482 Saturn 123410-12-24 03:33 G 46795993.46 46795993.65 46795993.86 0.0277 0.0161 Saturn 123412-01-06 06:55 G 46796371.55 46796371.79 46796372.03 0.0278 0.0059 Jupiter 123420-04-24 21:33 G 46799403.21 46799403.40 46799403.60 0.0483 0.0269

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Saturn 123484-06-29 17:57 G 46822845.05 46822845.25 46822845.47 0.0282 0.0138 Saturn 123485-07-12 19:53 G 46823223.10 46823223.33 46823223.56 0.0282 0.0089 Jupiter 123485-10-29 15:48 G 46823331.95 46823332.16 46823332.38 0.0545 0.0191 Jupiter 123497-11-03 22:31 G 46827720.35 46827720.44 46827720.53 0.0545 0.0497 Saturn 123498-12-20 01:38 G 46828131.44 46828131.57 46828131.73 0.0276 0.0224 Saturn 123500-01-02 02:21 G 46828509.35 46828509.60 46828509.85 0.0277 0.0009 Saturn 123501-01-15 06:41 G 46828887.63 46828887.78 46828887.95 0.0277 0.0211 Jupiter 123503-04-26 08:07 G 46829718.65 46829718.84 46829719.03 0.0483 0.0278 Uranus 123510-05-23 15:33 G 46832302.91 46832303.15 46832303.40 0.0140 0.0048 Uranus 123511-05-28 10:17 G 46832672.69 46832672.93 46832673.17 0.0140 0.0047 Saturn 123513-06-25 00:55 G 46833431.43 46833431.54 46833431.67 0.0282 0.0243 Saturn 123514-07-08 04:17 G 46833809.44 46833809.68 46833809.93 0.0282 0.0016 Jupiter 123515-04-30 15:33 G 46834105.91 46834106.15 46834106.38 0.0483 0.0067 Saturn 123515-07-21 03:19 G 46834187.49 46834187.64 46834187.81 0.0281 0.0207 Mars 123526-08-15 02:21 G 46838230.54 46838230.60 46838230.66 0.1734 0.1626 Jupiter 123527-05-04 21:19 G 46838493.17 46838493.39 46838493.62 0.0483 0.0144 Saturn 123528-12-27 07:38 G 46839095.60 46839095.82 46839096.05 0.0277 0.0114 Saturn 123530-01-09 10:31 G 46839473.71 46839473.94 46839474.17 0.0278 0.0105 Jupiter 123539-05-09 05:00 G 46842880.56 46842880.71 46842880.88 0.0483 0.0356 Saturn 123543-07-02 17:43 G 46844396.02 46844396.24 46844396.47 0.0282 0.0115 Pluto 123543-08-17 08:07 G 46844441.61 46844441.84 46844442.08 0.0066 0.0022 Neptune 123543-10-27 14:07 G 46844513.00 46844513.09 46844513.24 0.0089 0.0079 Saturn 123544-07-14 19:38 G 46844774.10 46844774.32 46844774.55 0.0282 0.0111 Jupiter 123544-10-19 07:38 G 46844870.70 46844870.82 46844870.95 0.0545 0.0451 Neptune 123544-10-29 01:09 G 46844880.37 46844880.55 46844880.76 0.0089 0.0056 Neptune 123545-10-31 11:29 G 46845247.77 46845247.98 46845248.24 0.0089 0.0034 Neptune 123546-11-02 22:31 G 46845615.19 46845615.44 46845615.70 0.0089 0.0011 Neptune 123547-11-05 08:50 G 46845982.62 46845982.87 46845983.13 0.0089 0.0012 Neptune 123548-11-06 19:09 G 46846350.08 46846350.30 46846350.55 0.0089 0.0035 Neptune 123549-11-09 05:57 G 46846717.56 46846717.75 46846717.95 0.0089 0.0057

Neptune 123550-11-11 15:48 G 46847085.07 46847085.16 46847085.30 0.0089 0.0080 Uranus 123552-11-13 11:00 G 46847817.88 46847817.96 46847818.08 0.0137 0.0126 Uranus 123553-11-17 23:29 G 46848187.24 46848187.48 46848187.73 0.0138 0.0037 Uranus 123554-11-22 11:57 G 46848556.78 46848557.00 46848557.25 0.0138 0.0053 Jupiter 123556-10-24 12:55 G 46849258.82 46849259.04 46849259.26 0.0545 0.0150 Saturn 123557-12-22 04:45 G 46849682.54 46849682.70 46849682.88 0.0276 0.0200 Saturn 123559-01-04 05:29 G 46850060.48 46850060.73 46850060.98 0.0277 0.0016 Saturn 123560-01-17 09:48 G 46850438.79 46850438.91 46850439.05 0.0277 0.0234 Jupiter 123568-10-29 21:19 G 46853647.17 46853647.39 46853647.61 0.0546 0.0165 Saturn 123572-06-26 02:07 G 46854982.44 46854982.59 46854982.74 0.0282 0.0220 Saturn 123573-07-09 05:14 G 46855360.48 46855360.72 46855360.96 0.0282 0.0007 Saturn 123574-07-22 04:17 G 46855738.55 46855738.68 46855738.83 0.0281 0.0230 Jupiter 123580-11-04 06:41 G 46858035.68 46858035.78 46858035.90 0.0545 0.0479 Jupiter 123586-04-25 17:29 G 46860034.04 46860034.23 46860034.42 0.0483 0.0292 Saturn 123587-12-29 10:45 G 46860646.72 46860646.95 46860647.19 0.0277 0.0090 Saturn 123589-01-10 13:24 G 46861024.84 46861025.06 46861025.28 0.0277 0.0129 Uranus 123593-05-19 05:29 G 46862614.73 46862614.73 46862614.76 0.0141 0.0140 Uranus 123594-05-24 00:55 G 46862984.31 46862984.54 46862984.79 0.0140 0.0045 Uranus 123595-05-28 19:38 G 46863354.10 46863354.32 46863354.57 0.0140 0.0051 Jupiter 123598-04-30 01:38 G 46864421.34 46864421.57 46864421.81 0.0483 0.0080 Saturn 123602-07-03 17:29 G 46865947.00 46865947.23 46865947.46 0.0282 0.0092 Saturn 123603-07-16 19:24 G 46866325.10 46866325.31 46866325.53 0.0282 0.0134 Jupiter 123610-05-04 09:19 G 46868808.66 46868808.89 46868809.12 0.0483 0.0135 Saturn 123616-12-23 08:36 G 46871233.68 46871233.86 46871234.06 0.0276 0.0176 Saturn 123618-01-05 09:19 G 46871611.64 46871611.89 46871612.14 0.0277 0.0040 Saturn 123619-01-18 13:38 G 46871989.99 46871990.07 46871990.16 0.0277 0.0258 Jupiter 123622-05-08 14:50 G 46873195.96 46873196.12 46873196.29 0.0483 0.0344 Mars 123627-02-09 06:12 G 46874933.58 46874933.76 46874933.95 0.1815 0.0655 Neptune 123627-05-02 01:24 G 46875015.46 46875015.56 46875015.70 0.0089 0.0079 Jupiter 123627-10-19 11:57 G 46875185.89 46875186.00 46875186.11 0.0545 0.0479

Neptune 123628-05-03 14:21 G 46875382.92 46875383.10 46875383.32 0.0089 0.0056 Neptune 123629-05-06 03:19 G 46875750.41 46875750.64 46875750.89 0.0089 0.0033 Neptune 123630-05-08 16:17 G 46876117.93 46876118.18 46876118.45 0.0089 0.0010 Pluto 123631-02-14 05:00 G 46876399.46 46876399.71 46876399.98 0.0078 0.0013 Neptune 123631-05-11 05:00 G 46876485.46 46876485.71 46876485.98 0.0089 0.0014 Saturn 123631-06-28 04:02 G 46876533.51 46876533.67 46876533.85 0.0282 0.0197 Neptune 123632-05-12 17:43 G 46876853.02 46876853.24 46876853.49 0.0089 0.0037 Saturn 123632-07-10 07:24 G 46876911.57 46876911.81 46876912.05 0.0282 0.0031 Neptune 123633-05-15 06:26 G 46877220.60 46877220.77 46877220.98 0.0089 0.0060 Saturn 123633-07-23 06:26 G 46877289.67 46877289.77 46877289.88 0.0281 0.0252 Neptune 123634-05-17 19:09 G 46877588.23 46877588.30 46877588.42 0.0089 0.0083 Uranus 123636-11-13 22:17 G 46878499.33 46878499.43 46878499.57 0.0137 0.0121 Uranus 123637-11-18 10:45 G 46878868.71 46878868.95 46878869.20 0.0138 0.0032 Uranus 123638-11-22 23:29 G 46879238.25 46879238.48 46879238.71 0.0138 0.0057 Jupiter 123639-10-24 20:36 G 46879574.15 46879574.36 46879574.58 0.0546 0.0170 Saturn 123645-12-17 16:31 G 46881820.19 46881820.19 46881820.21 0.0276 0.0276 Saturn 123646-12-30 15:05 G 46882197.90 46882198.13 46882198.38 0.0277 0.0065 Saturn 123648-01-12 17:29 G 46882576.04 46882576.23 46882576.45 0.0277 0.0155 Jupiter 123651-10-30 03:33 G 46883962.43 46883962.65 46883962.87 0.0545 0.0139 Saturn 123661-07-04 17:57 G 46887498.02 46887498.25 46887498.49 0.0282 0.0070 Saturn 123662-07-17 20:07 G 46887876.14 46887876.34 46887876.55 0.0282 0.0157 Jupiter 123663-11-04 04:02 G 46888350.54 46888350.67 46888350.82 0.0545 0.0431 Jupiter 123669-04-25 04:02 G 46890349.48 46890349.67 46890349.85 0.0484 0.0302 Saturn 123675-12-25 13:53 G 46892784.88 46892785.08 46892785.29 0.0276 0.0151 Saturn 123677-01-06 15:05 G 46893162.89 46893163.13 46893163.37 0.0277 0.0066 Uranus 123677-05-19 15:48 G 46893296.12 46893296.16 46893296.25 0.0141 0.0136 Uranus 123678-05-24 11:57 G 46893665.76 46893666.00 46893666.25 0.0140 0.0040 Uranus 123679-05-29 06:41 G 46894035.55 46894035.78 46894036.02 0.0140 0.0055 Jupiter 123681-04-29 10:31 G 46894736.71 46894736.94 46894737.17 0.0483 0.0091 Saturn 123690-06-29 07:09 G 46898084.61 46898084.80 46898085.00 0.0283 0.0173

Saturn 123691-07-12 10:17 G 46898462.69 46898462.93 46898463.17 0.0282 0.0055 Saturn 123692-07-24 09:05 G 46898840.85 46898840.88 46898840.94 0.0281 0.0277 Jupiter 123693-05-03 17:29 G 46899124.01 46899124.23 46899124.47 0.0483 0.0120 Saturn 123704-12-19 22:17 G 46903371.34 46903371.43 46903371.54 0.0276 0.0250 Jupiter 123705-05-08 23:29 G 46903511.31 46903511.48 46903511.66 0.0483 0.0326 Saturn 123706-01-01 21:05 G 46903749.14 46903749.38 46903749.63 0.0277 0.0039 Saturn 123707-01-14 23:57 G 46904127.31 46904127.50 46904127.69 0.0277 0.0180 Neptune 123707-10-27 23:00 G 46904413.46 46904413.46 46904413.50 0.0089 0.0089 Neptune 123708-10-29 09:33 G 46904780.75 46904780.90 46904781.09 0.0089 0.0066 Neptune 123709-10-31 19:53 G 46905148.13 46905148.33 46905148.57 0.0089 0.0044 Jupiter 123710-10-19 18:12 G 46905501.18 46905501.26 46905501.35 0.0545 0.0504 Neptune 123710-11-03 06:41 G 46905515.54 46905515.78 46905516.04 0.0089 0.0021 Neptune 123711-11-05 17:29 G 46905882.97 46905883.23 46905883.48 0.0089 0.0002 Neptune 123712-11-07 03:48 G 46906250.43 46906250.66 46906250.92 0.0089 0.0025 Neptune 123713-11-09 14:21 G 46906617.89 46906618.10 46906618.32 0.0089 0.0047 Neptune 123714-11-12 00:26 G 46906985.39 46906985.52 46906985.70 0.0089 0.0070 Saturn 123719-06-24 15:05 G 46908671.08 46908671.13 46908671.20 0.0283 0.0273 Saturn 123720-07-06 20:50 G 46909049.13 46909049.37 46909049.61 0.0282 0.0046 Uranus 123720-11-15 09:48 G 46909180.79 46909180.91 46909181.06 0.0137 0.0115 Saturn 123721-07-19 22:45 G 46909427.26 46909427.45 46909427.63 0.0282 0.0180 Uranus 123721-11-19 22:02 G 46909550.17 46909550.42 46909550.67 0.0138 0.0027 Jupiter 123722-10-24 18:55 G 46909889.08 46909889.29 46909889.51 0.0545 0.0212 Uranus 123722-11-24 11:00 G 46909919.74 46909919.96 46909920.19 0.0138 0.0062 Mars 123731-08-14 13:53 G 46913104.89 46913105.08 46913105.26 0.1721 0.0226 Jupiter 123734-10-29 22:45 G 46914277.23 46914277.45 46914277.68 0.0545 0.0088 Saturn 123734-12-27 20:21 G 46914336.13 46914336.35 46914336.57 0.0276 0.0125 Saturn 123736-01-09 21:48 G 46914714.18 46914714.41 46914714.65 0.0277 0.0092 Jupiter 123746-11-04 05:29 G 46918665.58 46918665.73 46918665.89 0.0545 0.0396 Saturn 123749-07-01 12:12 G 46919635.81 46919636.01 46919636.22 0.0283 0.0148 Saturn 123750-07-14 15:05 G 46920013.90 46920014.13 46920014.36 0.0282 0.0080

Jupiter 123752-04-25 11:29 G 46920664.81 46920664.98 46920665.16 0.0483 0.0318 Uranus 123761-05-21 01:24 G 46923977.49 46923977.56 46923977.66 0.0141 0.0132 Uranus 123762-05-25 21:05 G 46924347.14 46924347.38 46924347.64 0.0140 0.0036 Uranus 123763-05-30 15:48 G 46924716.94 46924717.16 46924717.41 0.0140 0.0059 Saturn 123763-12-22 06:12 G 46924922.62 46924922.76 46924922.91 0.0276 0.0224 Jupiter 123764-04-29 17:57 G 46925052.02 46925052.25 46925052.48 0.0483 0.0109 Saturn 123765-01-03 05:29 G 46925300.48 46925300.73 46925300.98 0.0277 0.0011 Saturn 123766-01-16 08:21 G 46925678.69 46925678.85 46925679.02 0.0277 0.0207 Jupiter 123776-05-04 01:24 G 46929439.33 46929439.56 46929439.79 0.0483 0.0102 Saturn 123778-06-25 19:53 G 46930222.23 46930222.33 46930222.46 0.0283 0.0249 Saturn 123779-07-09 01:09 G 46930600.31 46930600.55 46930600.80 0.0282 0.0021 Saturn 123780-07-21 02:50 G 46930978.45 46930978.62 46930978.78 0.0282 0.0204 Jupiter 123788-05-08 08:07 G 46933826.66 46933826.84 46933827.02 0.0484 0.0314 Neptune 123791-05-02 09:05 G 46934915.88 46934915.88 46934915.91 0.0089 0.0088 Pluto 123791-08-19 06:41 G 46935024.56 46935024.78 46935025.04 0.0066 0.0021 Neptune 123792-05-03 21:48 G 46935283.25 46935283.41 46935283.60 0.0089 0.0066 Neptune 123793-05-06 10:45 G 46935650.74 46935650.95 46935651.19 0.0089 0.0043 Saturn 123793-12-29 04:31 G 46935887.46 46935887.69 46935887.92 0.0276 0.0099 Neptune 123794-05-08 23:43 G 46936018.24 46936018.49 46936018.75 0.0089 0.0020 Saturn 123795-01-11 06:12 G 46936265.54 46936265.76 46936265.99 0.0277 0.0120 Neptune 123795-05-11 12:41 G 46936385.77 46936386.03 46936386.29 0.0089 0.0004 Neptune 123796-05-13 01:09 G 46936753.32 46936753.55 46936753.82 0.0089 0.0027 Neptune 123797-05-15 13:53 G 46937120.88 46937121.08 46937121.31 0.0089 0.0050 Neptune 123798-05-18 02:36 G 46937488.49 46937488.61 46937488.78 0.0089 0.0073 Uranus 123804-11-16 20:50 G 46939862.24 46939862.37 46939862.54 0.0137 0.0110 Jupiter 123805-10-24 18:12 G 46940204.06 46940204.26 46940204.46 0.0545 0.0252 Uranus 123805-11-21 09:33 G 46940231.65 46940231.90 46940232.15 0.0138 0.0021 Uranus 123806-11-25 22:02 G 46940601.21 46940601.42 46940601.65 0.0138 0.0068 Saturn 123808-07-03 19:53 G 46941187.11 46941187.33 46941187.55 0.0283 0.0121 Saturn 123809-07-16 22:02 G 46941565.21 46941565.42 46941565.66 0.0282 0.0107

Jupiter 123817-10-30 01:53 G 46944592.36 46944592.58 46944592.81 0.0546 0.0058 Saturn 123822-12-24 15:05 G 46946473.97 46946474.13 46946474.31 0.0276 0.0197 Saturn 123824-01-06 15:05 G 46946851.88 46946852.13 46946852.38 0.0277 0.0018 Saturn 123825-01-18 17:57 G 46947230.13 46947230.25 46947230.39 0.0277 0.0236 Jupiter 123829-11-04 09:33 G 46948980.74 46948980.90 46948981.08 0.0545 0.0365 Jupiter 123835-04-26 17:43 G 46950980.07 46950980.24 46950980.41 0.0484 0.0337 Saturn 123837-06-28 03:19 G 46951773.50 46951773.64 46951773.80 0.0282 0.0222 Saturn 123838-07-11 08:07 G 46952151.60 46952151.84 46952152.08 0.0282 0.0006 Saturn 123839-07-24 09:05 G 46952529.75 46952529.88 46952530.02 0.0282 0.0230 Uranus 123845-05-22 11:43 G 46954658.89 46954658.99 46954659.11 0.0141 0.0127 Uranus 123846-05-27 07:38 G 46955028.57 46955028.82 46955029.07 0.0140 0.0032 Jupiter 123847-05-01 00:26 G 46955367.29 46955367.52 46955367.75 0.0484 0.0125 Uranus 123847-06-01 02:21 G 46955398.38 46955398.60 46955398.84 0.0140 0.0063 Saturn 123852-12-31 13:24 G 46957438.83 46957439.06 46957439.31 0.0277 0.0073 Saturn 123854-01-13 15:48 G 46957816.96 46957817.16 46957817.38 0.0277 0.0147 Jupiter 123859-05-05 06:26 G 46959754.54 46959754.77 46959755.01 0.0483 0.0085 Saturn 123867-07-06 04:45 G 46962738.48 46962738.70 46962738.94 0.0282 0.0094 Saturn 123868-07-18 06:41 G 46963116.58 46963116.78 46963117.00 0.0282 0.0134 Jupiter 123871-05-09 13:24 G 46964141.88 46964142.06 46964142.26 0.0483 0.0293 Neptune 123872-10-29 18:26 G 46964681.16 46964681.27 46964681.42 0.0089 0.0076 Neptune 123873-11-01 04:31 G 46965048.51 46965048.69 46965048.92 0.0089 0.0054 Neptune 123874-11-03 15:19 G 46965415.91 46965416.14 46965416.39 0.0089 0.0031 Neptune 123875-11-06 01:53 G 46965783.33 46965783.58 46965783.84 0.0089 0.0009 Neptune 123876-11-07 12:26 G 46966150.78 46966151.02 46966151.28 0.0089 0.0015 Neptune 123877-11-09 23:00 G 46966518.24 46966518.46 46966518.70 0.0089 0.0037 Neptune 123878-11-12 09:05 G 46966885.72 46966885.88 46966886.10 0.0089 0.0060 Pluto 123879-02-16 18:55 G 46966982.16 46966982.29 46966982.49 0.0078 0.0061 Neptune 123879-11-14 19:53 G 46967253.25 46967253.33 46967253.44 0.0089 0.0082 Saturn 123881-12-26 01:24 G 46968025.37 46968025.56 46968025.76 0.0276 0.0170 Saturn 123883-01-08 01:38 G 46968403.33 46968403.57 46968403.82 0.0277 0.0046

Saturn 123884-01-21 05:14 G 46968781.66 46968781.72 46968781.81 0.0277 0.0263 Jupiter 123888-10-23 21:48 G 46970519.22 46970519.41 46970519.61 0.0545 0.0283 Uranus 123888-11-17 08:50 G 46970543.72 46970543.87 46970544.04 0.0137 0.0104 Uranus 123889-11-21 21:05 G 46970913.13 46970913.38 46970913.63 0.0138 0.0016 Uranus 123890-11-26 09:33 G 46971282.71 46971282.90 46971283.13 0.0138 0.0073 Saturn 123896-06-29 13:09 G 46973324.87 46973325.05 46973325.23 0.0282 0.0195 Saturn 123897-07-12 17:14 G 46973702.98 46973703.22 46973703.46 0.0282 0.0033 Saturn 123898-07-25 17:29 G 46974081.14 46974081.23 46974081.34 0.0282 0.0255 Jupiter 123900-10-30 00:26 G 46974907.29 46974907.52 46974907.75 0.0545 0.0016 Saturn 123910-12-21 23:43 G 46978612.42 46978612.49 46978612.58 0.0277 0.0260 Mars 123911-02-11 23:14 G 46978664.33 46978664.47 46978664.62 0.1824 0.1240 Saturn 123912-01-03 23:14 G 46978990.23 46978990.47 46978990.72 0.0277 0.0045 Jupiter 123912-11-04 03:48 G 46979295.47 46979295.66 46979295.85 0.0545 0.0312 Saturn 123913-01-16 02:21 G 46979368.40 46979368.60 46979368.79 0.0277 0.0175 Jupiter 123918-04-26 21:19 G 46981295.24 46981295.39 46981295.56 0.0484 0.0358 Saturn 123926-07-08 16:02 G 46984289.93 46984290.17 46984290.41 0.0282 0.0064 Saturn 123927-07-21 17:14 G 46984668.03 46984668.22 46984668.43 0.0282 0.0162 Uranus 123929-05-23 20:36 G 46985340.25 46985340.36 46985340.49 0.0141 0.0124 Jupiter 123930-05-01 05:29 G 46985682.51 46985682.73 46985682.96 0.0483 0.0147 Uranus 123930-05-28 16:45 G 46985709.95 46985710.20 46985710.45 0.0140 0.0029 Uranus 123931-06-02 11:29 G 46986079.76 46986079.98 46986080.21 0.0140 0.0066 Saturn 123940-12-28 12:12 G 46989576.81 46989577.01 46989577.23 0.0276 0.0142 Saturn 123942-01-10 12:55 G 46989954.81 46989955.04 46989955.28 0.0277 0.0075 Jupiter 123942-05-05 11:29 G 46990069.75 46990069.98 46990070.22 0.0483 0.0062 Jupiter 123954-05-09 18:41 G 46994457.09 46994457.28 46994457.48 0.0483 0.0270 Saturn 123955-07-02 23:57 G 46994876.31 46994876.50 46994876.70 0.0282 0.0166 Neptune 123956-05-05 05:43 G 46995183.63 46995183.74 46995183.90 0.0089 0.0076 Saturn 123956-07-15 03:33 G 46995254.42 46995254.65 46995254.89 0.0282 0.0061 Neptune 123957-05-07 18:55 G 46995551.10 46995551.29 46995551.52 0.0089 0.0053 Neptune 123958-05-10 07:53 G 46995918.60 46995918.83 46995919.09 0.0089 0.0030 Neptune 123959-05-12 21:05 G 46996286.12 46996286.38 46996286.64 0.0089 0.0006 Neptune 123960-05-14 09:33 G 46996653.65 46996653.90 46996654.17 0.0089 0.0017 Neptune 123961-05-16 22:17 G 46997021.21 46997021.43 46997021.68 0.0089 0.0040 Neptune 123962-05-19 11:00 G 46997388.80 46997388.96 46997389.16 0.0089 0.0063 Neptune 123963-05-21 23:29 G 46997756.44 46997756.48 46997756.57 0.0089 0.0086 Jupiter 123966-05-13 23:57 G 46998844.48 46998844.50 46998844.54 0.0484 0.0479 Saturn 123969-12-23 09:05 G 47000163.76 47000163.88 47000164.02 0.0277 0.0234 Saturn 123971-01-05 09:05 G 47000541.64 47000541.88 47000542.13 0.0277 0.0019 Jupiter 123971-10-24 17:14 G 47000834.05 47000834.22 47000834.41 0.0544 0.0331 Saturn 123972-01-18 12:26 G 47000919.86 47000920.02 47000920.20 0.0277 0.0202 Uranus 123972-11-18 19:38 G 47001225.17 47001225.32 47001225.52 0.0137 0.0100 Uranus 123973-11-23 08:07 G 47001594.59 47001594.84 47001595.10 0.0138 0.0012 Uranus 123974-11-27 20:50 G 47001964.17 47001964.37 47001964.59 0.0138 0.0077 Jupiter 123983-10-29 18:55 G 47005222.06 47005222.29 47005222.52 0.0545 0.0038 Saturn 123984-06-26 22:17 G 47005463.36 47005463.43 47005463.54 0.0283 0.0262 Saturn 123985-07-10 03:33 G 47005841.42 47005841.65 47005841.90 0.0282 0.0035 Saturn 123986-07-23 05:00 G 47006219.53 47006219.71 47006219.88 0.0282 0.0190 Jupiter 123995-11-04 02:07 G 47009610.39 47009610.59 47009610.79 0.0545 0.0268 Saturn 123999-12-30 23:14 G 47011128.25 47011128.47 47011128.70 0.0276 0.0114

## 125TH MILLENNIUM CE

## This is a list of transits of Earth in the 125th millennium CE.

FROM MAX- C START MAX END SUNRAD DEPTH S

TRANSIT

TIME

Saturn 124001-01-12 00:26 G 47011506.29 47011506.52 47011506.75 0.0277 0.0103 Jupiter 124001-04-26 02:07 G 47011610.46 47011610.59 47011610.75 0.0484 0.0380 Jupiter 124013-04-30 10:02 G 47015997.70 47015997.92 47015998.14 0.0484 0.0169 Uranus 124013-05-24 06:55 G 47016021.66 47016021.79 47016021.92 0.0141 0.0120 Uranus 124014-05-29 02:36 G 47016391.36 47016391.61 47016391.87 0.0140 0.0025 Saturn 124014-07-04 11:43 G 47016427.78 47016427.99 47016428.20 0.0282 0.0137 Uranus 124015-06-02 21:48 G 47016761.19 47016761.41 47016761.63 0.0140 0.0069 Saturn 124015-07-17 14:50 G 47016805.89 47016806.12 47016806.35 0.0282 0.0090 Mars 124015-08-17 09:48 G 47016836.73 47016836.91 47016837.10 0.1714 0.0189 Jupiter 124025-05-04 15:48 G 47020384.92 47020385.16 47020385.39 0.0484 0.0041 Saturn 124028-12-24 17:43 G 47021715.08 47021715.24 47021715.40 0.0277 0.0209 Saturn 124030-01-06 18:12 G 47022093.01 47022093.26 47022093.51 0.0277 0.0008 Saturn 124031-01-19 22:02 G 47022471.29 47022471.42 47022471.57 0.0277 0.0228 Neptune 124036-10-30 04:31 G 47024581.63 47024581.69 47024581.77 0.0089 0.0085 Jupiter 124037-05-08 22:17 G 47024772.23 47024772.43 47024772.64 0.0483 0.0248 Neptune 124037-11-01 14:36 G 47024948.95 47024949.11 47024949.31 0.0089 0.0063 Neptune 124038-11-04 00:55 G 47025316.33 47025316.54 47025316.78 0.0089 0.0041 Neptune 124039-11-06 11:29 G 47025683.74 47025683.98 47025684.24 0.0089 0.0018 Pluto 124040-08-22 15:48 G 47025973.94 47025974.16 47025974.42 0.0066 0.0022 Neptune 124040-11-07 22:02 G 47026051.16 47026051.42 47026051.67 0.0089 0.0005 Neptune 124041-11-10 08:07 G 47026418.60 47026418.84 47026419.09 0.0089 0.0027 Neptune 124042-11-12 18:26 G 47026786.08 47026786.27 47026786.50 0.0089 0.0050 Saturn 124043-06-29 10:31 G 47027014.82 47027014.94 47027015.09 0.0283 0.0233 Neptune 124043-11-15 05:14 G 47027153.58 47027153.72 47027153.88 0.0089 0.0072 Saturn 124044-07-11 15:33 G 47027392.90 47027393.15 47027393.39 0.0282 0.0006 Saturn 124045-07-24 16:02 G 47027771.03 47027771.17 47027771.33 0.0282 0.0219 Jupiter 124049-05-13 05:14 G 47029159.65 47029159.72 47029159.80 0.0483 0.0455 Jupiter 124054-10-23 14:07 G 47031148.92 47031149.09 47031149.25 0.0545 0.0378 Uranus 124056-11-19 06:41 G 47031906.61 47031906.78 47031906.97 0.0137 0.0095 Uranus 124057-11-23 18:55 G 47032276.04 47032276.29 47032276.55 0.0138 0.0008

Uranus 124058-11-28 07:38 G 47032645.62 47032645.82 47032646.03 0.0138 0.0081 Saturn 124059-01-01 09:19 G 47032679.66 47032679.89 47032680.13 0.0276 0.0086 Saturn 124060-01-14 10:45 G 47033057.73 47033057.95 47033058.17 0.0277 0.0131 Jupiter 124066-10-28 21:33 G 47035537.17 47035537.40 47035537.63 0.0545 0.0072 Saturn 124073-07-05 23:00 G 47037979.23 47037979.46 47037979.68 0.0282 0.0108 Saturn 124074-07-19 01:38 G 47038357.36 47038357.57 47038357.80 0.0282 0.0119 Jupiter 124078-11-03 03:05 G 47039925.42 47039925.63 47039925.84 0.0545 0.0232 Jupiter 124084-04-25 05:57 G 47041925.62 47041925.75 47041925.88 0.0484 0.0403 Saturn 124087-12-27 01:53 G 47043266.40 47043266.58 47043266.77 0.0277 0.0183 Saturn 124089-01-08 02:21 G 47043644.36 47043644.60 47043644.85 0.0277 0.0034 Saturn 124090-01-21 06:26 G 47044022.68 47044022.77 47044022.88 0.0278 0.0253 Jupiter 124090-11-08 06:26 G 47044313.73 47044313.77 47044313.84 0.0545 0.0528 Jupiter 124096-04-29 13:38 G 47046312.86 47046313.07 47046313.29 0.0484 0.0193 Uranus 124097-05-24 16:02 G 47046703.04 47046703.17 47046703.32 0.0140 0.0117 Uranus 124098-05-29 11:57 G 47047072.75 47047073.00 47047073.26 0.0140 0.0022 Uranus 124099-06-03 06:41 G 47047442.57 47047442.78 47047443.01 0.0140 0.0072 Saturn 124102-07-01 21:19 G 47048566.24 47048566.39 47048566.57 0.0283 0.0204 Saturn 124103-07-15 02:21 G 47048944.35 47048944.60 47048944.84 0.0282 0.0024 Saturn 124104-07-27 02:36 G 47049322.51 47049322.61 47049322.74 0.0282 0.0247 Jupiter 124108-05-04 22:02 G 47050700.18 47050700.42 47050700.65 0.0483 0.0020 Saturn 124116-12-21 20:07 G 47053853.30 47053853.34 47053853.39 0.0276 0.0270 Saturn 124118-01-03 17:57 G 47054231.02 47054231.25 47054231.50 0.0276 0.0060 Saturn 124119-01-16 19:38 G 47054609.12 47054609.32 47054609.53 0.0277 0.0158 Neptune 124120-05-05 13:53 G 47055084.01 47055084.08 47055084.16 0.0088 0.0085 Jupiter 124120-05-09 04:02 G 47055087.46 47055087.67 47055087.88 0.0483 0.0227 Neptune 124121-05-08 03:05 G 47055451.45 47055451.63 47055451.82 0.0089 0.0062 Neptune 124122-05-10 15:48 G 47055818.94 47055819.16 47055819.41 0.0089 0.0040 Neptune 124123-05-13 05:14 G 47056186.46 47056186.72 47056186.97 0.0089 0.0016 Neptune 124124-05-14 17:57 G 47056553.99 47056554.25 47056554.51 0.0089 0.0007 Neptune 124125-05-17 06:55 G 47056921.55 47056921.79 47056922.04 0.0089 0.0030

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Saturn 124192-07-22 20:07 G 47081460.15 47081460.34 47081460.53 0.0282 0.0173 Neptune 124201-11-03 01:09 G 47084849.41 47084849.55 47084849.70 0.0089 0.0072 Neptune 124202-11-05 11:14 G 47085216.78 47085216.97 47085217.20 0.0089 0.0050 Jupiter 124203-05-10 10:02 G 47085402.71 47085402.92 47085403.14 0.0483 0.0207 Neptune 124203-11-07 21:33 G 47085584.18 47085584.40 47085584.66 0.0089 0.0028 Neptune 124204-11-09 08:07 G 47085951.59 47085951.84 47085952.09 0.0089 0.0005 Neptune 124205-11-11 18:12 G 47086319.03 47086319.26 47086319.53 0.0089 0.0018 Saturn 124205-12-31 13:24 G 47086368.86 47086369.06 47086369.29 0.0277 0.0134 Neptune 124206-11-14 04:45 G 47086686.48 47086686.70 47086686.93 0.0089 0.0040 Saturn 124207-01-13 14:07 G 47086746.86 47086747.09 47086747.33 0.0277 0.0083 Neptune 124207-11-16 14:50 G 47087053.96 47087054.12 47087054.32 0.0089 0.0063 Neptune 124208-11-18 01:24 G 47087421.51 47087421.56 47087421.65 0.0089 0.0085 Jupiter 124215-05-14 17:00 G 47089790.10 47089790.21 47089790.34 0.0483 0.0415 Saturn 124220-07-05 13:38 G 47091668.86 47091669.07 47091669.28 0.0283 0.0148 Mars 124220-08-17 01:38 G 47091711.48 47091711.57 47091711.66 0.1703 0.1466 Jupiter 124220-10-23 11:57 G 47091778.88 47091779.00 47091779.11 0.0544 0.0462 Saturn 124221-07-18 18:12 G 47092047.03 47092047.26 47092047.50 0.0283 0.0079 Uranus 124224-11-22 02:36 G 47093269.44 47093269.61 47093269.83 0.0138 0.0088 Uranus 124225-11-26 15:05 G 47093638.87 47093639.13 47093639.38 0.0138 0.0001 Uranus 124226-12-01 03:19 G 47094008.46 47094008.64 47094008.85 0.0138 0.0089 Jupiter 124232-10-28 16:45 G 47096166.99 47096167.20 47096167.42 0.0545 0.0164 Saturn 124234-12-26 09:19 G 47096955.76 47096955.89 47096956.05 0.0275 0.0220 Saturn 124236-01-08 07:24 G 47097333.56 47097333.81 47097334.06 0.0276 0.0008 Saturn 124237-01-20 08:50 G 47097711.72 47097711.87 47097712.04 0.0276 0.0208 Jupiter 124244-11-03 00:55 G 47100555.32 47100555.54 47100555.76 0.0546 0.0146 Saturn 124249-06-29 17:43 G 47102255.13 47102255.24 47102255.35 0.0283 0.0253 Jupiter 124250-04-26 20:50 G 47102556.27 47102556.37 47102556.48 0.0484 0.0437 Saturn 124250-07-12 23:57 G 47102633.26 47102633.50 47102633.75 0.0282 0.0026 Saturn 124251-07-26 02:07 G 47103011.43 47103011.59 47103011.77 0.0282 0.0199 Jupiter 124256-11-08 08:50 G 47104943.75 47104943.87 47104944.00 0.0545 0.0452

Jupiter 124262-05-01 03:19 G 47106943.43 47106943.64 47106943.85 0.0484 0.0230 Saturn 124265-01-01 17:43 G 47107920.02 47107920.24 47107920.47 0.0276 0.0110 Uranus 124265-05-27 11:14 G 47108065.82 47108065.97 47108066.14 0.0140 0.0110 Saturn 124266-01-14 17:57 G 47108298.03 47108298.25 47108298.49 0.0277 0.0107 Uranus 124266-06-01 06:55 G 47108435.54 47108435.79 47108436.05 0.0140 0.0016 Uranus 124267-06-06 01:38 G 47108805.37 47108805.57 47108805.79 0.0140 0.0078 Jupiter 124274-05-05 11:43 G 47111330.75 47111330.99 47111331.23 0.0484 0.0019 Saturn 124279-07-07 17:29 G 47113220.02 47113220.23 47113220.46 0.0283 0.0123 Saturn 124280-07-19 22:31 G 47113598.22 47113598.44 47113598.67 0.0283 0.0104 Neptune 124285-05-08 11:00 G 47115351.83 47115351.96 47115352.14 0.0089 0.0072 Jupiter 124286-05-09 20:07 G 47115718.12 47115718.34 47115718.56 0.0483 0.0193 Neptune 124286-05-11 00:26 G 47115719.31 47115719.52 47115719.75 0.0089 0.0049 Neptune 124287-05-13 13:38 G 47116086.83 47116087.07 47116087.33 0.0089 0.0026 Neptune 124288-05-15 02:50 G 47116454.36 47116454.62 47116454.88 0.0089 0.0003 Pluto 124288-08-25 15:05 G 47116556.90 47116557.13 47116557.38 0.0066 0.0021 Neptune 124289-05-17 15:33 G 47116821.91 47116822.15 47116822.41 0.0089 0.0021 Neptune 124290-05-20 04:17 G 47117189.47 47117189.68 47117189.92 0.0089 0.0044 Neptune 124291-05-22 16:45 G 47117557.06 47117557.20 47117557.40 0.0089 0.0067 Saturn 124293-12-27 13:53 G 47118506.92 47118507.08 47118507.26 0.0275 0.0195 Saturn 124295-01-09 11:57 G 47118884.75 47118885.00 47118885.25 0.0276 0.0017 Saturn 124296-01-22 12:55 G 47119262.92 47119263.04 47119263.19 0.0276 0.0232 Jupiter 124298-05-14 02:21 G 47120105.47 47120105.60 47120105.73 0.0483 0.0399 Mars 124299-08-20 08:07 G 47120568.67 47120568.84 47120569.02 0.1708 0.0646 Jupiter 124303-10-24 16:45 G 47122094.10 47122094.20 47122094.30 0.0544 0.0489 Saturn 124308-07-01 22:02 G 47123806.29 47123806.42 47123806.57 0.0283 0.0229 Uranus 124308-11-23 12:26 G 47123950.83 47123951.02 47123951.23 0.0138 0.0083 Saturn 124309-07-15 04:45 G 47124184.45 47124184.70 47124184.94 0.0283 0.0004 Uranus 124309-11-28 00:55 G 47124320.28 47124320.54 47124320.79 0.0138 0.0004 Saturn 124310-07-28 06:55 G 47124562.65 47124562.79 47124562.94 0.0282 0.0223 Uranus 124310-12-02 13:24 G 47124689.87 47124690.06 47124690.25 0.0138 0.0092 Jupiter 124315-10-30 00:26 G 47126482.30 47126482.52 47126482.73 0.0545 0.0185 Saturn 124324-01-04 20:21 G 47129471.12 47129471.35 47129471.59 0.0276 0.0085 Saturn 124325-01-16 20:21 G 47129849.14 47129849.35 47129849.58 0.0277 0.0131 Jupiter 124327-11-04 05:14 G 47130870.50 47130870.72 47130870.95 0.0545 0.0114 Jupiter 124333-04-27 04:45 G 47132871.62 47132871.70 47132871.78 0.0485 0.0454 Saturn 124338-07-09 19:38 G 47134771.10 47134771.32 47134771.55 0.0283 0.0099 Saturn 124339-07-23 00:41 G 47135149.32 47135149.53 47135149.75 0.0283 0.0129 Jupiter 124339-11-09 04:45 G 47135258.56 47135258.70 47135258.86 0.0545 0.0401 Jupiter 124345-05-01 14:21 G 47137258.89 47137259.10 47137259.31 0.0484 0.0240 Uranus 124349-05-28 20:50 G 47138747.21 47138747.37 47138747.55 0.0141 0.0106 Uranus 124350-06-02 16:31 G 47139116.93 47139117.19 47139117.44 0.0140 0.0011 Uranus 124351-06-07 11:00 G 47139486.77 47139486.96 47139487.18 0.0140 0.0082 Saturn 124352-12-29 17:29 G 47140058.05 47140058.23 47140058.43 0.0275 0.0171 Saturn 124354-01-11 15:19 G 47140435.90 47140436.14 47140436.39 0.0276 0.0041 Saturn 124355-01-24 16:31 G 47140814.10 47140814.19 47140814.29 0.0276 0.0255 Jupiter 124357-05-05 21:48 G 47141646.17 47141646.41 47141646.65 0.0483 0.0029 Neptune 124365-11-03 11:57 G 47144749.90 47144750.00 47144750.10 0.0089 0.0081 Neptune 124366-11-05 22:02 G 47145117.24 47145117.42 47145117.62 0.0089 0.0059 Saturn 124367-07-04 00:41 G 47145357.37 47145357.53 47145357.70 0.0283 0.0205 Neptune 124367-11-08 07:53 G 47145484.62 47145484.83 47145485.08 0.0089 0.0037 Saturn 124368-07-16 07:09 G 47145735.56 47145735.80 47145736.04 0.0283 0.0023 Neptune 124368-11-09 18:26 G 47145852.02 47145852.27 47145852.53 0.0089 0.0014 Jupiter 124369-05-10 05:29 G 47146033.51 47146033.73 47146033.95 0.0483 0.0180 Saturn 124369-07-29 09:33 G 47146113.78 47146113.90 47146114.01 0.0282 0.0247 Neptune 124369-11-12 05:00 G 47146219.45 47146219.71 47146219.96 0.0089 0.0008 Neptune 124370-11-14 14:50 G 47146586.89 47146587.12 47146587.37 0.0089 0.0031 Neptune 124371-11-17 01:24 G 47146954.36 47146954.56 47146954.77 0.0089 0.0053 Neptune 124372-11-18 11:00 G 47147321.86 47147321.96 47147322.13 0.0089 0.0076 Pluto 124376-02-24 00:12 G 47148514.38 47148514.51 47148514.67 0.0078 0.0065 Jupiter 124381-05-14 11:14 G 47150420.84 47150420.97 47150421.12 0.0483 0.0386

Saturn 124381-12-24 02:21 G 47150644.57 47150644.60 47150644.66 0.0276 0.0271 Saturn 124383-01-05 22:45 G 47151022.21 47151022.45 47151022.69 0.0276 0.0062 Saturn 124384-01-18 22:17 G 47151400.23 47151400.43 47151400.64 0.0276 0.0153 Jupiter 124386-10-23 23:14 G 47152409.40 47152409.47 47152409.54 0.0544 0.0513 Uranus 124392-11-23 23:00 G 47154632.25 47154632.46 47154632.66 0.0138 0.0079 Uranus 124393-11-28 10:45 G 47155001.70 47155001.95 47155002.20 0.0138 0.0008 Uranus 124394-12-02 23:14 G 47155371.29 47155371.47 47155371.66 0.0138 0.0095 Saturn 124397-07-10 20:21 G 47156322.12 47156322.35 47156322.59 0.0283 0.0076 Saturn 124398-07-24 01:24 G 47156700.37 47156700.56 47156700.78 0.0283 0.0152 Jupiter 124398-10-28 21:48 G 47156797.21 47156797.41 47156797.62 0.0544 0.0232 Jupiter 124410-11-03 02:36 G 47161185.38 47161185.61 47161185.83 0.0545 0.0068 Saturn 124411-12-31 20:36 G 47161609.15 47161609.36 47161609.57 0.0275 0.0147 Saturn 124413-01-12 17:57 G 47161987.02 47161987.25 47161987.50 0.0275 0.0066 Jupiter 124416-04-26 15:19 G 47163187.08 47163187.14 47163187.21 0.0485 0.0462 Jupiter 124422-11-08 10:31 G 47165573.78 47165573.94 47165574.11 0.0546 0.0376 Saturn 124426-07-05 02:21 G 47166908.41 47166908.60 47166908.78 0.0283 0.0183 Saturn 124427-07-18 08:36 G 47167286.63 47167286.86 47167287.11 0.0283 0.0047 Jupiter 124428-05-01 00:12 G 47167574.31 47167574.51 47167574.71 0.0484 0.0250 Saturn 124428-07-30 10:45 G 47167664.90 47167664.95 47167665.04 0.0282 0.0270 Uranus 124433-05-29 05:29 G 47169428.57 47169428.73 47169428.92 0.0141 0.0103 Uranus 124434-06-03 01:24 G 47169798.31 47169798.56 47169798.82 0.0140 0.0009 Uranus 124435-06-07 20:07 G 47170168.14 47170168.34 47170168.54 0.0140 0.0084 Jupiter 124440-05-05 06:55 G 47171961.55 47171961.79 47171962.03 0.0484 0.0044 Saturn 124440-12-25 05:00 G 47172195.61 47172195.71 47172195.82 0.0275 0.0247 Saturn 124442-01-07 01:09 G 47172573.30 47172573.55 47172573.80 0.0276 0.0038 Saturn 124443-01-20 00:12 G 47172951.33 47172951.51 47172951.71 0.0276 0.0177 Neptune 124449-05-08 19:53 G 47175252.23 47175252.33 47175252.44 0.0088 0.0081 Neptune 124450-05-11 08:36 G 47175619.69 47175619.86 47175620.08 0.0089 0.0059 Neptune 124451-05-13 21:48 G 47175987.19 47175987.41 47175987.67 0.0089 0.0036 Jupiter 124452-05-09 15:19 G 47176348.92 47176349.14 47176349.37 0.0483 0.0167

Neptune 124452-05-15 11:14 G 47176354.72 47176354.97 47176355.24 0.0089 0.0013 Neptune 124453-05-18 00:26 G 47176722.26 47176722.52 47176722.78 0.0089 0.0011 Neptune 124454-05-20 13:09 G 47177089.82 47177090.05 47177090.31 0.0089 0.0034 Neptune 124455-05-23 02:07 G 47177457.41 47177457.59 47177457.81 0.0089 0.0057 Saturn 124455-06-29 10:31 G 47177494.92 47177494.94 47177494.97 0.0284 0.0282 Neptune 124456-05-24 14:50 G 47177825.04 47177825.12 47177825.26 0.0089 0.0080 Saturn 124456-07-11 19:53 G 47177873.09 47177873.33 47177873.57 0.0283 0.0053 Saturn 124457-07-25 01:09 G 47178251.36 47178251.55 47178251.74 0.0283 0.0174 Jupiter 124464-05-13 23:43 G 47180736.34 47180736.49 47180736.64 0.0483 0.0376 Saturn 124471-01-01 23:29 G 47183160.26 47183160.48 47183160.70 0.0275 0.0123 Saturn 124472-01-14 20:50 G 47183538.14 47183538.37 47183538.61 0.0275 0.0089 Uranus 124476-11-24 08:50 G 47185313.66 47185313.87 47185314.08 0.0138 0.0075 Uranus 124477-11-28 20:36 G 47185683.11 47185683.36 47185683.61 0.0138 0.0012 Uranus 124478-12-03 09:05 G 47186052.72 47186052.88 47186053.06 0.0138 0.0099 Jupiter 124481-10-28 02:50 G 47187112.42 47187112.62 47187112.83 0.0545 0.0258 Saturn 124485-07-06 03:05 G 47188459.44 47188459.63 47188459.84 0.0283 0.0160 Saturn 124486-07-19 09:33 G 47188837.67 47188837.90 47188838.14 0.0283 0.0070 Jupiter 124493-11-02 11:00 G 47191500.74 47191500.96 47191501.19 0.0545 0.0050 Jupiter 124499-04-27 00:12 G 47193502.48 47193502.51 47193502.56 0.0485 0.0476 Saturn 124499-12-27 07:38 G 47193746.68 47193746.82 47193746.97 0.0275 0.0224 Saturn 124501-01-09 03:33 G 47194124.41 47194124.65 47194124.90 0.0276 0.0015 Saturn 124502-01-22 02:50 G 47194502.46 47194502.62 47194502.80 0.0276 0.0199 Mars 124504-08-20 01:38 G 47195443.42 47195443.57 47195443.73 0.1697 0.0937 Jupiter 124505-11-08 17:43 G 47195889.07 47195889.24 47195889.42 0.0545 0.0350 Jupiter 124511-05-02 09:33 G 47197889.70 47197889.90 47197890.10 0.0484 0.0265 Saturn 124514-07-01 10:02 G 47199045.84 47199045.92 47199046.03 0.0284 0.0261 Saturn 124515-07-14 19:24 G 47199424.07 47199424.31 47199424.56 0.0283 0.0032 Saturn 124516-07-27 00:41 G 47199802.37 47199802.53 47199802.71 0.0283 0.0196 Uranus 124517-05-30 14:36 G 47200109.94 47200110.11 47200110.30 0.0140 0.0100 Uranus 124518-06-04 10:17 G 47200479.68 47200479.93 47200480.19 0.0140 0.0006

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Jupiter 124588-11-07 14:21 G 47226203.91 47226204.10 47226204.29 0.0545 0.0303 Saturn 124589-01-05 06:55 G 47226262.55 47226262.79 47226263.03 0.0275 0.0075 Saturn 124590-01-18 04:45 G 47226640.49 47226640.70 47226640.91 0.0275 0.0138 Jupiter 124594-05-01 18:41 G 47228205.08 47228205.28 47228205.48 0.0485 0.0275 Uranus 124601-05-31 23:43 G 47230791.31 47230791.49 47230791.68 0.0140 0.0097 Uranus 124602-06-05 19:24 G 47231161.05 47231161.31 47231161.57 0.0140 0.0003 Uranus 124603-06-10 13:52 G 47231530.90 47231531.08 47231531.29 0.0140 0.0090 Saturn 124603-07-11 07:52 G 47231561.60 47231561.83 47231562.05 0.0284 0.0113 Saturn 124604-07-23 13:52 G 47231939.86 47231940.08 47231940.30 0.0283 0.0116 Jupiter 124606-05-07 03:19 G 47232592.41 47232592.64 47232592.88 0.0484 0.0064 Neptune 124614-05-12 17:28 G 47235520.09 47235520.23 47235520.42 0.0089 0.0068 Neptune 124615-05-15 06:40 G 47235887.57 47235887.78 47235888.02 0.0089 0.0045 Neptune 124616-05-16 20:07 G 47236255.09 47236255.34 47236255.60 0.0089 0.0022 Neptune 124617-05-19 09:04 G 47236622.62 47236622.88 47236623.14 0.0089 0.0002 Saturn 124617-12-31 16:45 G 47236849.01 47236849.20 47236849.39 0.0275 0.0175 Jupiter 124618-05-11 10:02 G 47236979.69 47236979.92 47236980.15 0.0483 0.0142 Neptune 124618-05-21 21:48 G 47236990.18 47236990.41 47236990.68 0.0089 0.0025 Saturn 124619-01-13 12:26 G 47237226.78 47237227.02 47237227.27 0.0275 0.0036 Neptune 124619-05-24 11:14 G 47237357.76 47237357.97 47237358.20 0.0089 0.0047 Saturn 124620-01-26 11:57 G 47237604.90 47237605.00 47237605.11 0.0276 0.0248 Neptune 124620-05-25 23:57 G 47237725.36 47237725.50 47237725.68 0.0089 0.0070 Pluto 124625-02-27 16:02 G 47239463.91 47239464.17 47239464.44 0.0078 0.0009 Jupiter 124630-05-15 18:12 G 47241367.10 47241367.26 47241367.42 0.0483 0.0351 Saturn 124632-07-04 13:24 G 47242147.90 47242148.06 47242148.22 0.0284 0.0215 Saturn 124633-07-17 21:48 G 47242526.17 47242526.41 47242526.66 0.0283 0.0015 Saturn 124634-07-31 02:36 G 47242904.50 47242904.61 47242904.75 0.0283 0.0242 Uranus 124644-11-27 03:33 G 47246676.44 47246676.65 47246676.87 0.0138 0.0069 Uranus 124645-12-01 15:33 G 47247045.91 47247046.15 47247046.41 0.0138 0.0018 Uranus 124646-12-06 04:02 G 47247415.52 47247415.67 47247415.85 0.0138 0.0105 Saturn 124646-12-26 17:00 G 47247436.14 47247436.21 47247436.30 0.0275 0.0259

Jupiter 124647-10-29 07:38 G 47247742.64 47247742.82 47247743.01 0.0543 0.0322 Saturn 124648-01-08 12:26 G 47247813.78 47247814.02 47247814.26 0.0275 0.0050 Saturn 124649-01-20 10:31 G 47248191.75 47248191.94 47248192.15 0.0275 0.0164 Jupiter 124659-11-03 11:43 G 47252130.77 47252130.99 47252131.22 0.0545 0.0029 Saturn 124662-07-12 12:12 G 47253112.77 47253113.01 47253113.24 0.0284 0.0088 Saturn 124663-07-25 17:57 G 47253491.04 47253491.25 47253491.46 0.0283 0.0141 Jupiter 124671-11-08 19:24 G 47256519.12 47256519.31 47256519.51 0.0545 0.0278 Saturn 124677-01-01 23:28 G 47258400.27 47258400.48 47258400.68 0.0275 0.0148 Jupiter 124677-05-02 02:07 G 47258520.41 47258520.59 47258520.78 0.0485 0.0291 Saturn 124678-01-14 19:38 G 47258778.08 47258778.32 47258778.56 0.0275 0.0063 Saturn 124679-01-27 18:55 G 47259156.28 47259156.29 47259156.33 0.0276 0.0274 Uranus 124685-06-01 09:04 G 47261472.70 47261472.88 47261473.08 0.0140 0.0093 Uranus 124686-06-06 04:45 G 47261842.45 47261842.70 47261842.96 0.0140 0.0002 Uranus 124687-06-10 23:14 G 47262212.30 47262212.47 47262212.68 0.0140 0.0093 Jupiter 124689-05-06 10:45 G 47262907.72 47262907.95 47262908.19 0.0484 0.0080 Saturn 124691-07-06 17:28 G 47263699.06 47263699.23 47263699.42 0.0283 0.0191 Saturn 124692-07-19 01:52 G 47264077.34 47264077.58 47264077.82 0.0283 0.0040 Saturn 124693-08-01 06:40 G 47264455.70 47264455.78 47264455.87 0.0283 0.0264 Neptune 124694-11-06 19:38 G 47264918.21 47264918.32 47264918.45 0.0089 0.0077 Neptune 124695-11-09 05:43 G 47265285.56 47265285.74 47265285.96 0.0089 0.0055 Neptune 124696-11-10 16:16 G 47265652.96 47265653.18 47265653.43 0.0089 0.0033 Neptune 124697-11-13 03:04 G 47266020.37 47266020.63 47266020.88 0.0089 0.0010 Neptune 124698-11-15 12:55 G 47266387.79 47266388.04 47266388.30 0.0089 0.0012 Neptune 124699-11-17 23:14 G 47266755.25 47266755.47 47266755.71 0.0089 0.0035 Neptune 124700-11-20 09:33 G 47267122.71 47267122.90 47267123.10 0.0089 0.0057 Jupiter 124701-05-11 18:12 G 47267295.03 47267295.26 47267295.49 0.0484 0.0130 Neptune 124701-11-22 19:52 G 47267490.23 47267490.33 47267490.45 0.0089 0.0079 Saturn 124705-12-28 23:14 G 47268987.36 47268987.47 47268987.61 0.0275 0.0236 Saturn 124707-01-10 19:09 G 47269365.05 47269365.30 47269365.54 0.0275 0.0026 Saturn 124708-01-23 17:43 G 47269743.07 47269743.24 47269743.43 0.0276 0.0189

Jupiter 124713-05-16 00:40 G 47271682.37 47271682.53 47271682.71 0.0483 0.0337 Saturn 124721-07-14 18:55 G 47274664.05 47274664.29 47274664.53 0.0284 0.0061 Saturn 124722-07-28 00:26 G 47275042.33 47275042.52 47275042.72 0.0283 0.0167 Uranus 124728-11-28 12:26 G 47277357.81 47277358.02 47277358.25 0.0138 0.0066 Uranus 124729-12-03 00:40 G 47277727.29 47277727.53 47277727.79 0.0138 0.0021 Jupiter 124730-10-29 10:45 G 47278057.78 47278057.95 47278058.12 0.0544 0.0352 Uranus 124730-12-07 13:09 G 47278096.91 47278097.05 47278097.22 0.0138 0.0108 Saturn 124736-01-05 07:24 G 47279951.59 47279951.81 47279952.03 0.0275 0.0122 Saturn 124737-01-17 04:02 G 47280329.44 47280329.67 47280329.91 0.0275 0.0090 Jupiter 124742-11-03 17:00 G 47282445.99 47282446.21 47282446.44 0.0544 0.055 Saturn 124750-07-09 00:12 G 47285250.33 47285250.51 47285250.72 0.0283 0.0166 Saturn 124751-07-22 07:52 G 47285628.60 47285628.83 47285629.07 0.0283 0.0066 Jupiter 124754-11-08 18:40 G 47286834.08 47286834.28 47286834.49 0.0544 0.0240 Jupiter 124760-05-02 08:07 G 47288835.65 47288835.84 47288836.02 0.0485 0.0308 Saturn 124764-12-30 07:09 G 47290538.65 47290538.80 47290538.97 0.0276 0.0211 Saturn 124766-01-12 03:19 G 47290916.39 47290916.64 47290916.89 0.0276 0.0001 Jupiter 124766-11-13 21:48 G 47291222.36 47291222.41 47291222.47 0.0545 0.0529 Saturn 124767-01-25 02:36 G 47291294.46 47291294.61 47291294.77 0.0276 0.0215 Uranus 124769-06-02 18:26 G 47292154.08 47292154.27 47292154.48 0.0140 0.0090 Uranus 124770-06-07 14:21 G 47292523.84 47292524.10 47292524.35 0.0140 0.0004 Uranus 124771-06-12 08:50 G 47292893.70 47292893.87 47292894.07 0.0140 0.0096 Jupiter 124772-05-06 15:48 G 47293222.93 47293223.16 47293223.40 0.0484 0.0098 Neptune 124778-05-13 02:50 G 47295420.51 47295420.62 47295420.77 0.0089 0.0077 Neptune 124779-05-15 16:16 G 47295787.98 47295788.18 47295788.39 0.0089 0.0054 Saturn 124779-07-03 18:55 G 47295837.20 47295837.29 47295837.38 0.0284 0.0263 Neptune 124780-05-17 04:45 G 47296155.48 47296155.70 47296155.97 0.0089 0.0032 Saturn 124780-07-16 03:33 G 47296215.41 47296215.65 47296215.90 0.0284 0.0034 Neptune 124781-05-19 18:12 G 47296523.01 47296523.26 47296523.53 0.0089 0.0009 Saturn 124781-07-29 08:36 G 47296593.70 47296593.86 47296594.05 0.0283 0.0195 Neptune 124782-05-22 07:24 G 47296890.56 47296890.81 47296891.07 0.0089 0.0015

Neptune 124783-05-24 20:21 G 47297258.12 47297258.35 47297258.60 0.0089 0.0038 Jupiter 124784-05-11 00:26 G 47297610.29 47297610.52 47297610.75 0.0484 0.0111 Neptune 124784-05-26 09:04 G 47297625.71 47297625.88 47297626.09 0.0089 0.0061 Neptune 124785-05-28 22:45 G 47297993.36 47297993.45 47297993.53 0.0089 0.0083 Pluto 124785-09-02 00:40 G 47298089.30 47298089.53 47298089.79 0.0066 0.0017 Mars 124788-08-23 02:50 G 47299175.44 47299175.62 47299175.80 0.1691 0.0389 Saturn 124795-01-06 16:45 G 47301502.97 47301503.20 47301503.44 0.0275 0.0095 Saturn 124796-01-19 13:52 G 47301880.86 47301881.08 47301881.31 0.0275 0.0118 Jupiter 124796-05-15 06:40 G 47301997.61 47301997.78 47301997.96 0.0483 0.0315 Saturn 124809-07-10 09:48 G 47306801.70 47306801.91 47306802.13 0.0283 0.0137 Saturn 124810-07-23 17:00 G 47307179.98 47307180.21 47307180.44 0.0283 0.0093 Uranus 124812-11-28 21:19 G 47308039.17 47308039.39 47308039.62 0.0138 0.0063 Jupiter 124813-10-28 11:43 G 47308372.83 47308372.99 47308373.15 0.0543 0.0385 Uranus 124813-12-03 09:33 G 47308408.65 47308408.90 47308409.15 0.0138 0.0023 Uranus 124814-12-07 22:31 G 47308778.29 47308778.44 47308778.59 0.0138 0.0111 Saturn 124824-01-01 15:33 G 47312089.98 47312090.15 47312090.35 0.0276 0.0186 Saturn 124825-01-13 12:26 G 47312467.77 47312468.02 47312468.26 0.0276 0.0027 Jupiter 124825-11-02 13:09 G 47312760.83 47312761.05 47312761.28 0.0543 0.0100 Saturn 124826-01-26 11:57 G 47312845.89 47312846.00 47312846.13 0.0276 0.0241 Jupiter 124837-11-07 14:50 G 47317148.91 47317149.12 47317149.34 0.0545 0.0190 Saturn 124838-07-05 05:43 G 47317388.61 47317388.74 47317388.88 0.0284 0.0235 Saturn 124839-07-18 14:07 G 47317766.85 47317767.09 47317767.33 0.0284 0.0006 Saturn 124840-07-30 18:55 G 47318145.15 47318145.29 47318145.45 0.0283 0.0221 Mars 124842-02-20 05:43 G 47318714.55 47318714.74 47318714.93 0.1844 0.0687 Jupiter 124843-05-02 13:38 G 47319150.90 47319151.07 47319151.25 0.0485 0.0328 Jupiter 124849-11-12 21:33 G 47321537.30 47321537.40 47321537.50 0.0545 0.0490 Saturn 124852-12-26 09:04 G 47322676.87 47322676.88 47322676.90 0.0275 0.0274 Uranus 124853-06-03 04:16 G 47322835.47 47322835.68 47322835.88 0.0140 0.0086 Saturn 124854-01-08 03:33 G 47323054.41 47323054.65 47323054.89 0.0275 0.0067 Uranus 124854-06-07 23:57 G 47323205.24 47323205.50 47323205.75 0.0140 0.0007

Saturn 124855-01-21 01:09 G 47323432.34 47323432.55 47323432.76 0.0275 0.0146 Jupiter 124855-05-06 21:04 G 47323538.15 47323538.38 47323538.61 0.0484 0.0119 Uranus 124855-06-12 18:26 G 47323575.10 47323575.27 47323575.46 0.0140 0.0099 Neptune 124858-11-07 06:40 G 47324818.74 47324818.78 47324818.86 0.0089 0.0086 Neptune 124859-11-09 17:00 G 47325186.05 47325186.21 47325186.40 0.0089 0.0064 Neptune 124860-11-11 03:19 G 47325553.43 47325553.64 47325553.88 0.0089 0.0042 Neptune 124861-11-13 13:38 G 47325920.84 47325921.07 47325921.33 0.0089 0.0020 Neptune 124862-11-16 00:12 G 47326288.26 47326288.51 47326288.77 0.0089 0.0004 Neptune 124863-11-18 10:31 G 47326655.71 47326655.94 47326656.19 0.0089 0.0026 Neptune 124864-11-19 20:36 G 47327023.16 47327023.36 47327023.59 0.0089 0.0048 Neptune 124865-11-22 06:55 G 47327390.65 47327390.79 47327390.96 0.0089 0.0070 Jupiter 124867-05-11 05:14 G 47327925.49 47327925.72 47327925.96 0.0484 0.0089 Mars 124867-08-26 07:24 G 47328032.77 47328032.81 47328032.86 0.1696 0.1639 Saturn 124868-07-11 20:21 G 47328353.13 47328353.35 47328353.58 0.0283 0.0109 Saturn 124869-07-25 03:19 G 47328731.42 47328731.64 47328731.86 0.0283 0.0120 Pluto 124873-03-01 07:52 G 47330046.68 47330046.83 47330047.01 0.0078 0.0060 Jupiter 124879-05-15 11:00 G 47332312.78 47332312.96 47332313.16 0.0484 0.0296 Saturn 124883-01-03 00:40 G 47333641.34 47333641.53 47333641.74 0.0276 0.0160 Saturn 124884-01-15 22:02 G 47334019.18 47334019.42 47334019.66 0.0276 0.0054 Saturn 124885-01-27 21:48 G 47334397.37 47334397.41 47334397.49 0.0276 0.0268 Jupiter 124896-10-27 06:26 G 47338687.64 47338687.77 47338687.90 0.0543 0.0437 Uranus 124896-11-29 06:26 G 47338720.56 47338720.77 47338721.01 0.0138 0.0060 Saturn 124897-07-06 17:57 G 47338940.08 47338940.25 47338940.42 0.0284 0.0205 Uranus 124897-12-03 18:40 G 47339090.04 47339090.28 47339090.54 0.0138 0.0027 Saturn 124898-07-20 02:07 G 47339318.35 47339318.59 47339318.83 0.0284 0.0025 Uranus 124898-12-08 07:38 G 47339459.68 47339459.82 47339459.97 0.0138 0.0114 Saturn 124899-08-02 06:26 G 47339696.67 47339696.77 47339696.89 0.0283 0.0250 Jupiter 124908-11-02 11:00 G 47343075.74 47343075.96 47343076.18 0.0544 0.0145 Saturn 124911-12-29 19:09 G 47344228.20 47344228.30 47344228.41 0.0275 0.0247 Saturn 124913-01-10 14:07 G 47344605.84 47344606.09 47344606.33 0.0275 0.0039

Saturn 124914-01-23 11:57 G 47344983.82 47344984.00 47344984.20 0.0275 0.0173 Jupiter 124920-11-07 17:28 G 47347464.02 47347464.23 47347464.45 0.0545 0.0157 Jupiter 124926-05-02 17:43 G 47349466.08 47349466.24 47349466.40 0.0485 0.0350 Saturn 124927-07-15 08:07 G 47349904.61 47349904.84 47349905.08 0.0283 0.0079 Saturn 124928-07-27 14:21 G 47350282.90 47350283.10 47350283.32 0.0283 0.0149 Jupiter 124932-11-12 21:48 G 47351852.29 47351852.41 47351852.54 0.0544 0.0453 Uranus 124937-06-04 13:24 G 47353516.86 47353517.06 47353517.28 0.0140 0.0082 Jupiter 124938-05-07 00:12 G 47353853.28 47353853.51 47353853.74 0.0485 0.0143 Uranus 124938-06-09 09:19 G 47353886.63 47353886.89 47353887.14 0.0140 0.0011 Uranus 124939-06-14 04:16 G 47354256.51 47354256.68 47354256.85 0.0140 0.0102 Saturn 124942-01-05 09:33 G 47355192.70 47355192.90 47355193.13 0.0276 0.0134 Neptune 124942-05-13 11:43 G 47355320.95 47355320.99 47355321.07 0.0088 0.0086 Saturn 124943-01-18 07:24 G 47355570.57 47355570.81 47355571.04 0.0276 0.0080 Neptune 124943-05-16 00:26 G 47355688.37 47355688.52 47355688.73 0.0089 0.0064 Neptune 124944-05-17 13:52 G 47356055.86 47356056.08 47356056.33 0.0089 0.0041 Neptune 124945-05-20 03:04 G 47356423.38 47356423.63 47356423.89 0.0089 0.0018 Neptune 124946-05-22 16:16 G 47356790.92 47356791.18 47356791.44 0.0089 0.0005 Neptune 124947-05-25 05:00 G 47357158.48 47357158.71 47357158.98 0.0089 0.0029 Neptune 124948-05-26 18:12 G 47357526.05 47357526.26 47357526.48 0.0089 0.0051 Neptune 124949-05-29 07:09 G 47357893.67 47357893.80 47357893.96 0.0089 0.0074 Jupiter 124950-05-11 08:07 G 47358240.61 47358240.84 47358241.08 0.0484 0.0066 Saturn 124956-07-09 05:57 G 47360491.57 47360491.75 47360491.95 0.0284 0.0175 Saturn 124957-07-22 13:52 G 47360869.84 47360870.08 47360870.32 0.0284 0.0054 Saturn 124958-08-04 17:43 G 47361248.22 47361248.24 47361248.30 0.0283 0.0279 Jupiter 124962-05-15 16:31 G 47362628.00 47362628.19 47362628.39 0.0484 0.0275 Saturn 124970-12-31 05:00 G 47365779.58 47365779.71 47365779.87 0.0275 0.0221 Saturn 124972-01-13 00:26 G 47366157.27 47366157.52 47366157.77 0.0275 0.0012 Saturn 124973-01-24 22:45 G 47366535.28 47366535.45 47366535.62 0.0275 0.0201 Jupiter 124974-05-19 23:00 G 47367015.43 47367015.46 47367015.50 0.0483 0.0477 Jupiter 124979-10-28 08:50 G 47369002.77 47369002.87 47369002.99 0.0543 0.0470

Uranus 124980-11-30 15:33 G 47369401.94 47369402.15 47369402.40 0.0138 0.0057

Uranus 124981-12-05 04:02 G 47369771.43 47369771.67 47369771.92 0.0138 0.0030

Uranus 124982-12-09 16:45 G 47370141.07 47370141.20 47370141.34 0.0138 0.0116

Saturn 124985-07-03 10:31 G 47371077.91 47371077.94 47371078.00 0.0283 0.0279

Saturn 124986-07-16 20:21 G 47371456.11 47371456.35 47371456.59 0.0283 0.0050

Saturn 124987-07-30 02:07 G 47371834.41 47371834.59 47371834.79 0.0283 0.0178

Jupiter 124991-11-02 13:09 G 47373390.84 47373391.05 47373391.27 0.0543 0.0176